

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
 Tank Programs Division
 Underground Storage Tank (UST) Program

ADEQ use only

DOCUMENT SUBMITTAL FORM

[use as **COVER SHEET** when submitting the documents listed below]

UST FACILITY INFORMATION:

Honeywell Engines Product Center
 Facility Name 0-002227
 Facility ID

111 South 34th Street
 Street Address 0393.02 - .10, .15-.20
 LUST Number(s)

Phoenix
 City 85034
 Zip Code Maricopa
 County

PERSON RESPONSIBLE FOR SUBMITTING DOCUMENT:

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PERSON CATEGORY

ADEQ ID #

- UST owner 4875
- UST operator _____
- UST volunteer _____
- Property owner _____

LUST, RELEASE OR CORRECTIVE ACTION DOCUMENT: (check all that apply; * indicates document requires signed certification statement)

- | | | |
|---|--|---|
| <input type="checkbox"/> * 14 day report (suspected release) | <input type="checkbox"/> * Free Product Report | <input type="checkbox"/> * Addendum (check related document type) |
| <input type="checkbox"/> * 90 day report (suspected release) | <input type="checkbox"/> * Tier 2 risk evaluation | <input type="checkbox"/> Other: (please specify) |
| <input type="checkbox"/> * 14 day report (confirmed release) | <input type="checkbox"/> * Tier 3 risk evaluation | |
| <input type="checkbox"/> * 90 day report (confirmed release) | <input type="checkbox"/> * Corrective action plan (CAP) | |
| <input type="checkbox"/> * LUST site classification form | <input checked="" type="checkbox"/> * Periodic site status report
(includes groundwater monitoring reports) | |
| <input type="checkbox"/> * Site characterization report (SCR) | <input type="checkbox"/> * LUST case closure request
w/corrective action completion report | |

UST DOCUMENT:

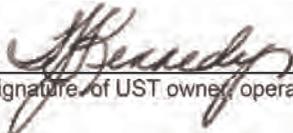
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INFORMAL APPEAL:

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 UST

CERTIFICATION STATEMENT OF UST OWNER, OPERATOR OR VOLUNTEER: (for only documents designated above by *)

"I hereby certify, under penalty of law, which this submittal and all attachments are, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations."


 Signature of UST owner, operator or volunteer

9/13/10
 Date

Troy J. Kennedy
 Name of UST owner, operator or volunteer (printed)

Remediation Portfolio Director
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Honeywell

Health, Safety, Environment and Remediation
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September 13, 2010

By Hand Delivery

Mark W. Lucas
Case Manager – LUST Enforcement Unit
Inspections & Compliance Section
Waste Programs Division
Arizona Department of Environmental Quality
1110 W. Washington Street, #4415A-3
Phoenix, AZ 85007

Re: *Second Quarter 2010 Remediation Status Report*
LUST File #0393.02-.10, .15-.20
Facility ID #0-002227

Dear Mr. Lucas:

Honeywell is submitting this Second Quarter 2010 Remediation Status Report in accordance with requirements in the Arizona Department of Environmental Quality's (ADEQ) Corrective Action Plan (CAP) Final Approval letter dated October 7, 2005, and CAP modification approval letters dated December 20, 2005, March 7, 2006, September 28, 2006, March 27, 2007, February 29, 2008, and May 11, 2010.

Please note that consistent with the CAP and the ADEQ-approved *Groundwater Sampling and Free-product Monitoring and Recovery Plan, Honeywell 34th Street Facility, Phoenix, Arizona, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17* submitted in 2008, this remediation status report includes a CAP Modification request (Section 1.4 of the report text) regarding the water quality sampling frequency and submittal schedule of the remediation status reports from quarterly to semiannually.

If you should have any questions or require discussion, please contact me at 973-455-4279 or Doug Ashline at 480-295-3940. For your convenience, my e-mail address is troy.j.meyer@honeywell.com and Doug's is douglas.ashline@ch2m.com.

Sincerely,



Troy J. Kennedy
Honeywell - Health, Safety, Environment and Remediation
Remediation Portfolio Director

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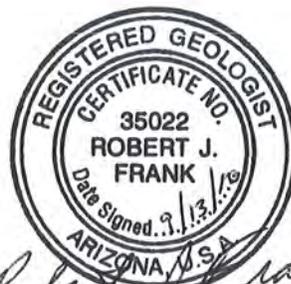
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Final Report

**Second Quarter 2010
Remediation Status Report
Honeywell 34th Street Facility
Phoenix, Arizona
Facility ID No. 0-002227
LUST File Nos. 0393.02-.10, .15-.20**

Prepared for
Honeywell International Inc.

September 2010



Robert J. Frank

Expires 6-30-2012

Prepared by



CH2MHILL



Douglas R. Ashline

Expires 6/30/2012

Executive Summary

This quarterly remediation status report summarizes the ongoing underground storage tank remediation and monitoring activities conducted during Second Quarter 2010 for Leaking Underground Storage Tank File Nos. 0393.02-.10, .15-.20, Facility ID No. 0-002227 at the Honeywell International Inc. (Honeywell) 34th Street Aerospace Engines Product Center (Facility or Honeywell facility) in Phoenix, Arizona. Remedial activities to address free-phase petroleum hydrocarbons detected below the eastern portion of the Honeywell facility and the northern portion of Phoenix Sky Harbor International Airport (PSHIA) include manual pumping of free-product from existing groundwater monitoring wells and the extraction and treatment of soil vapors by the Arizona Department of Environmental Quality-approved biologically enhanced soil vapor extraction (BSVE) system.

ES.1 BSVE Remediation and Free-product Recovery

Extraction in Phases A and B began in May 2009 to remove the accumulated methane associated with biodegradation of fuel and commence extraction of volatile petroleum hydrocarbons. Initial testing injection began in First Quarter 2010. Full-scale operation of the BSVE system in Phases A and B began on June 17, 2010, which includes full-scale extraction and air injection in Phases A and B consistent with the objectives in the *Biologically Enhanced SVE with Product Recovery System Design Basis Report Honeywell International 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17* (CH2M HILL, 2007a). As of the end of Second Quarter 2010, 24 process wells were operating in extraction mode with an average soil vapor extraction rate of approximately 1,120 cubic feet per minute for the quarter, and 12 process wells were operating in injection mode with an average air injection rate of approximately 250 cubic feet per minute during periods of injection. The system operated for approximately 1,800 hours between April 1, 2010 and June 30, 2010, with about 300,000 pounds of hydrocarbons estimated to have been removed from the subsurface through biodegradation and treatment of extracted vapors during this period (approximately 4,000 pounds per day). From commencement of the initial extraction only period (May 27, 2009) through the end of the Second Quarter 2010, approximately 1,462,000 pounds of hydrocarbons were estimated to have been removed or degraded, including the initial removal of subsurface methane. Increased air injection rates were implemented during Second Quarter 2010 to further enhance biological degradation of the petroleum hydrocarbons in the vadose zone.

The Honeywell Facility has been investigated as part of the 52nd Street Superfund Site, a large regional chlorinated solvent groundwater plume. Portions of the BSVE target treatment area overlies this plume. The BSVE system has removed an estimated 248 pounds of chlorinated volatile organic compounds from the subsurface as of the end of Second Quarter 2010 (20 pounds during the quarter).

In addition to the mass removed by the BSVE system, 5.5 gallons of free product jet fuel were directly recovered from groundwater wells during Second Quarter 2010, increasing

the total volume of free product recovered to date (since June 1999) to approximately 7,295 gallons.

Free-product thicknesses exceeding the Corrective Action Plan metric of 0.1 foot occurred in two monitoring wells during the third quarter (ASE-107A and ASE-115A). As such, free-product monitoring and manual recovery (as needed) was conducted biweekly during the quarter at those monitoring wells.

The free-product thickness in monitoring well ASE-107A (located on PSHIA property) exceeded the Corrective Action Plan metric of 0.75 foot for installing a dedicated, automatic free-product pump. However, a dedicated, automatic free-product pump was not installed in monitoring well ASE-107A because installation of recovery equipment in that well would cause disruption to airport operations. Free-product monitoring and manual recovery (if needed) is conducted biweekly at this monitoring well.

ES.2 Vadose Zone Monitoring

Vadose zone monitoring is conducted to evaluate the operation of the BSVE system and ensure that the system is safely containing subsurface migration. The data collection includes the collection of soil vapor samples for volatile organic compounds (VOC) analysis and field parameter measurements. Second Quarter 2010 vadose zone monitoring indicated:

- No monitoring locations had VOC concentrations exceeding either the BSVE operation vapor action levels or the long-term vapor action levels.
- Trend analysis was performed on historic soil vapor monitoring results for locations sampled in the Second Quarter 2010. Trends were evaluated for all analytes with established vapor action levels. A Mann-Kendall trend analysis was performed using a 5% confidence level. A total of 959 trends were evaluated, 838 location-contaminant combinations exhibited no trend, 77 location-contaminant combinations exhibited a decreasing trend, and 44 location-contaminant combinations exhibited an increasing trend. Among locations with increasing trends, all compounds detected in the Second Quarter 2010 were below 5% of the applicable Tier 1 vapor action level, with the exception of SMW-1-L and SMW-4-L where trichloroethene was observed at concentrations of 2.5J and 7.7 micrograms per liter, respectively, as compared to the Tier 1 deep vapor action level for trichloroethene of 24 micrograms per liter. Concentrations of trichloroethene at SMW-1-L and SMW-4-L will be evaluated following the Third Quarter 2010 soil vapor sampling event; however, the results of the trend analysis indicate that no significant threat of vapor action level exceedances exists at this time.
- No subsurface utility vaults exhibited detectable lower explosive limit (LEL) measurements (all LEL measurements at utility vaults were nondetect). The last LEL detections in a subsurface utility vault were in units VLT-1093, VLT-1141, VLT-B102-W-1, and VLT-B102-W-2, which all exhibited 2% LEL on November 6, 2009, during the Fourth Quarter 2009 quarterly vault monitoring.
- One shallow subsurface location (P-26-U) in the Phase C area exhibited an LEL measurement exceeding 100 percent of the LEL (May 14, 2010).

- VOC and methane concentrations generally decreased across the Phases A and B area compared to First Quarter 2010 concentrations.
- The BSVE system is effectively bringing oxygen into the deeper portions of the vadose zone mitigating or eliminating methane generation and stimulating aerobic biodegradation of petroleum hydrocarbons.

ES.3 Groundwater Monitoring

Groundwater monitoring consists of monthly (and biweekly when applicable) water-level and free-product thickness measurements and quarterly groundwater sampling (for VOCs and petroleum hydrocarbons). Notable aspects of Second Quarter 2010 groundwater monitoring included:

- Free product was only observed in monitoring wells that historically have contained free product; the free-product thickness measurement in monitoring well ASE-107A on May 21, 2010 (2.47 feet) exceeded the historical maximum value in that well (1.87 feet on July 4, 2007). Because the well screen for monitoring well ASE-107A is completely submerged below the water table, this thickness measurement is more reflective of accumulation in the well casing between recovery efforts than the free-product thickness in the adjacent formation. The historical maximum thickness at ASE-107A was also the maximum free-product thickness measured amongst all wells measured for free product during the quarter.
- June 2010 water levels increased with respect to March 2010 water levels. Water levels increased an average of 6.74 feet in all 54 monitoring wells monitored. Because of the significant rise in water levels across the eastern portion of the Facility, groundwater flow directions shifted from southwesterly to a more west-southwesterly direction during the quarter.
- VOC and petroleum hydrocarbon detections in groundwater were similar in magnitude and quantity to First Quarter 2010.
- Pursuant to the Phase C Design submitted to ADEQ on June 17, 2008, groundwater monitoring wells ASE-97A and BC-8B (located on PSHIA property) were converted from groundwater monitoring wells to BSVE injection/extraction wells beginning on May 10, 2010 and May 12, 2010, respectively, for incorporation into Phase C of the BSVE system (these wells were connected to the system but were not in operating mode as of the end of the quarter). The last available groundwater elevation data for these two wells were collected on May 7, 2010. Due to the well conversions in May, the wells were not included in Second Quarter 2010 water quality sampling event that occurred in June 2010. Groundwater elevation and sampling data will be unavailable for these wells in future sampling events.

ES.4 Contingency Triggers and Measures

Pursuant to the final approved CAP, Honeywell provided a Table of conditions which would be monitored and if “triggered” would require evaluation and implementation of

appropriate contingency measures (Table 4-1). The following is the list of the contingency triggers for Second Quarter 2010 and the resulting measures taken:

- Water levels collected on June 5 and 6, 2010 were between 10 feet and 25 feet higher than water levels collected on December 1, 2004 (historical low), thus the contingency relative to groundwater levels remained triggered. For Phases A and B, Honeywell will continue injection and extraction operations in Third Quarter 2010. Following the start of full-scale operation of the BSVE system in Phases A and B, total petroleum hydrocarbon mass removal rates (4,000 pounds per day) exceeded the trigger value (2,000 pounds per day), indicating that system performance in Phases A and B is currently meeting remedial objectives; therefore, no action is required at this time with respect to groundwater elevations. For the Phase C design, in response to the continued elevated water table, Honeywell raised the elevation of the top of the well screens to accommodate the current groundwater levels and future potential rises in groundwater levels in this area. For Phase D, Honeywell continues to work in cooperation with the City of Phoenix to evaluate appropriate remedial alternatives.
- Free-product thicknesses exceeding the Corrective Action Plan metric of 0.1 foot occurred in two monitoring wells (ASE-107A and ASE-115A). As such, free-product monitoring and manual recovery (as needed) was conducted biweekly during the quarter at those monitoring wells.
- The free-product thickness in monitoring well ASE-107A (located on PSHIA property) exceeded the Corrective Action Plan metric of 0.75 foot for installing a dedicated, automatic free-product pump. However, a dedicated, automatic free-product pump was not installed in monitoring well ASE-107A because installation of recovery equipment in that well would cause disruption to airport operations. Free-product monitoring and manual recovery (if needed) is conducted biweekly at this monitoring well.
- Percent LEL measurements continued to exceed the LEL threshold in one shallow soil vapor monitoring location (P-26-U) in Phase C during Second Quarter 2010 (5/14/10, 5/20/10, and 5/21/10). As has been the case since January 2008, quarterly monitoring continues in the surrounding vaults (ELE-VLT-02 and FBO-VLT-01). Percent-LEL measurements at these vault locations were all below the detection limit of 1 percent volume per volume.

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Acronyms and Abbreviations

µg/L	micrograms per liter
ADEQ	Arizona Department of Environmental Quality
bgs	below ground surface
BSVE	biologically enhanced soil vapor extraction
BSVE O&M Manual	<i>Operation and Maintenance Manual for the Biologically-enhanced Soil Vapor Extraction System, Honeywell 34th Street Facility, Phoenix, Arizona, Facility ID No. 0-002227, LUST File No. 0393.02-.10, .15-.17</i>
BSVE O&M Plan	<i>Operation and Maintenance Plan for the BSVE Air Pollution Control Equipment, Honeywell 34th Street System, Phoenix, Arizona</i>
BTU	British thermal unit
CAP	Corrective Action Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COP	City of Phoenix
Design Basis Report	<i>Biologically Enhanced SVE with Product Recovery System Design Basis Report Honeywell International 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17</i>
DQE	data quality evaluation
Facility	Honeywell 34 th Street Facility
Honeywell	Honeywell International Inc.
LEL	lower explosive limit
LNAPL	light nonaqueous-phase liquid
LUST	leaking underground storage tank
LUST FSP	Leaking Underground Storage Tank Field Sampling Plan
MCAQD	Maricopa County Air Quality Department
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
MTBE	methyl tert-butyl ether
PSHIA	Phoenix Sky Harbor International Airport

scfm	standard cubic feet per minute
SOP	standard operating procedure
TCA	trichloroethane
TCE	trichloroethene
TPH	total petroleum hydrocarbons
TRPH	total recoverable petroleum hydrocarbon
TTA	target treatment area
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VAL	vapor action level
VAL-BSVE	vapor action level for biologically enhanced soil vapor extraction
VAL-LT	long-term vapor action level
VOC	volatile organic compound
vol/vol	volume per volume

1.0 Introduction

1.1 Scope and Purpose

This quarterly remediation status report summarizes the activities being undertaken pursuant to the Arizona Department of Environmental Quality (ADEQ) letter dated October 7, 2005 (ADEQ, 2005a) issuing final approval of Honeywell's Corrective Action Plan (CAP) (CH2M HILL, 2004a-b) and in accordance with ADEQ's CAP modification approval letters dated December 20, 2005 (ADEQ, 2005b); March 7, 2006 (ADEQ, 2006a); September 28, 2006 (ADEQ, 2006b); March 27, 2007 (ADEQ, 2007); February 29, 2008 (ADEQ, 2008a); and May 11, 2010 (ADEQ, 2010).

This Report discusses ongoing underground storage tank (UST) remediation and monitoring activities conducted during Second Quarter 2010 for Leaking Underground Storage Tank (LUST) File Nos. 0393.02-.10, .15-.20, Facility ID No. 0-002227 at the Honeywell International Inc. (Honeywell) 34th Street Aerospace Engines Product Center (Facility or Honeywell facility) in Phoenix, Arizona. The status report includes a summary of the operations and related soil vapor sampling data for the biologically enhanced soil vapor extraction (BSVE) system that began initial soil vapor extraction operations on May 27, 2009. The BSVE system completed extraction ramp-up and injection testing and is fully operational in Phases A and B since June 17, 2010. Operations now include full-scale extraction and air injection in Phases A and B consistent with the objectives in the *Biologically Enhanced SVE with Product Recovery System Design Basis Report Honeywell International 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17* (Design Basis Report) (CH2M HILL, 2007a). Additional injection/extraction wells in Phase C are anticipated to be brought online later this fall.

Consistent with the CAP Paragraph 12, following a year of operation Honeywell is requesting a modification to the water quality sampling frequency and submittal schedule of the remediation status reports from quarterly to semiannually. Honeywell's formal CAP modification request is presented in the cover letter to this Remediation Status Report and discussed further in Section 1.4. Honeywell proposes to submit Semi-Annual reports in June and December of 2011.

1.2 Background

The Honeywell facility is located within Operable Unit 2 of the Motorola 52nd Street Superfund Site at 111 South 34th Street in Phoenix, Arizona and has been used as a manufacturing and testing facility for the production of aircraft engines and auxiliary equipment since 1951. Figure 1-1 illustrates the Facility location and layout. (All figures are provided at the end of this report.)

In 1999, free-phase petroleum hydrocarbons (free product) were detected at the Honeywell facility, and an investigation was initiated under ADEQ's UST Corrective Action Section. Since that time, Honeywell has investigated the extent of contamination, initiated corrective actions to recover free product, received approval from the ADEQ of the CAP and

commenced operation of the approved remedial alternative. The ADEQ-approved CAP (CH2M HILL, 2004a-b) recommends the following remedial actions for the free product and vadose zone:

- Remediate soil contamination in the vadose zone, the petroleum hydrocarbon smear zone, and the free-product pool using BSVE.
- Supplement BSVE remediation by selectively removing free product from existing groundwater monitoring wells using a combination of manual and automatic (where necessary) liquid pumping.

In conjunction with free-product recovery and the BSVE system, the selected alternative presented in the CAP includes monitored natural attenuation to address any remaining dissolved-phase groundwater contamination after aggressive source removal is complete. Per ADEQ's October 7, 2005 CAP final approval letter (ADEQ, 2005a), following completion of free-product removal to the maximum extent practicable, the most appropriate remediation method for dissolved-phase groundwater contamination associated with Honeywell's UST program will be revisited with ADEQ to ensure coordination with the remedy selected for the regional chlorinated volatile organic compound (VOC) plume being evaluated by ADEQ's Federal Projects Unit and the United States Environmental Protection Agency (USEPA).

Figure 1-2 presents Honeywell's network of BSVE system soil vapor extraction and monitoring wells. Figure 1-3 presents Honeywell's UST groundwater monitoring well network. Pursuant to the design submitted to ADEQ on March 19, 2007 for review and approval, construction of the BSVE system at the Honeywell facility included incorporating 13 existing groundwater monitoring wells as part of the BSVE injection/extraction well network. As shown in Figure 1-3, the monitoring wells hard-piped into the system, now used for the extraction of soil vapor and injection of air, include monitoring wells ASE-20A, ASE-39A, ASE-41A, ASE-46A, ASE-51A, ASE-53A, ASE-56A, ASE-57A, ASE-59A, ASE-66A, ASE-97A, BC-8B, and PL-101A. Supplemental design for the Phase C area submitted to ADEQ on June 17, 2008, included incorporation of monitoring wells ASE-97A and BC-8B into the BSVE system. As discussed in Section 2.1.2, these monitoring wells were converted into injection/extraction wells during Second Quarter 2010 and will be brought online shortly. Because they are no longer accessible for monitoring, these wells are no longer included in the UST groundwater monitoring program but are monitored for other field parameters, including oxygen, carbon dioxide, methane, TPH, and LEL.

Following the initiation of pilot testing activities conducted in May 2006, as presented in the *Air Injection Pilot Test Report, Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15* (CH2M HILL, 2006), the potential for methane migration during injection was determined to be significant. Therefore, it was determined that initially, only extraction would occur until methane levels in shallow vapor points and the deeper subsurface had been adequately reduced and aerobic conditions had been induced. Initial ramp-up of the BSVE system, completed in the Second Quarter 2010, addressed soil vapor (primarily methane) impacts on the Honeywell-owned property north of Air Lane (Phase A) and Honeywell-operated property leased from the City of Phoenix (COP) south of Air Lane (Phase B). Thirty-six soil vapor extraction wells were brought online sequentially during the initial system ramp-up period, which commenced on May 27,

2009. The final extraction well in Phases A and B was brought online on October 15, 2009. Full operation of the BSVE system in an area is considered to be achieved when all wells in that area have actively extracted, equipment performance has been fully assessed in both extraction and injection modes, and injection of air has occurred throughout the well network consistent with the *Operations and Maintenance Manual for the Biologically-enhanced Soil Vapor Extraction System, Honeywell 34th Street System, Phoenix, Arizona* (BSVE O&M Manual) (CH2M HILL, 2010a). Injection began in interior wells in First Quarter 2010. Full BSVE system operation in Phases A and B began on June 17, 2010.

Construction associated with the expansion of the BSVE system onto the northern portion of Phoenix Sky Harbor International Airport (PSHIA) property, north of Runway 8-26 (Phase C), began in Fourth Quarter 2009 with the installation of injection/extraction and process monitoring wells, as shown in Figure 1-2. Installation of underground process piping and associated vaults, valves, and electrical systems to connect the Phase C wells to the system tie-in point at the Honeywell facility fence line was completed in July 2010. Phase C extraction is anticipated to commence in the fall of 2010. Remedial measures in the area south of Runway 8-26 (Phase D) are being evaluated in coordination with the COP. Figure 1-2 illustrates the location of BSVE Phases A through C and the proposed layout within Area D relative to the BSVE Target Treatment Area (TTA).

1.3 Summary of Activities

This quarterly remediation status report summarizes the CAP activities conducted or completed between April 1, 2010 and June 30, 2010 (Second Quarter 2010).

1.3.1 Deliverables

An updated list of deliverables submitted since August 23, 2002 (the date the Site Characterization Report was submitted to ADEQ) through Second Quarter 2010 is included as Appendix A.

1.3.2 Biologically Enhanced Soil Vapor Extraction Remediation

Initial system ramp-up and operation of the BSVE treatment equipment in Phases A and B commenced on May 27, 2009. As of the end of Second Quarter 2010 (June 30, 2010), full-scale operations have commenced in Phases A and B, with 24 of 36 BSVE process wells operating in extraction mode and 12 of 36 process wells operating in injection mode. The BSVE system averaged a total soil vapor extraction rate of approximately 1,119 standard cubic feet per minute for the operational time during Second Quarter 2010. This extraction rate continues to be lower than initially expected due to the elevated water table and the partially submerged well screens in some areas of the system; however, based on initial soil-gas monitoring, the subsurface air flow has been adequate to aerate (oxygen greater than 5 percent) the subsurface in the vicinity of all process monitoring wells in Phases A and B. Aeration of the subsurface is critical to the more efficient aerobic biodegradation of petroleum hydrocarbons and the mitigation of methane generation associated with anaerobic biodegradation. Extraction initiated in May 2009 and continuing from the 36 process wells in Phases A and B has successfully removed the majority of elevated levels of methane across the BSVE TTA.

Once methane levels were adequately reduced, air injection testing was initiated beginning in First Quarter 2010 and completed on May 18, 2010. Initial shakedown and testing of the air injection system was performed in three phases. Each phase of testing included a group of five interior wells being operated in injection mode for approximately 2 weeks at a time before rotating the injection wells to a different well group. These interior wells were surrounded by wells in extraction mode to ensure control of any subsurface migration which could be caused by the initiation of injection. Air injection testing phases included Group 1 (BV-2N, BV-14N, ASE-20A, ASE-39A, and ASE-57A), Group 2 (BV-5, BV-7N, BV-9N, BV-17N, and ASE-66A), and Group 3 (ASE-46A, ASE-51A, BV-6N, BV-12N, and BV-21N). This injection system testing was developed to provide initial indications of the effects of injection in the interior of the BSVE TTA to guide operations during full-scale operation.

Field improvements in First Quarter 2010, such as the installation of surface connections for the measurement of venturi differential pressures with portable pressure gauges and the installation of additional flow control valves, resulted in improved capabilities to directly measure flow and lowered flow measurement thresholds at injection/extraction wells.

All compliance sampling and monitoring associated with the Title V Air Permit (#V97008) and the Class A Wastewater Discharge Permit (#0812-1510) were conducted and were within approved conditions.

The annual BSVE system maintenance shutdown was conducted from May 24 through June 7, 2010. Work conducted during the shutdown included:

- Inspection, cleaning, lubrication, maintenance, and testing system components including:
 - Thermal oxidizer and thermal oxidizer fan.
 - Scrubber, heat exchanger, cooling tower, vapor-liquid separator.
 - Blowers and motors - extraction, booster, injection.
 - Pumps - progressive cavity, caustic, recirculation, cooling tower, sump.
 - Valves - pressure relief, butterfly, ball, solenoid.
- Replacing non-durable components (e.g., air filters).
- Caulking minor cracks in thermal oxidizer refractory lining.
- Reprogramming programmable logic computer.
- Adjusting thermal oxidizer to use subsurface oxygen and reduce natural gas fuel use.
- Testing alarm conditions and input/output devices.

1.3.3 Vadose Zone Monitoring

The Second Quarter 2010 soil vapor sampling event was conducted from May 7, 2010 through May 20, 2010. A summary of the results of the quarterly soil vapor sampling event is provided in Section 3.2. Oxygen uptake testing was conducted May 24, 2010 through June 7, 2010. The results of the oxygen uptake testing are presented in the technical memorandum provided in Appendix B.

1.3.4 Free-product Monitoring/Recovery

Three monthly free-product measurement/recovery rounds and three additional rounds of manual free-product-specific monitoring/recovery were conducted during Second Quarter 2010. A summary of the total gallons of free product recovered during the reporting period and the total gallons of free product recovered since Honeywell began free-product recovery operations is provided in Section 2.2.

1.3.5 Groundwater Monitoring

The quarterly UST groundwater sampling event was conducted from July 7, 2010 through July 11, 2010. Three monthly water-level measurement events were conducted during the quarter on April 5, May 7, and June 5 and 6, 2010. A summary of the results is provided in Section 3.4.2. The next quarterly UST groundwater sampling event is scheduled for September 7, 2010 through September 20, 2010; the Third Quarter 2010 monthly water-level measurement events occurred on July 1 and 2; August 1 and 2; and September 1 and 2, 2010 and will be discussed in the Third Quarter Status Report.

1.4 Corrective Action Plan Modification Request

Consistent with the CAP (CH2M HILL, 2004a-b) and the ADEQ-approved *Groundwater Sampling and Free-product Monitoring and Recovery Plan, Honeywell 34th Street Facility, Phoenix, Arizona, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17 (LUST FSP)* (CH2M HILL, 2008a), Honeywell is proposing a modification to the water quality sampling frequency and submittal schedule of the remediation status reports from quarterly to semiannually. The LUST FSP states that “subject to notice and ADEQ approval, six quarters after startup of the selected remedy, the groundwater sampling frequency will change to semiannually (March and September).”

“Startup” of the BSVE system in the context of the CAP and LUST FSP (defined as the initiation of soil vapor extraction operations) occurred on May 27, 2009. As such, Honeywell will have completed six quarters of quarterly water quality sampling with the upcoming September 2010 sampling event (June 2009, September 2009, December 2009, March 2010, June 2010, September 2010). Following the September 2010 sampling event, Honeywell proposes to change the water quality sampling frequency to semiannual beginning with the March 2011 sampling event. Subsequent water quality sampling events associated with the CAP would occur in September and March, with periodic reporting following a similar schedule (semiannual submittal with the reports due to ADEQ 75 days from the end of the semiannual period). Future semiannual remediation status reports would therefore be due on or about June 14 and December 14. At this time, Honeywell is requesting a modification to the CAP to reduce the water quality sampling frequency and remediation status report submittal schedule. In conjunction with a future assessment of the need for groundwater monitoring wells as part of the UST program, Honeywell plans to also evaluate the frequency of water level and free product monitoring.

2.0 Site Remediation Activities

This section summarizes the scope and results of remediation activities associated with Honeywell's CAP (CH2M HILL, 2004a-b) that were conducted during Second Quarter 2010. The activities included vadose zone and smear zone remediation using the BSVE system supplemented with direct liquid free-product recovery from non-BSVE system wells, where applicable.

2.1 Vadose Zone Remediation

Remediation of the soil contamination in the vadose zone and the petroleum hydrocarbon smear zone, and vapor-phase recovery of the free-product pool occur through the extraction of the soil vapor and aeration of the vadose zone. Details on the system status and performance are provided in the following sections.

2.1.1 Biologically Enhanced Soil Vapor Extraction System

Initial BSVE system ramp-up in Phases A and B commenced on May, 27 2009, and full-scale injection/extraction operations commenced on June 17, 2010. System status and performance specifics, including a summary of mass removal, are provided below. An operational data snapshot for the BSVE system injection/extraction wells and process monitoring wells, based on May/June 2010 monitoring data, is provided in Figure 2-1. Graphs showing temporal trends in flow rates and vacuums at the BSVE injection/extraction wells are provided in Appendix C along with a summary table of the data.

BSVE System Status and Performance, Second Quarter 2010:

Number of wells in extraction mode in Phases A and B (at close of quarter):	24
Number of wells in injection mode in Phases A and B (at close of quarter):	12
Number of injection wells brought online temporarily during testing this quarter in Phases A and B:	10
Startup date of full-scale BSVE operation in Phases A and B:	June 17, 2010 (includes full-scale extraction and air injection in Phases A and B consistent with the objectives in the Design Basis Report [CH2M HILL, 2007a])
Total system operating time for the quarter:	1,783 hours
Average total extraction rate for the quarter: ^a	1,119 cubic feet per minute
Average total injection rate for the quarter (during injection periods):	248 cubic feet per minute
Total mass removed for the quarter by volatilization (by BTU calculation): ^b	156,418 pounds
Total mass removed for the quarter by biodegradation (based on extracted oxygen concentrations): ^c	144,501 pounds
Total mass removed for the quarter by biodegradation (based on in situ respiration): ^d	337,415 pounds

BSVE System Status and Performance, Second Quarter 2010:

Total mass removed for the quarter (volatilization and biodegradation-based on extracted oxygen concentrations):	300,920 pounds
Total mass removed from beginning of initial ramp-up period (May 27, 2009) through the end of the quarter (volatilization and biodegradation-based on extracted oxygen concentrations):	1,462,132 pounds
Average daily mass removal rate for the quarter: ^e	3,970 pounds per day
Average daily mass removal since BSVE operations commenced: ^e	4,715 pounds per day
Total mass of chlorinated VOCs removed ^f for the quarter:	20 pounds
Total mass of chlorinated VOCs removed ^f from beginning of initial ramp-up period (May 27, 2009) through the end of the quarter:	248 pounds

- ^a The average total extraction rate for the quarter was calculated by averaging the total extraction rate recordings for the system, obtained at 5-minute intervals, over the total operational time for the quarterly reporting period.
- ^b Total mass removed via volatilization was estimated based on British thermal unit (BTU) consumption as measured at the thermal oxidation unit following the equation presented in Standard Operating Procedure (SOP) 4.6, *Calculations for Mass Removal Estimations*, provided in Volume 2 of the BSVE O&M Manual (CH2M HILL, 2010a). The mass volatilized during the quarter was estimated based on the system uptime during the quarterly period.
- ^c Total mass removed via biodegradation based on oxygen concentrations was estimated using the equation presented in SOP 4.6, *Calculations for Mass Removal Estimations*, provided in Volume 2 of the BSVE O&M Manual (CH2M HILL, 2010a). Total biodegraded mass for the quarter using this calculation was estimated based on extracted oxygen concentrations and flow rate.
- ^d Total mass removed via biodegradation using in situ respiration measurements and calculated by applying oxygen uptake rates from performance monitoring wells during periodic system shut-downs was estimated using the equation presented in SOP 4.6, *Calculations for Mass Removal Estimations*, provided in Volume 2 of the BSVE O&M Manual (CH2M HILL, 2010a). These rates are averaged to produce a representative rate for the entire site.
- ^e Average daily mass removal was estimated from the total mass removed divided by the number of calendar days in the reporting period less any periods of system shutdown exceeding 72 hours in duration. Periods of system shutdown interrupted by aborted restarts (i.e., attempted restarts which last 30 minutes or less) are considered a continuous system shutdown.
- ^f Total mass of chlorinated VOCs removed was estimated using the equation presented in SOP 4.6, *Calculations for Mass Removal Estimations*, provided in Volume 2 of the BSVE O&M Manual (CH2M HILL, 2010a). Chlorinated VOCs included in the calculation are trichloroethene, cis-1,2-dichloroethene, vinyl chloride, 1,1,1-trichloroethane, 1,1-dichloroethane, and 1,1-dichloroethene.

Cumulative mass removal via biodegradation (based on extracted oxygen concentrations, as described in SOP 4.6, *Calculations for Mass Removal Estimations*, provided in Volume 2 of the BSVE O&M Manual [CH2M HILL, 2010a]) and cumulative mass removal via volatilization (using BTU consumption, as described in SOP 4.6, *Calculations for Mass Removal Estimations*, provided in Volume 2 of the BSVE O&M Manual [CH2M HILL, 2010a]) are presented in Figure 2-2. This graph shows the total mass of hydrocarbons removed since initial BSVE system ramp-up commenced on May 27, 2009. For comparison, a second method for calculating the total mass removed by biodegradation was performed to evaluate the biodegradation calculations based on oxygen concentrations versus those based on oxygen uptake rates measured during respiration testing. The total mass removal using in situ respiration measurements takes into account the full volume within the BSVE TTA and applies the average of rates taken throughout this volume.

In summary, the total mass removal approaches use either:

1. The total collected air stream, which has the advantage of allowing relatively precise measurements of the flow and the reduced oxygen in the extracted flow. The uncertainty of this approach is in how well the extracted flow represents the zone of degradation (i.e., effects of dilution from surface infiltration, or flow-isolated zones within the zone of vapor collection).
2. The average of the measured rates of degradation over the assumed total volume of degradation. In this case the approach relies on current values of actual degradation; but by necessity has to apply this precise rate to assumed dimensions of the volume within which this degradation occurs.

Because each method is based on different assumptions, the two should be expected to produce different results; in addition, the comparison of the two results can provide insight on the precision of the assumed parameters (e.g., contaminated volume). Based on the results of this comparison, we conclude that the original approach (presented in Figure 2-2) appears to provide the most conservative approach, and as the remediation system continues in its operation, changes in the contamination volume may be occurring that we cannot directly measure.

It should be noted that during the initial ramp-up period, the biodegradation estimate included some biodegradation that occurred earlier (pre-extraction); it was only after the soil gas was well-purged from the subsurface that these estimates became representative of ongoing biodegradation rates.

As indicated in Honeywell's CAP (CH2M HILL, 2004a-b), the BSVE system also has a positive effect on the chlorinated VOCs found in the subsurface beneath the Facility. As presented in the table above, the BSVE system has removed approximately 248 pounds of chlorinated VOCs from the subsurface as of the end of the Second Quarter 2010. Further discussion of the field measurements of oxygen and methane and soil vapor sampling is provided in Section 3.1.

The system had a potential to run 2,184 hours during the third quarter. Planned shut-downs amounted to 375 hours, resulting in 1,809 hours of planned run-time. The system had 98.6% uptime for these hours. A summary of planned or unplanned system shutdowns occurring during Second Quarter 2010 is provided below.

Summary of BSVE System Shutdowns, Second Quarter 2010:

Date	Duration	Planned or Unplanned	Reason or Cause
04/05/10	6 minutes	Unplanned	High water level in sewer lift station
04/08/10	6 minutes	Unplanned	Shutdown south well field for extraction valve replacement
04/10/10	33 minutes	Unplanned	Shutdown north well field for extraction valve replacement
04/14/10	34 minutes	Unplanned	High differential pressure caused while optimizing well-specific flows; replace inline air filters at PDIT-202
04/16/10	15 minutes	Unplanned	Replace lower float switch at sewer lift station

Summary of BSVE System Shutdowns, Second Quarter 2010:

Date	Duration	Planned or Unplanned	Reason or Cause
04/18/10	42 minutes	Unplanned	Recalibrate pH meter on wastewater discharge
04/23/10	2 hours, 34 minutes	Planned	Extraction valve replacement at BV-7N
04/24/10	1 hour, 4 minutes	Unplanned	Spikes in inlet flow caused by groundwater slugs pulled to system influent
05/06/10	2 hours, 58 minutes	Unplanned	Due to prematurely placing pH probe back online after probe calibration and due to lift station high level
05/07/10	6 hours, 30 minutes	Unplanned	Replace gaskets at nine locations on aboveground extraction piping
05/13/10	8 minutes	Unplanned	Replace inline air filters at PDIT-202
05/21/10	6 hours, 30 minutes	Planned	Drain low-points on system in preparation for annual planned shutdown
05/22/10	6 hours, 12 minutes	Unplanned	Malfunction on lift station float switch
05/24-06/08/10	15 days, 5 hours	Planned	Annual planned shutdown
06/08/10	1 hour, 47 minutes	Unplanned	pH probe on scrubber needed to be calibrated at operating temperature
06/11/10	1 hour	Planned	Remove scaffolding around scrubber that was used during annual planned shutdown
06/18/10	20 minutes	Unplanned	High pressure during adjustment of humidity on booster blower
06/23/10	2 hours, 13 minutes	Unplanned	Replace inline air filters at PDIT-202, calibrate pH probe on wastewater discharge line
06/24/10	1 hour, 45 minutes	Unplanned	Replace pH probe on wastewater discharge line
06/25/10	12 minutes	Unplanned	Replace inline air filters at PDIT-202
06/28/10	18 minutes	Unplanned	Replace inline air filters at PDIT-202

Additional items of interest include:

- Air injection testing throughout the Phase A and Phase B well network was completed in the Second Quarter 2010. As required by Section 33.A.4 of the Facility's Title V Air Permit, air injection rates did not exceed 50 percent of the actual vapor extraction rate, limited at 3,300 standard cubic feet per minute (scfm) and, in accordance with the BSVE O&M Manual (CH2M HILL, 2010a), extraction will continue in perimeter wells to confirm vapor migration control. In the future, when shallow and deep vapor

concentrations have been reduced or when the Phase C wells are available for extraction, injection in Phase B perimeter wells will be conducted.

- Based on a review of total petroleum hydrocarbons (TPH) data for soil samples collected throughout the Facility, it was observed that a soil sample collected during the drilling of groundwater monitoring well ASE-60A on May 10, 2002 contained a TPH concentration of 1,200 milligrams per kilogram (mg/kg) at 49.5 to 50.0 feet below ground surface (bgs). No detectable concentrations of TPH were found in the other soil samples collected from this location at approximately 9, 21, 33, 41, and 59 feet bgs; however, the detection of TPH at a concentration of 1,200 mg/kg at 49.5 to 50.0 feet bgs suggests this location should be included within the BSVE TTA. Groundwater monitoring well ASE-60A was formerly located approximately 8 feet outside of the eastern portion of the BSVE system TTA. However, based on the review of soil sample results described above, the TTA was modified by moving the eastern portion of the TTA (in the vicinity of ASE-60A) approximately 16 feet east to include monitoring well ASE-60A within its boundary (by approximately 8 feet). This slight modification resulted in an increase in the total area of the TTA of approximately 0.08 acre. Despite this slight change, the BSVE system continues to influence the area surrounding monitoring well ASE-60A. The revised TTA is presented in Figure 1-2.

2.1.2 Phase C and Phase D Activities

For Phase C the COP's General Contractor, Kiewit Western Co. (Kiewit), has completed the performance of the remedial construction consistent with the COP-approved Phase C design package developed by CH2M HILL.

As of June 30, 2010, Kiewit had installed the entirety of the underground process piping and access/utility vaults, as well as the majority of the mechanical and electrical equipment for the project. Remaining construction work on airfield restoration, low-point drain mechanical connections and soil stabilization, as well as punch-list/demobilization work was completed by the end of July 2010. Phase C wells are anticipated to be brought online in late fall 2010.

Soil vapor monitoring conducted in the First Quarter 2010 demonstrated the original shallow monitoring well PMW-14-U (installed in Fourth Quarter 2009 on PSHIA property) was not transmitting soil vapor; therefore, replacement well PMW-14-UR was installed on April 12, 2010. The original monitoring well (PMW-14-U) was abandoned on April 12, 2010 in accordance with all applicable regulations. The replacement well was installed 8 feet east of PMW-14-U, as shown in Figure 1-2. PMW-14-UR was excavated to 10 feet bgs by soil vacuum excavation and constructed of 0.5-inch-diameter Schedule 80 polyvinyl chloride well casing with 0.020-inch factory slotted well screen from 5 to 10 feet bgs. Colorado silica sand (#10-20) filter pack was placed from 4.5 to 10 feet bgs, with #60 silica transition sand from 4 to 4.5 feet bgs. A hydrated bentonite pellet seal was placed from 3 to 4 feet bgs, and cement with 5 percent bentonite grout was used to seal the well from 0.5 to 3 feet bgs. The surface completion was installed with a Neenah Foundry R-3487 aircraft-rated flush mounted vault and concrete pad 3 feet by 3 feet by 4 inches thick.

For Phase D, Honeywell continues to work in cooperation with the COP to evaluate appropriate remedial alternatives. On February 26, 2010, Honeywell submitted the *Phase D Remedial Alternatives Detailed Evaluation Report, Honeywell 34th Street Facility, Phoenix, Arizona*

(CH2M HILL, 2010b) to the COP for consideration and evaluation. A meeting was held with the City to discuss the report in June and Honeywell is awaiting final comments from the City. The City has requested additional modeling and support for certain assumptions relating to natural degradation, the elevation of the water table over time, and the relative efficiency of sparging in this area where considerable access restrictions exist due to the presence of runways and taxiways.

2.1.3 Updates to the Biologically-enhanced Soil Vapor Extraction Operations and Maintenance Documents

A revision to the *Operation and Maintenance Plan for the BSVE Air Pollution Control Equipment, Honeywell 34th Street System, Phoenix, Arizona* (BSVE O&M Plan) (CH2M HILL, 2008b) was submitted to Maricopa County Air Quality Department (MCAQD) on May 5, 2010 and was approved by MCAQD on May 6, 2010. The revision included updates to the periodic maintenance sheets to reflect changes in maintenance schedules based on system runtime and process optimization. The update also clarified certain items related to monitoring and treatment equipment.

A revision to the BSVE O&M Manual (CH2M HILL, 2010a) was finalized in August 2010 (during the Third Quarter). The BSVE O&M Manual was updated to include commencement of Phase C operations, maintenance, and monitoring tasks; full-scale air injection details; and updates to the oxygen uptake testing and in-situ respiration testing programs. The BSVE O&M Manual revision is available at the BSVE trailer located on the Honeywell facility.

2.1.4 Biologically Enhanced Soil Vapor Extraction Permit Compliance

This section summarizes the compliance activities related to the air and wastewater permits obtained for operation of the BSVE system. The BSVE system operates under the Facility's Title V Permit (#V97008) issued on December 27, 2007 and the Facility's Class A Wastewater Discharge Permit (#0812-1510) issued on December 5, 2008.

Compliance activities during Second Quarter 2010 included:

- Preparing 12-month rolling and monthly emission estimates for March 2010, April 2010, and May 2010 for the BSVE emission sources, included in the monthly reports maintained in the Facility's air permit files.
- Submitting the March, April, and May 2010 Monthly Compliance Monitoring Reports to the COP, in accordance with Section C of the Wastewater Discharge Permit, on April 22, May 12, and June 11, 2010, respectively. These reports included the nature and concentration of the pollutants, the measured maximum and average daily flows, and the results of all samples collected during the calendar month for BSVE Compliance Sampling Point No. 1510.12.
- Collecting the Second Quarter 2010 wastewater compliance samples at BSVE Wastewater Compliance Sampling Point No. 1510.12 by the COP Pollution Control Division.
- Issuing Significant Title V Permit Revision No. V97008-0.6.0.0 by MCAQD on June 30, 2010 for the Facility Title V Permit No. V97-008. The significant revision affected several conditions in the BSVE section of the Permit, including (1) modifying the BSVE Inlet

TPH analytical method from USEPA Method 18 to USEPA Method TO-3, (2) clarifying that the 3,300-scfm and 5,300-scfm air flow rate limits specified in the Permit apply to the soil vapor air flow rate, and (3) removing the scrubber operating flow rate range of 1,000 to 3,300 scfm.

- Preparing the BSVE section of the permit renewal application for the Honeywell Facility's Title V Air Quality Permit V97-008 that expires on January 27, 2011. The Permit Renewal will be submitted to MCAQD and EPA prior to July 27, 2010 in accordance with Section 14.E.1 of the Permit.

2.2 Free-product Recovery

Free product is recovered from any groundwater monitoring well with a measured free-product thickness exceeding 0.1 foot. Additionally, free product is recovered biweekly from groundwater monitoring wells containing confirmed free-product thicknesses greater than 0.1 foot, per Section 2.3 of the ADEQ-approved LUST FSP (CH2M HILL, 2008a). The LUST FSP is also included as Volume 8 of the BSVE O&M Manual (CH2M HILL, 2010a). Only two monitoring wells, ASE-107A and ASE-115A, met the criteria (confirmed exceedances of the 0.1 foot free-product thickness metric) for formal inclusion in the biweekly manual recovery program during Second Quarter 2010. Monitoring well ASE-115A, which was under evaluation for formal inclusion in the biweekly manual recovery program at the beginning of the Second Quarter, had a confirmed exceedance of the 0.1 foot free product metric on April 19, 2010 (0.13 foot). Monitoring wells ASE-67A and ASE-111A were removed from the biweekly manual recovery program at the end of First Quarter 2010 after free-product thickness measurements in these wells remained below 0.1 foot for a minimum of 6 weeks. Monitoring wells ASE-67A and ASE-111A continue to be monitored monthly.

No automated skimmers are currently required in any well pursuant to the requirements of the CAP (free-product thicknesses in monitoring wells greater than 0.75 foot). Since the establishment of the metric in the CAP (approved on October 17, 2005), only one monitoring well (ASE-107A) located on PSHIA property has contained free-product thicknesses exceeding the 0.75-foot metric. However, pursuant to discussions with ADEQ's Case Manager for the LUST Enforcement Unit and the COP in June 2007 (the initial occurrence of a metric exceedance in a monitoring well located on PSHIA property) and subject to PSHIA operations' site access approval, Honeywell will continue biweekly manual free-product recovery in monitoring well ASE-107A when the free-product thickness exceeds 0.1 foot because installation of automated recovery equipment would cause disruption to PSHIA operations. Historically, free-product thicknesses exceeded 0.75 foot on PSHIA property in three additional monitoring wells (ASE-89A, ASE-90A, and ASE-102A) prior to the existence of the CAP metric. Since October 2005, free-product thicknesses in those wells have not been greater than 0.13 foot. A summary of free-product recovery during the quarter is provided below.

Summary of Free-product Recovery, Second Quarter 2010:

Number of wells containing an automated skimmer system:	0
Number of wells included in biweekly manual recovery:	2 (April), 2 (May), 2 (June)
Well from which greatest amount recovered during the quarter:	ASE-107A (4.6 gallons)

Summary of Free-product Recovery, Second Quarter 2010:

Total volume of free product recovered this quarter:	5.5 gallons
Total volume of free product recovered to-date (since June 1, 1999):	7,295 gallons

Table 2-1 provides details on the amount of free product recovered at each monitoring well that historically has had measurable free product, including the current quarter's recovery of 5.5 gallons from monitoring wells ASE-107A and ASE-115A. (All tables are provided at the end of the report.)

As of the end of Second Quarter 2010, free product continues to be recovered biweekly using a portable free-product pump when free-product thicknesses exceed 0.1 foot from monitoring wells ASE-107A and ASE-115A, which are formally included in the biweekly manual recovery program. In addition to the biweekly manual recovery program, free product will be recovered during the monthly measurement rounds from any well that contains greater than 0.1 foot of free product during Third Quarter 2010.

3.0 Monitoring Activities

This section describes soil vapor, groundwater, and free-product monitoring data collected as part of Honeywell's ongoing UST monitoring program. Because there were no additional groundwater monitoring wells installed or associated soil samples collected during the reporting period (April 1, 2010 to June 30, 2010), this section does not include a discussion of soil data.

3.1 Work Conducted

Soil vapor monitoring conducted during Second Quarter 2010 included:

- Collecting 22 soil vapor samples (does not include field duplicates) from process monitoring wells (not injection/extraction wells). Samples were analyzed for VOCs using USEPA Method TO-15 as part of the quarterly soil vapor monitoring event conducted in accordance with the BSVE O&M Manual (CH2M HILL, 2010a).
- Collecting soil vapor samples from the PSHIA and Honeywell groundwater monitoring wells identified in the BSVE O&M Manual (CH2M HILL, 2010a) as part of the quarterly soil vapor monitoring event. These samples were analyzed for VOCs using USEPA Method TO-15.
- Collecting field parameter measurements (methane, percent-lower explosive limit [LEL], oxygen, carbon dioxide, and TPH readings) from 92 process monitoring locations (i.e., process monitoring wells, injection/extraction wells, and total extracted gas) at daily, weekly, monthly, or quarterly frequencies, as stipulated in the BSVE O&M Manual (CH2M HILL, 2010a) based on monitoring location type and/or oxygen measurement levels. Percent relative humidity and temperature field measurements (where functional thermocouples are available) were also obtained at the process monitoring wells.
- Collecting field parameter measurements (methane, percent-LEL, oxygen, carbon dioxide, and TPH readings) from 153 non-process soil vapor monitoring locations (i.e., vaults, manholes, sentinel wells, sub-slabs, and other monitoring wells) as part of the quarterly soil vapor monitoring event conducted in accordance with the BSVE O&M Manual (CH2M HILL, 2010a).
- Collecting 12 soil vapor samples (does not include field duplicates) to verify the accuracy of the field measurements as part of the quarterly soil vapor monitoring event conducted in accordance with the BSVE O&M Manual (CH2M HILL, 2010a). Seven process monitoring locations (BSVE inlet and injection/extraction wells) were analyzed for TPH and methane using USEPA Method TO-3M and for oxygen and carbon dioxide using Method ASTM 1946. Five non-process monitoring locations (sentinel wells and a sub-slab well) were analyzed for methane using USEPA Method TO-3M.
- Performing the quarterly field measurement monitoring event for oxygen, carbon dioxide, methane, and percent-LEL at the PSHIA monitoring wells and subsurface

utility vaults, conducted in accordance with the BSVE O&M Manual (CH2M HILL, 2010a). These measurements were collected between May 13, 2010 and May 16, 2010.

Free-product thickness monitoring conducted during Second Quarter 2010 included:

- Collecting monthly free-product thickness measurements from 56 groundwater monitoring wells and biweekly measurements from two groundwater monitoring wells in April and May 2010; and collecting monthly free-product thickness measurements from 54 groundwater monitoring wells and a biweekly measurement from two groundwater monitoring wells in June 2010, in accordance with the LUST FSP (CH2M HILL, 2008a). The monthly rounds were conducted on April 5, May 7, and June 5 and 6, 2010.

Groundwater monitoring conducted during Second Quarter 2010 included:

- Collecting monthly groundwater elevation measurements from 56 monitoring wells on April 5 and May 7, 2010 and from 54 monitoring wells on June 5 and 6, 2010, in accordance with the LUST FSP (CH2M HILL, 2008a).
- Collecting groundwater samples from 45 groundwater monitoring wells between June 7 and June 11, 2010, in accordance with the LUST FSP (CH2M HILL, 2008a). These samples were analyzed for VOCs using USEPA Method SW8260B and total recoverable petroleum hydrocarbons (TRPH) using USEPA Method SW8015. A groundwater sample collected from Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) monitoring well ASE-84A was included in the analytical data evaluation to support the delineation of the methyl tert-butyl ether (MTBE) plume. Groundwater samples were not collected from 10 monitoring wells because of the presence of free product in the monitoring well, as discussed in Section 3.4.2.

3.2 Vadose Zone Monitoring

Vadose zone monitoring during Second Quarter 2010 included collecting field parameter measurements, as listed above, and collecting soil vapor samples for VOC analysis using USEPA Method TO-15, TPH analysis using USEPA Method TO-3M, and carbon dioxide and oxygen analysis using Method ASTM 1946. Tables 3-1 and 3-2 present a summary of the USEPA Method TO-15 detected analytes for the soil vapor samples collected from within the BSVE TTA during operation of the BSVE system, along with a comparison of the analytical results to the applicable BSVE operation vapor action levels (VALs-BSVE). Tables 3-3 and 3-4 present a summary of the USEPA Method TO-15 detected analytes for the soil vapor samples collected from locations outside the BSVE TTA, along with a comparison of the analytical results to the applicable long-term VALs (VAL-LT). Vapor action levels (VALs) were developed as part of the focused human health risk assessment for the Facility using standard USEPA methods and assumptions, as presented in Section 8.6.2 of the BSVE O&M Manual (CH2M HILL, 2010a). No VALs-BSVE or VALs-LT were exceeded during Second Quarter 2010. The soil vapor analytical reports and data quality evaluation (DQE) are provided in Appendix D.

A summary of the field parameter measurement activities at process and non-process monitoring locations is presented in Table 3-5. Table 3-6 presents the soil vapor confirmation sampling comparing the field monitoring results using the RKI Eagle™

portable gas detector (oxygen, carbon dioxide, methane, and TPH) with laboratory analytical results for USEPA Methods TO-3M and ASTM 1946, as described in Table 8-1 and Table 8-2 of the BSVE O&M Manual (CH2M HILL, 2010a), at selected process and non-process locations. Figures showing oxygen, methane, and TPH distributions in the shallow and deep vadose zone for Second Quarter 2010 are presented in Appendix E. Graphs showing temporal trends for TPH and oxygen concentrations in process monitoring wells are provided in Appendix F along with a summary table of the data. A summary of the process and non-process soil vapor monitoring results is provided below.

Summary of Process and Non-process Vapor Monitoring, Second Quarter 2010:

Total number of process monitoring well samples collected for laboratory analysis (does not include field duplicates):	22
Total number of injection/extraction well and total extracted gas samples collected for laboratory analysis (does not include field duplicates):	0
Total number of non-process monitoring well (i.e., sentinel well, sub-slab, and multi-port monitoring points) samples collected for laboratory analysis (does not include field duplicates):	53
Number of shallow (<15 feet below ground surface) monitoring points with VALs-BSVE exceedances:	0
Number of deep (≥15 feet below ground surface) monitoring points with VALs-BSVE exceedances:	0
Number of shallow (<15 feet below ground surface) monitoring points with VALs-LT exceedances:	0
Number of deep (≥15 feet below ground surface) monitoring points with VALs-LT exceedances:	0
Total number of vaults or manholes sampled for laboratory analysis (does not include field duplicates):	0
Number of vaults or manholes with vault air action level exceedances:	Not Applicable
Number of vaults requiring COP notification (>10% LEL measurement):	0
Number of shallow subsurface locations requiring COP notification (>20% LEL measurement):	1 (P-26-U)

Additional items of interest include:

- Overall, methane concentrations observed during Second Quarter 2010 using either field measurements or sampling and analysis by USEPA Method TO-3 (presented in Table 3-5 and Table 3-6) decreased when compared to First Quarter 2010 methane concentrations, indicating that the BSVE system continues to have a positive impact on methane concentrations. All 20 deep vadose process monitoring well ports in Phases A and B exhibited methane concentrations less than 1 percent volume per volume (vol/vol) for the majority of the reporting period. In total, 12 deep soil vapor monitoring locations exhibited methane greater than 1 percent at some time during the reporting period. Ten of these locations are in Phases C and D where remedial treatment of the vadose zone has not begun. One of the remaining locations (PMW-3-ML) exhibited the elevated methane concentration only on one occasion during the end of the annual shutdown period. The final location (PMW-5-ML) exhibited high methane in the beginning of the

reporting period (April 1 and April 5, 2010) but was measured 12 additional times through the reporting period with methane less than 1 percent. All of the deep sentinel well locations monitored had methane concentrations less than 1 percent volume per volume. Additionally, all 36 Phase A and Phase B injection/extraction wells had methane concentrations less than 1 percent vol/vol; four out of 10 Phase C injection/extraction wells exhibited methane greater than 1 percent (BV-27N, BV-28N, BV-31N, and BV-33N), ranging from 1.3 to 7.7 percent methane between May 13 and May 19, 2010.

- One shallow monitoring location (P-26-U), in the Phase C area north of Runway 8-26, exhibited an LEL measurement greater than 100 percent of the LEL on May 14, 2010. Whenever 20 percent or more of the LEL is detected in a shallow monitoring location, LEL measurements in surrounding vaults (ELE-VLT-02 and FBO-VLT-01) are monitored in accordance with Section 8.4 of the BSVE O&M Manual (CH2M HILL, 2010a). Each of these surrounding vaults was found to be below the LEL detection limit of 1 percent.
- There were two locations in Phases A or B where methane was observed above 1 percent during Second Quarter 2010, including a measurement of 1.5 percent methane in PMW-3-ML on June 1, 2010 and measurements of 2.2 and 1.6 percent methane in PMW-5-ML on April 1 and April 5, 2010, respectively. The measurement collected on June 1, 2010 from PMW-3-ML occurred during the annual shutdown period of the BSVE system, which occurred from May 24, 2010 to June 7, 2010; rebound of methane during this time is expected since the BSVE system has operated for only 1 year in a ramp-up mode, and ongoing biodegradation is expected to consume oxygen and produce methane. The elevated methane observed in PMW-5-ML in early April 2010 represented the final two methane measurements above 1 percent during a long decline in methane concentrations at this location, indicating the ongoing long-term successful impact of the BSVE System operation on subsurface conditions. The early April 2010 methane measurements of 2.2 and 1.6 percent were followed over ten additional measurements between April 14, 2010 and June 30, 2010 with methane concentrations below 1 percent (detected concentrations ranged from 0.99 to 0.019 percent).
- Oxygen in the deep vadose zone increased from First Quarter 2010. Deep oxygen was above 5 percent in all locations monitored in Phases A and B during the Second Quarter 2010 soil vapor monitoring event. Increasing oxygen concentrations are anticipated to continue as additional injection is performed and as Phase C injection/extraction wells are brought online.
- Planned in situ respiration testing was conducted from May 24, 2010 through June 7, 2010 during the annual BSVE system maintenance shutdown period. Results indicated an average oxygen uptake rate of 1.4 percent per day among deep process monitoring wells in Phases A and B and an overall oxygen uptake rate of 0.53 percent per day for the entire vadose zone. These rates are consistent with oxygen uptake rates observed during testing conducted in First Quarter 2010, where the average oxygen uptake rate among deep process monitoring wells was observed to range from 2.2 (February 2010 testing) to 0.8 percent per day (March 2010 testing), and the overall oxygen uptake rate for the entire vadose zone was observed to be 0.3 percent per day. Additional information on oxygen uptake testing and results is located in Appendix B.

- As of the end of Second Quarter 2010, weekly monitoring continues in the mid-lower ports of process monitoring wells PMW-4, PMW-5, and the lower port of process monitoring well PMW-10. These locations had oxygen concentrations of 8.1, 4.1, and 3.5 percent, respectively, as of the end of June 2010. The monitoring frequency of the remainder of process monitoring wells continues to be monthly based on consistent measurements of oxygen above 5 percent, as described in Table 8-1 of the BSVE O&M Manual (CH2M HILL, 2010a). Oxygen concentrations were observed below 5 percent in the mid-lower ports of process monitoring wells PMW-8 and PMW-9 during respiration testing conducted from May 24, 2010 through June 7, 2010; however, these locations each exhibited oxygen concentrations above 15 percent on June 30, 2010 and continue to be monitored monthly.
- Carbon dioxide, oxygen, TPH, and methane measured with field instruments correlated well with the concentrations obtained from analytical samples, as presented in Table 3-6. No significant difference between field measurement and laboratory results was observed.
- During air injection testing, nearby wells and vaults were monitored to look for potentially problematic migration of deep contamination towards the ground surface. All process monitoring wells within 200 feet of an injection well were monitored for field parameters, and all utility vaults within 100 feet of an injection well were monitored. Select utility vaults on the northern portion of PSHIA were also monitored during air injection testing (ELE-VLT-02, ELE-VLT-03, ELE-VLT-06, FBO-VLT-01, and FBO-VLT-02). No detectable LEL was observed in utility vaults during air injection testing, and no significant changes in process monitoring well soil vapor were observed. Given the lack of influence that air injection testing had on utility vaults and process monitoring wells near injection wells, the change to full-scale BSVE system operation was implemented on June 17, 2010. One month elapsed between the end of air injection testing and the start of full-scale air injection; this period of time was necessary to allow for the annual system maintenance shutdown, which occurred from May 24 to June 7, 2010, and to allow for a period of extraction-only system operation to remove methane vapors that accumulated during the shutdown period. To date, no potentially problematic migration has been observed associated with air injection.
- The Third Quarter 2010 soil vapor monitoring was conducted from July 27, 2010 through August 12, 2010. This monitoring included collection of soil vapor samples for VOC analysis using USEPA Method TO-15 and field parameter measurements, as described in Tables 8-1 and 8-2 of the BSVE O&M Manual (CH2M HILL, 2010a). Results of this sampling will be discussed in the Third Quarter 2010 Remediation Status Report.

3.3 Free-product Monitoring

Free-product monitoring during Second Quarter 2010 included the collection of free-product thickness measurements in accordance with the LUST FSP (CH2M HILL, 2008a). In general, any monitoring well with a free-product thickness less than 0.1 foot is measured monthly, and any monitoring well with a free-product thickness greater than 0.1 foot is measured biweekly. Table 3-7 provides free-product thickness measurements collected during the reporting period for all monitoring wells where free product has been observed

historically. The table includes a notation for those measurements where the associated well screen was completely submerged below the water table. In those instances, the thickness measurements are more reflective of accumulation in the well casing between recovery efforts rather than the free-product thickness in the adjacent formation. A comparison of the historical maximum free-product thickness measurements to the June 2010 free-product thickness measurements is provided in Table 3-8, and the maximum free-product thickness measured during the quarter for each groundwater monitoring well is plotted along with the historical areal extent of the free product in Figure 3-1. A summary of the free-product monitoring for the quarter is provided below.

Summary of Free-product Monitoring, Second Quarter 2010:

Number of wells measured monthly:	56 (April), 56 (May), 54 (June)
Number of wells measured biweekly:	2 (April), 2 (May), 2 (June)
Number of wells containing free product during the quarter:	10
Number of wells containing free product during quarterly measurement round on June 5 and 6, 2010:	6
Number of wells historically having contained free product:	32
Maximum thickness measured during the quarter:	2.47 feet (ASE-107A – 5/21/10)
Maximum thickness measured during the quarterly measurement round on June 5 and 6, 2010:	0.14 feet (ASE-115A)
Number of wells with measurements exceeding 0.75-foot thickness threshold for automatic skimmer installation if thickness was confirmed (see text for discussion):	1 (ASE-107A - 04/05/10, 04/19/10, 05/07/10, 05/21/10, 06/19/10)
Any new historical high measurements for individual monitoring wells?	2.47 feet (ASE-107A – 5/21/10)
Free product measured for the first time in any wells?	No

Additional items of interest include:

- As of the end of the previous quarter (First Quarter 2010), the monitoring wells included in the biweekly free-product monitoring and recovery program included ASE-67A, ASE-107A, and ASE-115A. During First Quarter 2010, beginning with the measurement on February 18, 2010, monitoring well ASE-67A maintained free-product thicknesses below 0.1 foot for a 6-week period (concluding on April 5, 2010). As a result, monitoring well ASE-67A was moved from biweekly monitoring to monthly monitoring for Second Quarter 2010. A one-time free-product thickness exceeding 0.1 foot was measured in monitoring well ASE-115A on March 1, 2010 (during First Quarter 2010). A subsequent free-product thickness measurement exceeding the 0.1 foot metric occurred in monitoring well ASE-115A on April 19, 2010, within the 6-week evaluation period, thus the well was moved into the biweekly free-product monitoring and recovery program. As of the end of Second Quarter 2010, the monitoring wells included in the biweekly free-product monitoring and recovery program were ASE-107A and ASE-115A.
- Although free-product thickness measurements in groundwater monitoring well ASE-107A exceeded the 0.75-foot CAP metric during the quarter, an automated skimmer was not installed in this PSHIA-located monitoring well. Pursuant to discussions with

ADEQ's Case Manager for the LUST Enforcement Unit and the COP in June 2007 (the initial occurrence of a metric exceedance in a monitoring well located on PSHIA property) and subject to PSHIA operations' site access approval, Honeywell will continue biweekly manual free-product recovery in monitoring well ASE-107A when the free-product thickness exceeds 0.1 foot because installation of automated recovery equipment would cause disruption to PSHIA operations at this time.

- Historical free-product thickness measurements in Honeywell's monitoring wells show that the cross-gradient extent of the free-product pool can be defined historically by groundwater monitoring wells ASE-54A and PL-2102 to the northwest and by monitoring wells BC-7A and ASE-127A to the southeast. The upgradient (northeast) extent of the free-product pool can be delineated by monitoring wells ASE-60A and ASE-61A. According to the historical thickness measurements, the downgradient (south-southwest) extent of the free-product pool can be defined by monitoring wells PL-201A, ASE-62A, ASE-65A, ASE-126A, ASE-97A, BC-8B, ASE-95A, ASE-124A, ASE-106A, ASE-100A, ASE-101A, ASE-128A, ASE-98A, ASE-99A, ASE-110A, ASE-109A, ASE-123A, ASE-122A, ASE-112A, and ASE-105A, as shown in Figure 3-1. Monitoring wells ASE-108A (installed in March 2005) and ASE-116A (installed in December 2005) have never contained free product but, given their locations either very near a monitoring well containing free product (ASE-108A) or between sets of monitoring wells containing free product (ASE-116A), these wells remain within the historical extent of free-product delineation illustrated in Figure 3-1 and as part of the BSVE TTA for the approved remedy.

3.4 Groundwater Monitoring

Groundwater monitoring at the Honeywell facility currently consists of monthly water-level measurements and quarterly groundwater sampling. These activities and the results for the quarter are discussed in the sections below.

3.4.1 Groundwater Elevations

In accordance with the ADEQ-approved LUST FSP (CH2M HILL, 2008a), Honeywell collects monthly water level measurements in monitoring wells associated with the CAP. As part of Honeywell's overall groundwater monitoring program, water levels are also measured quarterly in all other Honeywell groundwater monitoring wells. This section presents the results of the June 2010 groundwater monitoring event, including an evaluation of the groundwater levels and related groundwater flow directions in the area associated with the CAP. The June 2010 groundwater elevations and associated water level contours are presented in Figure 3-2 for the eastern portion of the Honeywell facility and PSHIA property for Sub-unit A (Salt River Gravels sub-unit). A comparison between the June 2010 water level elevations to the previous quarter's elevations is presented in Table 3-9. Hydrographs illustrating water level elevations over time for each of Honeywell's UST monitoring wells are included in Appendix G. A summary of the groundwater elevation evaluation for the quarterly water level round is provided below.

Summary of Groundwater Elevations, Second Quarter 2010:

Number of wells associated with the CAP monitored during quarterly round: 54

Summary of Groundwater Elevations, Second Quarter 2010:

Percentage of wells with water-level rises compared to last quarterly round:	100 percent
Minimum rise in water levels:	2.99 feet (PL-2102)
Maximum rise in water levels:	9.01 feet (ASE-101A)
Average rise in water levels:	6.74 feet
Percentage of wells with declining water levels compared to last quarterly round:	0 percent
Minimum decline in water levels:	Not Applicable
Maximum decline in water levels:	Not Applicable
Average decline in water levels:	Not Applicable
Percentage of wells with no water level change compared to last quarterly round:	0 percent
Overall change in water levels since December 2004 (historical low):	Between 10 and 25 feet higher

Compared to the previous quarterly water level monitoring round conducted in March 2010, water levels in June 2010 increased an average of 6.74 feet in the 54 monitoring wells associated with the CAP, as indicated in Table 3-9. Because of the significant rise in water levels during the quarter – caused primarily by extended surface water flow in the Salt River from upstream reservoir releases – groundwater flow directions shifted from southwesterly to a more west-southwesterly direction in the eastern portion of the Honeywell facility and PSHIA property, as shown in Figure 3-2.

Because of region-wide water level increases, a portion of the Honeywell bedrock rise became re-submerged based on the June 2010 water levels, thereby allowing some flow of groundwater across a small area of the bedrock rise for the first time since about September 2002. While this has no effect on the area associated with the CAP, it is mentioned here because the “saddle” in the Honeywell bedrock rise is depicted in the inset shown in Figure 3-2. Potential implications for this as it pertains to the regional groundwater plume will be discussed in the next Honeywell Annual Groundwater Report scheduled for submittal in early 2011.

3.4.2 Groundwater Quality

In accordance with Honeywell’s LUST FSP Section 2.1 (Groundwater Monitoring and Sampling Frequency) and Section 2.2 (Groundwater Analysis) (CH2M HILL, 2008a), Honeywell currently performs quarterly evaluations of the groundwater quality in the area associated with the CAP. Groundwater data presented in this section were generated from samples collected during the Second Quarter 2010 groundwater sampling event conducted in June 2010. Analytical results for the UST monitoring wells sampled are discussed below and are presented in Table 3-10.

Consistent with the LUST FSP Section 2.1 (CH2M HILL, 2008a), which was approved by ADEQ on October 21, 2008 (ADEQ, 2008b), groundwater samples were not collected from 10 monitoring wells containing free product in the well casing at the time of water-quality sampling (ASE-19A, ASE-64A, ASE-67A, ASE-89A, ASE-91A, ASE-92A, ASE-102A, ASE-107A, ASE-111A, and ASE-115A).

Plan view concentration plots are provided for those jet fuel compounds that were detected at concentrations exceeding established standards during the quarter, in addition to TRPH, for which there is no established regulatory standard. Figures 3-3 through 3-6 present plan view isoconcentration contour plots of the following constituents based on results from the June 2010 sampling event:

- Benzene
- MTBE
- Naphthalene
- TRPH

These plots present concentration contours that delineate areas exceeding regulatory standards or guidance levels and standard laboratory detection limits, except for the plot of TRPH, which includes order of magnitude concentration contours starting with 1,000 micrograms per liter ($\mu\text{g/L}$), which is equal to the laboratory reporting limit. The plots contain contours for both the current and previous quarter, allowing for the evaluation of plume changes and stability.

Graphs illustrating concentrations of benzene, MTBE, and naphthalene over time for each of Honeywell's UST monitoring wells are included in Appendix G, and a brief discussion of these compounds' results (and those of TRPH) from the June 2010 sampling event is presented below. Complete laboratory analytical reports and the DQE for all groundwater samples collected during Second Quarter 2010 are contained in Appendix H.

In addition to the petroleum hydrocarbon-related compounds discussed above, Appendix I of this report also presents plots of total trichloroethene (TCE) (sum of TCE and its daughter products cis-1,2-dichloroethene and vinyl chloride) and total trichloroethane (TCA) (sum of 1,1,1-TCA and its daughter products 1,1-dichloroethane, 1,1-dichloroethene, and chloroethane). These compounds are noted as primary contaminants of concern for the overall Motorola 52nd Street Superfund site. Honeywell continues to evaluate the benefits of the BSVE system in addressing the chlorinated VOCs found in the subsurface, as discussed in Section 2.1.1.

Further discussions of non-fuel VOC detections in groundwater, including detections of chlorinated VOCs in groundwater at and around the Honeywell facility, are included in Honeywell's annual groundwater monitoring reports associated with the Facility's focused feasibility study and its obligations under the Administrative Order on Consent with ADEQ's Federal Projects Unit (ADEQ, 1999). The most recent groundwater monitoring report was submitted to ADEQ's Federal Projects Unit in April 2010 (CH2M HILL, 2010c).

A summary of the groundwater analytical results for benzene, MTBE, naphthalene, and TRPH are provided below followed by a brief discussion of each compound. Concentrations of toluene, ethylbenzene, and xylenes did not exceed any ADEQ Tier 1 corrective action standards and are not discussed further.

Summary of Groundwater Analytical Results, Second Quarter 2010:

Number of UST wells sampled (includes CERCLA monitoring well ASE-84A):	45
Maximum benzene concentration detected during the quarter:	1,100 $\mu\text{g/L}$ (ASE-63A)
Greatest increase in benzene concentration from previous quarter:	120 $\mu\text{g/L}$ (ASE-130A)

Summary of Groundwater Analytical Results, Second Quarter 2010:

Greatest decrease in benzene concentration from previous quarter:	300 µg/L (ASE-63A)
Number of wells with benzene concentrations exceeding USEPA maximum contaminant level of 5 µg/L:	13
Maximum MTBE concentration detected during the quarter:	250 µg/L (ASE-130A)
Greatest increase in MTBE concentration from previous quarter:	100 µg/L (ASE-130A)
Greatest decrease in MTBE concentration from previous quarter:	104 µg/L (ASE-90A)
Number of wells with MTBE concentrations exceeding ADEQ-recommended Tier 1 remedial level of 94 µg/L:	3
Number of wells with MTBE concentrations exceeding ADEQ's investigative level of 20 µg/L:	12
Maximum naphthalene concentration detected during the quarter:	170 µg/L (ASE-63A)
Greatest increase in naphthalene concentration from previous quarter:	27 µg/L (ASE-52A)
Greatest decrease in naphthalene concentration from previous quarter:	20 µg/L (ASE-63A)
Number of wells with naphthalene concentrations exceeding ADEQ health-based guidance level of 280 µg/L:	0
Number of wells with naphthalene concentrations exceeding ADEQ Tier 1 Corrective Action standard of 6.5 µg/L:	6
Maximum TRPH concentration detected during the quarter:	15,000 µg/L (ASE-63A)
Greatest increase in TRPH concentration from previous quarter:	12,900 µg/L (ASE-63A)
Greatest decrease in TRPH concentration from previous quarter:	29,100 µg/L (ASE-55A)

3.4.2.1 Benzene

Benzene was detected in groundwater throughout the eastern portion of the Honeywell facility and on PSHIA property in June 2010, generally consistent with the historical areal extent of the free-product pool and historical groundwater data. The maximum concentration of benzene in June 2010 occurred in monitoring well ASE-63A (1,100J^a µg/L), as shown in Figure 3-3. This concentration was lower than the previous quarter's maximum benzene concentration (1,400 µg/L) that also occurred in monitoring well ASE-63A. Consistent with the data from March 2010 and prior sampling rounds, the highest benzene concentrations in June 2010 occurred in monitoring wells associated with the Area 2 fuel farm (1,100J µg/L at ASE-63A and 410 µg/L at ASE-38A). Concentrations of benzene exceeding the USEPA maximum contaminant level (MCL) (5 µg/L) were detected on the Honeywell facility in June 2010 and beneath the northern portion of PSHIA, as shown in Figure 3-3.

The June 2010 benzene concentrations were generally similar to the March 2010 benzene concentrations, with some variability across the monitored area. Benzene was not detected in one monitoring well in June 2010 that had a detectable concentration of benzene during the previous sampling round conducted in March 2010 (0.9 µg/L at monitoring well

^a J-flagged values are reported by the analytical laboratory as estimated concentrations.

ASE-112A). Conversely, benzene was detected in one monitoring well in June 2010 that did not have a detectable level of benzene in March 2010 (0.5 µg/L at ASE-125A). Based on an evaluation of the June sampling event and results, this first-time low concentration of benzene in monitoring well ASE-125A in June 2010 is believed to be the result of equipment contamination. Further monitoring in the upcoming quarters may provide additional information on the source of this reporting limit detection.

Given the west-southwesterly direction of groundwater flow in the area, the extent of benzene concentrations associated with releases from the Honeywell facility exceeding the MCL and ADEQ Tier 1 corrective action standard (5 µg/L) continues to be delineated in all directions. The upgradient (northeast) extent is delineated by monitoring wells ASE-60A and ASE-61A. The cross-gradient extent is delineated by monitoring wells PL-2101 and ASE-54A to the northwest and by monitoring wells ASE-127A and BC-7A to the southeast, as illustrated in Figure 3-3. The downgradient (west to southwest) extent of benzene exceeding the MCL is delineated by monitoring wells ASE-62A, ASE-65A, BC-18, ASE-126A, ASE-125A, ASE-95A, ASE-124A, ASE-96A, ASE-106A, ASE-99A, ASE-110A, and ASE-114A. Additional monitoring wells downgradient of the Honeywell facility did not contain detectable levels of benzene, as indicated in Figure 3-3. The areal extent of the benzene plume has generally not changed since quarterly UST groundwater monitoring began in December 2005, indicating that the benzene plume associated with releases from the Honeywell facility is stable.

3.4.2.2 Methyl Tert-Butyl Ether

Consistent with previous sampling rounds, MTBE was detected in groundwater samples collected from the eastern portion of the Honeywell facility and PSHIA property in June 2010. The maximum concentration of MTBE in June 2010 occurred in monitoring well ASE-130A (250 µg/L), as shown in Figure 3-4. This concentration was higher than the March 2010 maximum MTBE concentration (160 µg/L) that was detected in monitoring well ASE-90A.

Concentrations of MTBE exceeding its ADEQ-recommended Tier 1 remedial level of 94 µg/L – the remedial level that should be used when an existing drinking water receptor is not affected or is not potentially affected by MTBE (ADEQ, 2002) – were detected beneath the northern portion of PSHIA (130 µg/L at monitoring well ASE-126A) and beneath the Honeywell facility (100 µg/L at monitoring well ASE-52A and 250 µg/L at monitoring well ASE-130A) in June 2010, as shown in Figure 3-4.

In general, changes in concentrations of MTBE in June 2010 were variable compared to the previous quarter for monitoring wells located on the Honeywell facility and PSHIA property. In June 2010, MTBE was not detected in one monitoring well that had a detectable concentration of MTBE during the previous sampling round conducted in March 2010 (6.2 µg/L at monitoring well ASE-124A).

Given the west-southwesterly direction of groundwater flow in the area, the extent of MTBE concentrations exceeding its Tier 1 remedial level (94 µg/L) is delineated in all directions. The upgradient (northeast) extent is delineated by monitoring wells ASE-60A and ASE-61A. The cross-gradient extent is delineated by monitoring wells ASE-68A and PL-2101 to the northwest and by monitoring wells ASE-116A, ASE-38A, ASE-37A, ASE-63A, ASE-127A, and ASE-105A to the southeast. The downgradient (west-southwest) extent of MTBE

exceeding its Tier 1 remedial level is delineated by monitoring wells PL-201A, ASE-108A, PL-105A, BC-18, ASE-125A, ASE-95A, ASE-124A, ASE-100A, ASE-101A, ASE-96A, and ASE-106A. Additional monitoring wells on and downgradient of the Honeywell facility did not contain detectable levels of MTBE.

Based on the June 2010 data, the extent of the MTBE plume on PSHIA property continues to be delineated to 20 µg/L (ADEQ's investigative level) to the southwest, south, southeast, and east by monitoring wells ASE-125A, ASE-129A, ASE-95A, ASE-103A, ASE-124A, ASE-100A, ASE-128A, ASE-96A, ASE-99A, ASE-106A, ASE-114A, ASE-113A, ASE-112A, and ASE-105A. West of monitoring wells ASE-126A and BC-18, the June 2010 MTBE plume is delineated to 20 µg/L by Honeywell CERCLA monitoring well ASE-84A (13 µg/L). This well is not associated with the CAP; however, as discussed in the *First Quarter Status Report for 2009, Honeywell 34th Street Facility, Phoenix, Arizona, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.20* (CH2M HILL, 2009a), Honeywell is now collecting quarterly groundwater samples from monitoring well ASE-84A to evaluate the extent of the MTBE plume on PSHIA property west of monitoring wells ASE-126A and BC-18.

3.4.2.3 Naphthalene

Naphthalene was detected in groundwater at the Honeywell facility and beneath PSHIA property at locations generally consistent with where it has historically been observed, as shown in Figure 3-5. The maximum concentration of naphthalene in June 2010 occurred in monitoring well ASE-63A (170J µg/L) located south of the Area 2 fuel farm. This concentration was less than the March 2010 maximum naphthalene concentration (190 µg/L), also detected in monitoring well ASE-63A. Other naphthalene concentrations detected in monitoring wells in June 2010 ranged from 2.1 µg/L (ASE-68A) to 44 µg/L (ASE-52A); there were no concentrations detected that exceeded the ADEQ-recommended health-based guidance level (280 µg/L).

The June 2010 naphthalene concentrations were generally similar to the March 2010 naphthalene concentrations, with some variability across the monitored area. Naphthalene was not detected in one monitoring well in June 2010 that had a detectable concentration of naphthalene during the previous sampling round conducted in March 2010 (2.9 µg/L at monitoring well ASE-58A). Conversely, naphthalene was detected in two monitoring wells in June 2010 that did not have detectable levels of naphthalene in March 2010 (2.1 µg/L at monitoring well ASE-68A and 12 µg/L at monitoring well ASE-90A).

Given the west-southwesterly direction of groundwater flow in the area, the extent of naphthalene concentrations exceeding the ADEQ Tier 1 corrective action standard of 6.5 µg/L is delineated in all directions. The upgradient (northeast) extent is delineated by monitoring wells ASE-60A and ASE-61A. The cross-gradient extent is delineated by monitoring wells ASE-68A, PL-2101, and ASE-54A to the northwest and by monitoring wells ASE-127A and BC-7A to the southeast, as illustrated in Figure 3-5. The downgradient (west-southwest) extent of naphthalene exceeding 6.5 µg/L is delineated by monitoring wells ASE-58A, PL-201A, ASE-62A, ASE-55A, ASE-108A, ASE-126A, ASE-125A, ASE-95A, ASE-124A, ASE-96A, ASE-106A, ASE-99A, ASE-110A, and ASE-114A. Additional monitoring wells downgradient of the Honeywell facility did not contain detectable levels of naphthalene, as indicated in Figure 3-5. The areal extent of the naphthalene plume has generally not changed since quarterly UST groundwater monitoring began in December

2005, indicating that the naphthalene plume associated with releases from the Honeywell facility is stable.

3.4.2.4 Total Recoverable Petroleum Hydrocarbons

Consistent with previous sampling rounds, TRPH was detected in groundwater samples collected from the eastern portion of the Honeywell facility in June 2010. The maximum concentration of TRPH in June 2010 occurred in monitoring well ASE-63A (15,000 µg/L), as shown in Figure 3-6. This concentration was lower than the March 2010 maximum TRPH concentration (39,000 µg/L) that occurred in monitoring well ASE-55A. Concentrations of TRPH exceeding the reporting limit of 1,000 µg/L were detected on the Honeywell facility in June 2010 and beneath the northern portion of PSHIA, as shown in Figure 3-6.

In general, changes in concentrations of TRPH in June 2010 were variable compared to the previous quarter for monitoring wells located on the Honeywell facility and PSHIA property.

Given the west-southwesterly direction of groundwater flow in the area, the extent of TRPH concentrations exceeding the reporting limit of 1,000 µg/L continues to be delineated in all directions. The upgradient (northeast) extent is delineated by monitoring wells ASE-60A and ASE-61A. The cross-gradient extent is delineated by monitoring wells PL-2101 and ASE-54A to the northwest and by monitoring wells ASE-116A, ASE-38A, ASE-37A, ASE-127A, and BC-7A to the southeast, as illustrated in Figure 3-6. The downgradient (west-southwest) extent of TRPH exceeding 1,000 µg/L is delineated by monitoring wells ASE-58A, ASE-62A, ASE-65A, BC-18, ASE-126A, ASE-95A, ASE-124A, ASE-96A, ASE-106A, ASE-110A, and ASE-105A. Additional monitoring wells downgradient of the Honeywell facility did not contain detectable levels of TRPH, as indicated in Figure 3-6.

3.5 Data Quality Evaluation

Routine verification of 100 percent of the laboratory data was performed on Second Quarter 2010 soil vapor and groundwater sampling data in accordance with Section 7.1 of the *Master Quality Assurance Project Plan, Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona* (CH2M HILL, 2007b). The analytical verification process included a review of chain-of-custody documentation, holding time compliance, the required field and laboratory quality control samples, flagging for method blanks, laboratory control sample/laboratory control sample duplicate recoveries, matrix spike/matrix spike duplicate samples, surrogate spike recoveries, internal standard recoveries, and initial and continuing calibrations. The DQEs are presented in Appendix D (soil vapor) and Appendix H (groundwater), and the overall findings are summarized below.

3.5.1 Summary of Soil Vapor Data Quality Evaluation Findings

The following summary highlights the precision, accuracy, representativeness, completeness, and comparability findings for Second Quarter 2010 soil vapor data:

- No data were rejected, and completeness was 100 percent for all method/analyte combinations.
- No data were qualified due to low-level blank contamination.

- Samples were analyzed diluted, resulting in raised reporting limits for non-detected analytes.
- Field duplicate relative-percent-difference exceedances were observed for USEPA Method TO-15; 36 results were qualified as estimated.
- Surrogate recovery exceedances were observed for USEPA Method TO-15; 116 results were qualified as estimated.
- Overall, the precision and accuracy of the data, as measured by field and laboratory quality control indicators, indicates that the data are usable for project objectives.

3.5.2 Summary of Groundwater Data Quality Evaluation Findings

The following summary highlights the precision, accuracy, representativeness, completeness, and comparability findings for Second Quarter 2010 groundwater data:

- No data were rejected, and completeness was 100 percent for all method/analyte combinations.
- Less than 1 percent of the USEPA Method SW8260B data were qualified due to low-level equipment blank contamination. The detections in the equipment blanks were similar across all collected; suggesting a review of decontamination procedures is needed.
- Samples were analyzed diluted for USEPA Method SW8260B, resulting in raised reporting limits for non-detected analytes.
- Four samples were analyzed outside of holding time; 264 results were qualified as estimated.
- Initial and continuing calibration exceedances were observed for USEPA Method SW8260B; 75 results were qualified as estimated.
- Field duplicate relative percent-difference exceedances were observed for USEPA Methods SW8260B and SW8015B; eight results were qualified as estimated.
- A surrogate recovery exceedance was observed in one sample for USEPA Method SW8260B; one result was qualified as estimated.
- Matrix spike/matrix spike duplicate recovery exceedances were observed for USEPA Methods SW8260B and SW8015B; three results were qualified as estimated.
- Laboratory control sample/laboratory control sample duplicate recovery exceedances were observed for USEPA Method SW8260B; 12 results were qualified as estimated.
- Overall, the precision and accuracy of the data, as measured by field and laboratory quality control indicators, indicates that the data are usable for project objectives.

4.0 Contingency Triggers and Measures

This section describes Honeywell’s contingency planning in accordance with the ADEQ-approved CAP (CH2M HILL, 2004a-b). Per the CAP, Honeywell is identifying circumstances during monitoring and remediation activities that could trigger the need for contingency measures. Honeywell has also worked with the COP to evaluate operational considerations that could impact the operations at PSHIA and the efficacy of the BSVE system. Table 4-1 details the contingency triggers associated with the vadose zone monitoring and remediation and the free-product monitoring and recovery, along with the contingency measures taken during the quarter. Table 4-1 includes metrics and contingency measures established in Section 3.0 of the CAP (CH2M HILL, 2004a-b) and Section 2.0 of the LUST FSP (CH2M HILL, 2008a) for free-product monitoring and recovery. Contingency triggers associated with the dissolved-phase contaminants of concern will be evaluated following approval of the groundwater component of Honeywell’s CAP. A high-level summary of information provided in Table 4-1 is also provided below.

Metric	Status	Comment
Changing Site Conditions		
Groundwater Levels		Groundwater levels are approximately 10 to 25 feet higher than December 1, 2004 water levels. Contingencies have been implemented.
Vadose Zone		
Biodegradation Rate		Average oxygen uptake rate of 1.4 percent per day among deep process monitoring wells in Phases A and B. Biodegradation of ~700,000 pounds.
TPH in Soil Vapor		Steady decreasing TPH concentrations observed. Concentrations decreased from 2,178 ppm on April 1, 2010 to 461.6 ppm on June 30, 2009.
Mass Removal Rates		Average daily TPH mass removal rate of 4,716 pounds per day since the initial start of BSVE system operation (metric is 2,000 pounds per day).
Comparison to VALs		No shallow or deep VAL exceedances.
Oxygen > 5%		All Phase A and B soil vapor monitoring locations exhibited oxygen >5% during Second Quarter 2010 soil vapor monitoring event.
Methane < 1%		All Phase A and B soil vapor monitoring locations exhibited methane <1% during Second Quarter 2010 soil vapor monitoring event.
Free-product		
Free-product thickness increases		This metric will be evaluated after 24 months of remedial operations have been conducted (May 27, 2011).
Automated free-product recovery		Free product thickness > 0.75 foot has been observed in ASE-107A. Automated recovery not performed due to location of well on airfield.
Manual free-product recovery		Manual product recovery conducted in accordance with Corrective Action Plan.

Notes:

-  = Performance Metric meeting remedial goals. No response action required.
-  = Performance Metric where response action has been taken, or may be required in the future.
-  = Performance Metric not meeting remedial goals. Response action required.

Percent-LEL measurements exceeding the 20-percent-LEL threshold occurred in the shallow soil vapor monitoring location P-26-U, located in the Phase C area during Second Quarter 2010, as shown in Table 3-5. These data are consistent with historical data dating back to

July 2005. As a result of the LEL measurement during Second Quarter 2010 and consistent with procedures set forth in Section 10.4 of the BSVE O&M Manual (CH2M HILL, 2010a), monitoring was conducted in the surrounding vaults (ELE-VLT-02 and FBO-VLT-01) on May 14, 2010. Percent-LEL measurements at these vault locations were below the detection limit of 1 percent. Once remedial efforts begin in Phase C, the concentrations of combustible gases that led to the LEL exceedance at this location are expected to decrease. Multiport monitoring well P-26 will continue to be monitored quarterly as part of the soil vapor monitoring program.

Water levels collected on June 5 and 6, 2010 were between 10 feet and 25 feet higher than water levels collected on December 1, 2004 (historical low), thus the contingency relative to groundwater levels remained triggered. This trigger was first documented in the *Second Quarter 2009 Remediation Status Report, Honeywell 34th Street Facility, Phoenix, Arizona, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.20* (CH2M HILL, 2009b). As reported during Second Quarter 2009, Honeywell evaluated the impact of rising groundwater levels in the Phase C and Phase D areas. For Phase C, Honeywell adjusted the Phase C wells' locations to maximize their influence in the Phase D area and raised the elevation of the top of the well screens to accommodate the current groundwater levels and future potential rises in groundwater levels in this area. Startup of Phase C is anticipated in the fall of 2010. For Phase D, Honeywell continues to work in cooperation with the COP to evaluate appropriate remedial alternatives. On February 26, 2010, Honeywell submitted the *Phase D Remedial Alternatives Detailed Evaluation Report, Honeywell 34th Street Facility, Phoenix, Arizona* (CH2M HILL, 2010b) to the COP for consideration and evaluation. Following the start of full-scale operation of the BSVE system in Phases A and B, TPH mass removal rates (4,000 pounds per day) exceeded the trigger value (2,000 pounds per day), indicating that system performance in Phases A and B is currently meeting remedial objectives; therefore, no action is required at this time with respect to groundwater elevations.

Confirmed free-product thicknesses exceeding the CAP metric of 0.1 foot occurred in two monitoring wells (ASE-107A and ASE-115A) during Second Quarter 2010, as shown in Table 3-8. As such, free-product monitoring was conducted biweekly during the quarter, and manual recovery of free product from monitoring wells ASE-107A and ASE-115A occurred whenever free-product thicknesses exceeded 0.1 foot.

As described in Section 3.3, the free-product thickness in monitoring well ASE-107A exceeded the CAP metric of 0.75 foot for installing a dedicated, automatic free-product pump during Second Quarter 2010. As stated in Table 4-1, a dedicated, automatic free-product skimming pump was not installed in monitoring well ASE-107A because installation of recovery equipment, requiring electricity or some alternative form of power and a storage vessel, in that well would cause disruption to airport operations. Pursuant to discussions with ADEQ's Case Manager for the LUST Enforcement Unit and the COP in June 2007 (in regard to the initial occurrence of a metric exceedance in monitoring well ASE 107A), Honeywell plans to continue biweekly manual free-product recovery, as required for confirmed exceedances of the 0.1-foot CAP metric, from monitoring well ASE-107A (subject to PSHIA operations' site access approval) whenever free-product thicknesses in monitoring well ASE-107A exceed a thickness of 0.75 foot. In the future, however, Honeywell may include the option to install automatic free-product skimmer

equipment in appropriate monitoring wells, including ASE-107A, located south of PSHIA runway 8-26 as part of the remedial design for Phase D.

5.0 Additional Activities

To assist in evaluating the occurrence and potential movement of the free product in the Phase C and Phase D area, Honeywell conducted a light non-aqueous phase liquid (LNAPL or free product) mobility assessment. Honeywell is including the LNAPL mobility assessment technical memorandum in this quarterly status report as Appendix J. Included as an appendix to the LNAPL mobility assessment is some additional work conducted by Dr. Gregory Douglas of Newfields Environmental Forensics regarding the environmental weathering of the free product. This assessment was based on soil samples collected during the Phase C drilling and well installations in late 2009 and on free product samples collected from Honeywell monitoring wells in 2004. In summary, the LNAPL mobility assessment indicated that the free product associated with releases from the Honeywell facility exists at saturations below residual and was therefore deemed immobile. The evaluation suggested that even if LNAPL saturations existed in exceedance of the residual LNAPL saturation, the free product only has limited mobility. This result was supported by additional lines of evidence such as the limited amount of free product recovered from monitoring wells, as well as the stability of the associated dissolved-phase plumes and the weathered nature of the product itself.

6.0 References

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Tables

TABLE 2-1

Free-product Recovery Details, Second Quarter 2010

*Second Quarter 2010 Remediation Status Report**Honeywell 34th Street Facility, Phoenix, Arizona*

Well	Gallons Recovered during Second Quarter 2010	Total Gallons Recovered via Skimming through Second Quarter 2010
ASE-19A	0	50
ASE-20A	NA	4,104
ASE-37A	0	2
ASE-38A	0	47
ASE-39A	NA	0.7
ASE-41A	NA	27
ASE-51A	NA	105
ASE-52A	0	20
ASE-53A	NA	481
ASE-55A	0	3
ASE-56A	NA	663
ASE-57A	NA	685
ASE-58A	0	0
ASE-63A	0	0
ASE-64A	0	32
ASE-67A	0	353
ASE-68A	0	75
ASE-89A	0	139
ASE-90A	0	7
ASE-91A	0	0
ASE-92A	0	0
ASE-96A	0	1
ASE-102A	0	147
ASE-107A	4.6	40
ASE-111A	0	14
ASE-113A	0	0
ASE-114A	0	0.4
ASE-115A	0.9	4
ASE-130A	0	0.3
PL-101A	NA	291
PL-105A	0	6
PL-2101	0	0.02
Total	5.5	7,295

Notes:

This table includes all wells that have historically had measureable free product.
Rounding may affect totals shown in far right column and totals at bottom of table.
NA = Not available due to connection to the BSVE system.

TABLE 3-1

Summary of TO-15 Detected Analytical Results for Soil Vapor Samples - Comparison of Shallow Monitoring Points (<15 feet) to BSVE Shallow Vapor Action Levels, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	SAMPLE DATE	BZ	EBZ	C6HT	MTBE	PCE	TCE	124TMBZ	135TMBZ	mp-XYL	o-XYL	XYL
Tier 1 Vapor Action Level		20	63	38,000	600	27	79	400	340	39,000	39,000	39,000
Tier 2 Vapor Action Level		200	630	38,000	6,000	270	790	400	340	39,000	39,000	39,000
Process Monitoring Wells												
PMW-1-U	05/10/10	<0.021	0.17 J	<0.023	<0.024	<0.045	<0.035	1.1 J	0.23 J	0.4 J	0.069 J	0.47 J
PMW-2-U	05/11/10	<0.019	0.069	<0.021	<0.022	<0.041	<0.033	0.56	0.11	0.18	0.029	0.21
PMW-3-U	05/11/10	<0.0097	0.047 J	<0.011	<0.011	<0.021	0.066 J	0.48 J	0.11 J	0.14 J	0.034 J	0.17 J
PMW-4-U	05/13/10	<0.0097	0.033	<0.011	<0.011	<0.021	<0.016	0.32	0.066	0.089	<0.013	0.089
PMW-5-U	05/11/10	<0.019	0.04	<0.021	<0.022	<0.041	<0.032	0.42	0.092	0.13	<0.026	0.13
PMW-6-U	05/11/10	<0.01	0.059 J	0.059 J	0.024 J	<0.021	<0.017	0.43 J	0.13 J	0.26 J	0.076 J	0.34 J
PMW-7-U	05/17/10	<0.0034	<0.0046	<0.0037	<0.0038	<0.0071	<0.0056	0.048	0.011	0.01	<0.0046	0.01
PMW-8-U	05/17/10	<0.0037	<0.005	<0.0041	<0.0041	<0.0078	<0.0062	0.054	0.011	0.012	<0.005	0.012
PMW-9-U	05/10/10	<0.01	0.081 J	<0.011	<0.012	<0.022	<0.017	0.79 J	0.17 J	0.21 J	0.038	0.24 J
PMW-10-U	05/11/10	<0.019	0.037	<0.021	<0.022	<0.041	<0.033	0.64	0.14	0.22	0.031	0.25
Sub-slab												
P-31	05/20/10	<0.0037	<0.0051	<0.0041	<0.0042	<0.0079	<0.0063	0.029	0.0064	0.0052	<0.0051	0.0052
P-32	05/20/10	<0.0041	<0.0056	<0.0045	<0.0047	0.06	1.1	0.042	0.0091	0.008	<0.0056	0.008
P-33	05/19/10	<0.0071	<0.0097	<0.0079	<0.008	0.05	0.032	0.15	0.033	0.033	<0.0097	0.033
P-35	05/20/10	<0.003	0.0071	<0.0033	<0.0034	2.8	0.16	0.092	0.018	0.022	0.0044	0.026
P-36	05/20/10	<0.0037	<0.005	<0.0041	<0.0042	0.017	0.024	0.068	0.016	0.014	<0.005	0.014
P-37	05/19/10	<0.0065	<0.0089	<0.0072	<0.0074	<0.014	0.014	0.084	0.018	0.015	<0.0089	0.015
P-38	05/19/10	<0.0033	<0.0045	<0.0036	<0.0037	0.071	0.073	0.057	0.012	0.01	<0.0045	0.01
P-39	05/20/10	<0.022	<0.029	<0.024	<0.024	<0.046	<0.036	0.12	<0.033	0.04	<0.029	0.04
SVV-1	05/20/10	0.037	0.024	<0.012	<0.012	<0.023	<0.018	0.22	0.049	0.085	<0.015	0.085
SVV-2	05/20/10	0.0042	<0.005	<0.004	<0.0041	<0.0077	0.0082	0.069	0.013	0.015	<0.005	0.015
SVV-3	05/20/10	<0.0035	<0.0048	<0.0039	<0.004	0.017	<0.0059	0.067	0.014	0.015	<0.0048	0.015
SVV-4	05/20/10	0.012	<0.0047	<0.0038	<0.0039	0.025	0.006	0.064	0.013	0.014	<0.0047	0.014

Notes:

All results are reported in micrograms per liter.

Maximum detected concentration between primary samples and field duplicates is shown. If an analyte is not detected in both the primary and field duplicate sample and the reporting limits differ, the lower of the two reporting limits is shown.

< = Not detected at the reported detection limit

J = Estimated value

BZ = Benzene

EBZ = Ethylbenzene

C6HT = n-Hexane

MTBE = Methyl Tert-Butyl Ether

PCE = Tetrachloroethene

TCE = Trichloroethene

124TMBZ = 1,2,4-Trimethylbenzene

135TMBZ = 1,3,5-Trimethylbenzene

mp-XYL = Xylenes, m & p

o-XYL = Xylenes, o

XYL = Total xylenes

TABLE 3-2

Summary of TO-15 Detected Analytical Results for Soil Vapor Samples - Comparison of Deep Monitoring Points (≥15 feet) to BSVE Deep Vapor Action Levels, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	SAMPLE DATE	BZ	CHCL3	EBZ	MTBE	PCE	TCE	124TMBZ	135TMBZ	mp-XYL	o-XYL	XYL
Tier 1 Vapor Action Level		21	7	66	620	28	82	420	360	41,000	41,000	41,000
Tier 2 Vapor Action Level		210	70	660	6,200	280	820	420	360	41,000	41,000	41,000
Process Monitoring Wells												
PMW-1-M	05/10/10	<0.021	<0.032	0.12 J	<0.024	<0.044	<0.035	0.9 J	0.19 J	0.29 J	<0.028	0.29 J
PMW-2-M	05/11/10	<0.0096	<0.015	0.033	<0.011	<0.02	<0.016	0.3	0.065	0.081	<0.013	0.081
PMW-3-M	05/11/10	<0.0068	<0.01	0.015	<0.0077	<0.014	0.018	0.16	0.036	0.047	<0.0092	0.047
PMW-4-M	05/13/10	<0.0098	0.14	<0.013	<0.011	<0.021	<0.017	0.16	0.038	0.037	<0.013	0.037
PMW-4-ML	05/13/10	2.7 J	<0.59	<0.53	6.4 J	<0.83	<0.65	<0.6	<0.6	<0.53	<0.53	<1.1
PMW-5-M	05/11/10	0.01	<0.015	0.024	<0.011	<0.021	<0.017	0.2	0.043	0.061	<0.013	0.061
PMW-5-ML	05/11/10	<0.84	<1.3	<1.1	47 J	<1.8	<1.4	<1.3	<1.3	<1.1	<1.1	<2.3
PMW-6-M	05/11/10	<0.0094	<0.014	0.016	<0.011	<0.02	<0.016	0.18 J	0.035 J	0.045 J	<0.013	0.045 J
PMW-7-M	05/17/10	<0.0065	0.014	<0.0089	<0.0074	<0.014	<0.011	0.11	0.025	0.026	<0.0089	0.026
PMW-8-M	05/17/10	<0.0034	<0.0052	<0.0047	<0.0039	<0.0073	<0.0058	0.03	0.0057	0.0061	<0.0047	0.0061
PMW-9-M	05/10/10	<0.021	<0.031	0.036	<0.023	<0.044	<0.034	0.43	0.09	0.1	<0.028	0.1
PMW-10-M	05/11/10	<0.01	<0.015	0.019	<0.011	0.022	0.072	0.38	0.08	0.12	0.017	0.13

Notes:

All results are reported in micrograms per liter.

Maximum detected concentration between primary samples and field duplicates is shown. If an analyte is not detected in both the primary and field duplicate sample and the reporting limits differ, the lower of the two reporting limits is shown.

< = Not detected at the reported detection limit

J = Estimated value

BZ = Benzene

CHCL3 = Chloroform

EBZ = Ethylbenzene

MTBE = Methyl Tert-Butyl Ether

PCE = Tetrachloroethene

TCE = Trichloroethene

124TMBZ = 1,2,4-Trimethylbenzene

135TMBZ = 1,3,5-Trimethylbenzene

mp-XYL = Xylenes, m & p

o-XYL = Xylenes, o

XYL = Total xylene

TABLE 3-3

Summary of TO-15 Detected Analytical Results for Soil Vapor Samples - Comparison of Shallow Monitoring Points (<15 feet) to Long-term Shallow Vapor Action Levels, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	SAMPLE DATE	BZ	CHCL3	EBZ	C6HT	PCE	TOL	TCE	124TMBZ	135TMBZ	mp-XYL	o-XYL	XYL
Tier 1 Vapor Action Level		5	2	17	9,900	7	74,000	21	110	91	10,000	10,000	10,000
Tier 2 Vapor Action Level		53	18	170	9,900	71	74,000	210	110	91	10,000	10,000	10,000
Sentinel Wells													
P-47	05/13/10	<0.02	<0.031	<0.028	<0.023	<0.043	<0.024	<0.034	0.059	<0.031	<0.028	<0.028	<0.055
SMW-1-U	05/07/10	<0.038	<0.058	0.46 J	0.064 J	<0.081	<0.045	0.47 J	4 J	1.1 J	1.2 J	0.35 J	1.6 J
SMW-3-U	05/07/10	<0.0095	<0.015	0.11 J	0.011 J	<0.02	<0.011	0.087 J	0.93 J	0.24 J	0.3 J	0.084 J	0.39 J
SMW-4-U	05/11/10	<0.004	0.0093	<0.0054	<0.0044	0.025	<0.0047	0.79	0.031	0.0071	<0.0054	<0.0054	<0.011
SMW-5-U	05/11/10	<0.0038	<0.0058	0.018	<0.0042	<0.008	<0.0044	0.02	0.16	0.039	0.047	0.009	0.056
SMW-6-U	05/11/10	<0.0036	<0.0055	<0.0049	<0.004	0.0083	<0.0042	0.018	0.1	0.026	0.019	<0.0049	0.019
SMW-7-U	05/11/10	<0.0096	<0.015	<0.013	<0.011	<0.02	<0.011	<0.016	0.1 J	0.024 J	0.029 J	<0.013	0.029 J
SMW-8-U	05/15/10	<0.0033	<0.005	0.011	<0.0036	0.057	0.0051	0.015	0.11	0.025	0.034	0.0058	0.039
SMW-9-U	05/15/10	<0.0032	<0.0049	<0.0043	<0.0035	<0.0067	<0.0037	<0.0053	0.056	0.01	0.014	<0.0043	0.014
SMW-10-U	05/15/10	<0.0035	<0.0053	0.0062	<0.0038	0.011	<0.0041	<0.0058	0.077	0.017	0.018	<0.0047	0.018
SMW-11-U	05/15/10	<0.0033	<0.0051	<0.0045	<0.0036	<0.007	<0.0039	<0.0056	0.016	<0.0051	0.0065	<0.0045	0.0065
SMW-12-U	05/14/10	<0.01	<0.016	0.027	<0.011	0.027	<0.012	<0.017	0.39	0.084	0.11	0.019	0.13
SMW-13-U	05/14/10	<0.0066	<0.01	0.024	<0.0073	<0.014	<0.0078	<0.011	0.21	0.046	0.072	0.014	0.086
SMW-14-U	05/15/10	<0.0033	<0.0051	<0.0045	<0.0037	0.04	<0.0039	<0.0056	0.021	<0.0051	0.008	<0.0045	0.008
Sub-Slab													
P-41	05/20/10	0.0038	<0.0055	0.0089	<0.004	<0.0077	<0.0043	0.056	0.11	0.028	0.04	0.009	0.049

Notes:

All results are reported in micrograms per liter.

Maximum detected concentration between primary samples and field duplicates is shown. If an analyte is not detected in both the primary and field duplicate sample and the reporting limits differ, the lower of the two reporting limits is shown.

< = Not detected at the reported detection limit

J = Estimated value

BZ = Benzene

CHCL3 = Chloroform

EBZ = Ethylbenzene

C6HT = n-Hexane

PCE = Tetrachloroethene

TOL = Toluene

TCE = Trichloroethene

124TMBZ = 1,2,4-Trimethylbenzene

135TMBZ = 1,3,5-Trimethylbenzene

mp-XYL = Xylenes, m & p

o-XYL = Xylenes, o

XYL = Total xylene

TABLE 3-4

Summary of TO-15 Detected Analytical Results for Soil Vapor Samples - Comparison of Deep Monitoring Points (≥15 feet) to Long-term Deep Vapor Action Levels, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	SAMPLE DATE	BZ	CHCL3	C12DCE	EBZ	C6HT	MTBE	PCE	TOL	TCE	124TMBZ	135TMBZ	VC	mp-XYL	o-XYL	XYL
Tier 1 Vapor Action Level		6	2	1,000	19	11,000	180	8	84,000	24	130	110	10	12,000	12,000	12,000
Tier 2 Vapor Action Level		60	20	1,000	190	11,000	1,800	83	84,000	240	130	110	100	12,000	12,000	12,000
Sentinel Wells																
BC-18	05/15/10	0.0049 J	0.062 J	0.03 J	0.011 J	0.004 J	0.0046 J	0.076 J	0.024 J	0.41 J	0.039 J	0.0076 J	<0.0026	0.028 J	0.0098 J	0.037 J
PL-2102	05/13/10	<0.27	<0.41	<0.33	1.1 J	0.67 J	<0.3	<0.57	<0.32	0.71 J	<0.41	<0.41	<0.22	0.68 J	<0.37	0.68 J
SMW-1-M	05/07/10	<0.0093	<0.014	<0.012	0.15 J	0.016 J	<0.01	<0.02	0.012 J	0.13 J	1.3 J	0.35 J	<0.0074	0.41 J	0.11 J	0.52 J
SMW-1-L	05/07/10	<0.17	<0.27	0.26 J	0.36 J	<0.19	<0.2	<0.37	<0.21	2.5 J	2.1 J	0.49 J	<0.14	0.76 J	<0.24	0.76 J
SMW-2-M	05/07/10	<0.018	<0.027	<0.022	0.13 J	<0.019	<0.02	<0.037	<0.021	0.13 J	1.3 J	0.36 J	<0.014	0.43 J	0.1 J	0.54 J
SMW-3-M	05/07/10	<0.0066	<0.01	<0.0082	0.047 J	<0.0073	<0.0074	<0.014	<0.0078	0.041 J	0.52 J	0.12 J	<0.0053	0.14 J	0.038 J	0.18 J
SMW-3-L	05/07/10	<0.0068	0.11 J	<0.0084	0.057 J	<0.0075	<0.0076	0.075 J	<0.008	0.11 J	0.61 J	0.15 J	<0.0054	0.17 J	0.046 J	0.22 J
SMW-4-M	05/11/10	<0.0035	0.017	<0.0044	<0.0048	<0.0039	<0.004	<0.0075	<0.0041	0.2	0.0087	<0.0054	<0.0028	<0.0048	<0.0048	<0.0096
SMW-4-L	05/11/10	<0.012	0.091	<0.015	<0.016	<0.013	<0.014	0.18	<0.014	7.7	<0.019	<0.019	<0.0097	<0.016	<0.016	<0.033
SMW-5-M	05/11/10	<0.004	<0.0061	<0.0049	<0.0054	<0.0044	<0.0045	0.7	<0.0047	0.081	0.012	<0.0061	<0.0032	<0.0054	<0.0054	<0.011
SMW-6-M	05/11/10	<0.0035	<0.0054	<0.0044	<0.0048	<0.0039	<0.004	0.01	<0.0042	0.025	0.022	0.0055	<0.0028	<0.0048	<0.0048	<0.0096
SMW-6-L	05/11/10	<0.0042	0.078	0.36	<0.0057	<0.0046	<0.0047	0.3	<0.0049	1.2	0.038	0.0094	0.0052	<0.0057	<0.0057	<0.011
SMW-7-M	05/11/10	<0.011	<0.016	<0.013	<0.015	<0.012	<0.012	<0.023	<0.013	<0.018	0.073	0.017	<0.0086	0.025	<0.015	0.025
SMW-7-L	05/11/10	<0.0097	0.015	0.065	<0.013	<0.011	<0.011	0.048	<0.011	0.86	0.049	<0.015	<0.0077	0.014	<0.013	0.014
SMW-8-M	05/15/10	<0.0034	<0.0052	<0.0042	0.0048	<0.0038	<0.0038	0.047	<0.004	0.075	0.048	0.0095	<0.0027	0.012 J	<0.0046	0.012 J
SMW-9-M	05/15/10	<0.0031	<0.0048	<0.0039	<0.0042	<0.0034	<0.0035	<0.0066	<0.0037	<0.0052	0.04	0.0086	<0.0025	0.0096	<0.0042	0.0096
SMW-9-L	05/15/10	<0.0033	0.022	0.005	0.0054	<0.0036	0.005	0.069	0.0073	0.031	0.043	0.0092	<0.0026	0.016	0.0046	0.021
SMW-10-M	05/15/10	<0.0035	<0.0053	<0.0043	<0.0047	<0.0038	<0.0039	0.012	<0.0041	<0.0058	0.053	0.01	<0.0028	0.011	<0.0047	0.011
SMW-10-L	05/15/10	<0.0037	<0.0057	<0.0046	0.0078	<0.0041	<0.0042	0.039	0.014	<0.0063	0.046	0.0097	<0.003	0.024	0.0077	0.032
SMW-11-M	05/15/10	<0.0032	<0.0049	<0.004	<0.0044	<0.0035	<0.0036	0.0095	0.004	<0.0054	0.015	<0.0049	<0.0026	0.0065	<0.0044	0.0065
SMW-11-L	05/15/10	<0.0033	<0.005	<0.0041	<0.0045	<0.0036	<0.0037	0.11	<0.0039	<0.0055	0.0074	<0.0051	<0.0026	<0.0045	<0.0045	<0.0089
SMW-12-M	05/14/10	<0.007	<0.011	<0.0086	0.011	<0.0077	<0.0079	0.1	<0.0082	<0.012	0.17	0.036	<0.0056	0.048	<0.0095	0.048
SMW-13-M	05/14/10	<0.0033	<0.0051	<0.0041	0.01	<0.0037	<0.0038	0.011	0.0041	<0.0056	0.11	0.024	<0.0027	0.029	0.0062	0.036
SMW-13-L	05/14/10	0.014	<0.0055	<0.0045	0.069	0.0055	<0.0041	0.036	0.13	<0.006	0.19	0.043	<0.0029	0.17	0.073	0.25
SMW-14-M	05/15/10	0.0037	<0.005	<0.0041	<0.0045	<0.0036	<0.0037	0.054	0.0046	<0.0055	0.013	<0.0051	<0.0026	0.0053	<0.0045	0.0053
SMW-14-L	05/15/10	<0.0035	<0.0053	<0.0043	0.0062	<0.0039	<0.0039	0.072	0.011	<0.0059	0.021	<0.0054	<0.0028	0.017	0.006	0.023

Notes:

All results are reported in micrograms per liter.

Maximum detected concentration between primary samples and field duplicates is shown. If an analyte is not detected in both the primary and field duplicate sample and the reporting limits differ, the lower of the two reporting limits is shown.

< = Not detected at the reported detection limit

J = Estimated value

BZ = Benzene

CHCL3 = Chloroform

C12DCE = cis-1,2-Dichloroethene

EBZ = Ethylbenzene

C6HT = n-Hexane

MTBE = Methyl Tert-Butyl Ether

PCE = Tetrachloroethene

TOL = Toluene

TCE = Trichloroethene

124TMBZ = 1,2,4-Trimethylbenzene

135TMBZ = 1,3,5-Trimethylbenzene

VC = Vinyl Chloride

mp-XYL = Xylenes, m & p

o-XYL = Xylenes, o

XYL = Total xylenes

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
BSVE Air Treatment System													
BSVE-INLET	04/01/10	1:20	NA	NA	16.6	3.1	2,178.0	0.048	54.0	-48.9	1,328.1 ^b	NM	35.0
BSVE-INLET	04/02/10	0:55	NA	NA	17.0	3.2	2,072.0	0.037	61.0	-53.0	1,326.0 ^b	NM	36.0
BSVE-INLET	04/03/10	0:34	NA	NA	17.1	3.0	1,950.0	0.033	72.0	-59.4	808.8 ^b	NM	34.0
BSVE-INLET	04/04/10	0:35	NA	NA	16.8	3.0	1,879.0	0.03	57.0	-56.0	1,275.6 ^b	NM	40.0
BSVE-INLET	04/05/10	0:45	NA	NA	16.8	2.9	1,904.0	0.033	58.0	-52.0	1,269.2 ^b	NM	40.0
BSVE-INLET	04/06/10	1:08	NA	NA	17.7	2.8	1,610.0	0.02	51.0	-52.4	1,273.3 ^b	NM	38.0
BSVE-INLET	04/07/10	0:59	NA	NA	17.5	2.7	1,278.0	0.022	50.0	-58.7	1,305.4 ^b	NM	39.0
BSVE-INLET	04/08/10	0:54	NA	NA	17.5	2.7	1,474.0	0.0076	47.0	-58.8	1,304.0 ^b	NM	40.0
BSVE-INLET	04/09/10	1:02	NA	NA	17.7	2.6	1,248.0	0.019	59.0	-69.8	807.0 ^b	NM	40.0
BSVE-INLET	04/10/10	0:59	NA	NA	17.6	2.5	1,310.0	0.015	55.0	-71.7	802.6 ^b	NM	40.0
BSVE-INLET	04/11/10	0:31	NA	NA	16.1	3.1	1,672.0	0.054	27.0	-66.0	612.6 ^b	NM	34.0
BSVE-INLET	04/12/10	0:47	NA	NA	16.0	3.0	1,641.0	0.046	25.0	-60.0	1,280.2 ^b	NM	34.0
BSVE-INLET	04/13/10	0:58	NA	NA	17.2	2.9	1,366.0	0.018	49.0	-76.4	1,292.9 ^b	NM	45.0
BSVE-INLET	04/14/10	0:55	NA	NA	17.5	2.7	1,320.0	0.014	51.0	-78.6	1,284.2 ^b	NM	49.0
BSVE-INLET	04/15/10	12:56	NA	NA	16.5	3.1	1,847.0	0.019	76.0	-86.4	1,176.3 ^b	NM	50.0
BSVE-INLET	04/16/10	0:59	NA	NA	16.9	2.6	1,710.0	0.016	67.0	-83.1	1,131.6 ^b	NM	50.0
BSVE-INLET	04/17/10	0:31	NA	NA	17.4	2.6	1,556.0	0.036	65.0	-84.2	1,137.5 ^b	NM	52.0
BSVE-INLET	04/18/10	0:27	NA	NA	17.3	2.5	1,435.0	0.018	58.0	-84.0	1,149.2 ^b	NM	60.0
BSVE-INLET	04/19/10	0:38	NA	NA	17.2	2.4	1,437.0	0.027	61.0	-72.0	1,131.6 ^b	NM	54.0
BSVE-INLET	04/20/10	0:57	NA	NA	16.8	2.5	1,385.0	0.022	63.0	-86.8	1,132.3 ^b	NM	52.0
BSVE-INLET	04/21/10	0:57	NA	NA	17.0	2.4	1,665.0	0.022	65.0	-87.6	1,125.9 ^b	NM	52.0
BSVE-INLET	04/22/10	1:01	NA	NA	17.9	2.6	1,507.0	0.021	59.0	-86.3	1,103.3 ^b	NM	49.0
BSVE-INLET	04/23/10	0:57	NA	NA	18.1	2.5	1,482.0	0.018	56.0	-93.7	1,171.9 ^b	NM	50.0
BSVE-INLET	04/24/10	0:31	NA	NA	17.8	2.5	1,290.0	0.014	62.0	-96.8	1,144.6 ^b	NM	52.0
BSVE-INLET	04/25/10	0:29	NA	NA	17.5	2.4	1,249.0	0.016	55.0	-77.0	1,068.1 ^b	NM	44.0
BSVE-INLET	04/26/10	0:52	NA	NA	17.4	2.4	1,315.0	0.015	61.0	-80.0	1,065.5 ^b	NM	50.0
BSVE-INLET	04/27/10	0:54	NA	NA	17.2	2.3	875.6	0.016	35.0	-66.8	1,055.4 ^b	NM	42.0

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
BSVE Air Treatment System													
BSVE-INLET	04/28/10	1:07	NA	NA	16.9	2.4	929.7	0.018	37.0	-70.0	1,051.5 ^b	NM	42.0
BSVE-INLET	04/29/10	0:59	NA	NA	17.4	2.4	2,825.0	0.069	31.0	-70.4	1,065.0 ^b	NM	40.0
BSVE-INLET	04/30/10	0:55	NA	NA	18.3	2.5	759.6	0.015	36.0	-71.9	1,046.9 ^b	NM	39.0
BSVE-INLET	05/01/10	0:33	NA	NA	17.8	2.5	799.9	0.014	38.0	-75.6	1,050.3 ^b	NM	42.0
BSVE-INLET	05/02/10	0:29	NA	NA	17.9	2.4	788.4	0.016	36.0	-75.3	1,069.9 ^b	NM	40.0
BSVE-INLET	05/03/10	1:00	NA	NA	17.7	2.5	771.3	0.015	25.0	-74.8	1,071.2 ^b	NM	40.0
BSVE-INLET	05/04/10	0:59	NA	NA	17.6	2.4	748.2	0.011	39.0	-67.2	1,098.8 ^b	NM	41.0
BSVE-INLET	05/05/10	0:52	NA	NA	17.9	2.3	759.7	0.013	42.0	-72.6	1,187.0 ^b	NM	45.0
BSVE-INLET	05/06/10	0:51	NA	NA	17.2	2.3	810.8	0.014	41.0	-78.1	1,171.4 ^b	NM	49.0
BSVE-INLET	05/07/10	0:53	NA	NA	17.1	2.4	830.7	0.013	42.0	-75.4	1,033.9 ^b	NM	46.0
BSVE-INLET	05/08/10	0:29	NA	NA	17.2	2.3	857.3	0.01	36.0	-80.2	1,016.4 ^b	NM	60.0
BSVE-INLET	05/09/10	0:27	NA	NA	17.4	2.2	810.5	0.014	35.0	-80.3	1,023.3 ^b	NM	60.0
BSVE-INLET	05/10/10	0:51	NA	NA	17.7	2.3	875.3	0.014	40.0	-80.0	1,033.3 ^b	NM	49.0
BSVE-INLET	05/11/10	0:50	NA	NA	17.5	2.0	450.3	0.011	18.0	-55.0	1,126.6 ^b	NM	41.0
BSVE-INLET	05/12/10	0:41	NA	NA	18.1	2.2	485.2	0.013	20.0	-57.0	1,134.7 ^b	NM	40.0
BSVE-INLET	05/13/10	0:30	NA	NA	18.0	2.1	481.1	0.011	19.0	-55.0	1,216.9 ^b	NM	40.0
BSVE-INLET	05/14/10	0:31	NA	NA	17.4	2.1	562.3	0.012	18.0	-60.0	1,030.3 ^b	NM	40.0
BSVE-INLET	05/15/10	0:45	NA	NA	18.0	2.1	534.8	0.0087	22.0	-60.0	1,054.2 ^b	NM	42.0
BSVE-INLET	05/16/10	1:04	NA	NA	17.2	2.2	505.4	0.012	22.0	-60.0	1,118.6 ^b	NM	42.0
BSVE-INLET	05/17/10	0:41	NA	NA	17.2	2.2	510.6	0.012	20.0	-62.0	1,167.8 ^b	NM	41.0
BSVE-INLET	05/18/10	0:50	NA	NA	17.1	2.3	572.4	0.012	22.0	-60.0	1,195.7 ^b	NM	45.0
BSVE-INLET	05/19/10	0:51	NA	NA	17.9	1.8	414.1	0.008	19.0	-60.0	1,216.1 ^b	NM	45.0
BSVE-INLET	05/20/10	0:51	NA	NA	17.5	2.1	610.8	0.013	23.0	-70.0	1,245.8 ^b	NM	50.0
BSVE-INLET	05/20/10	8:15	NA	NA	17.3	2.0	360.0	<0.022	1.0	-72.0	1,245.8 ^b	NM	NM
BSVE-INLET	05/21/10	0:46	NA	NA	17.2	2.2	701.1	0.014	25.0	-70.0	1,237.6 ^b	NM	50.0
BSVE-INLET	05/22/10	0:34	NA	NA	17.2	2.1	548.6	0.012	24.0	-50.0	1,167.3 ^b	NM	44.0
BSVE-INLET	05/23/10	0:45	NA	NA	17.1	2.2	668.7	0.016	23.0	-50.0	1,145.5 ^b	NM	40.0

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
BSVE Air Treatment System													
BSVE-INLET	05/24/10	0:47	NA	NA	17.0	2.1	645.3	0.012	22.0	-55.0	1,124.5 ^b	NM	40.0
BSVE-INLET	06/08/10	13:28	NA	NA	8.8	4.4	4,479.6	0.19	30.0	-12.9	390.0 ^b	NM	36.0
BSVE-INLET	06/09/10	0:51	NA	NA	11.0	4.0	2,541.9	0.088	30.0	-13.1	413.7 ^b	NM	31.0
BSVE-INLET	06/10/10	0:40	NA	NA	13.3	3.5	1,870.9	0.074	29.0	-28.1	709.0 ^b	NM	34.0
BSVE-INLET	06/11/10	0:39	NA	NA	14.5	3.5	1,913.0	0.075	28.0	-28.8	710.4 ^b	NM	33.0
BSVE-INLET	06/12/10	0:27	NA	NA	15.4	3.3	1,650.0	0.056	24.0	-39.2	806.3 ^b	NM	34.0
BSVE-INLET	06/13/10	0:40	NA	NA	16.7	3.2	1,231.0	0.055	26.0	-37.8	808.6 ^b	NM	32.0
BSVE-INLET	06/14/10	0:36	NA	NA	16.6	3.2	540.0	0.034	2.0	-36.4	1,037.2 ^b	NM	32.0
BSVE-INLET	06/15/10	0:48	NA	NA	15.8	3.0	1,053.0	0.014	21.0	-81.6	1,178.3 ^b	NM	53.0
BSVE-INLET	06/16/10	1:09	NA	NA	16.0	2.9	1,060.0	0.026	23.0	-78.0	1,174.1 ^b	NM	54.0
BSVE-INLET	06/17/10	0:54	NA	NA	15.3	2.7	1,210.0	0.042	22.0	-81.8	1,157.4 ^b	NM	60.0
BSVE-INLET	06/18/10	0:54	NA	NA	16.2	2.6	698.0	0.02	18.0	-45.5	892.2 ^b	NM	37.0
BSVE-INLET	06/19/10	0:30	NA	NA	16.7	2.5	673.4	0.019	17.0	-70.0	941.5 ^b	NM	46.0
BSVE-INLET	06/20/10	0:28	NA	NA	16.4	2.5	606.2	0.017	18.0	-72.6	952.3 ^b	NM	48.0
BSVE-INLET	06/21/10	0:28	NA	NA	16.5	2.5	582.1	0.017	17.0	-71.3	948.9 ^b	NM	49.0
BSVE-INLET	06/22/10	0:38	NA	NA	16.5	2.5	578.7	0.014	17.0	-82.0	1,047.3 ^b	NM	50.0
BSVE-INLET	06/23/10	0:46	NA	NA	17.2	2.1	530.7	0.014	14.0	-85.7	1,700.5 ^b	NM	54.0
BSVE-INLET	06/24/10	0:50	NA	NA	17.0	2.0	464.0	0.012	13.0	-48.7	1,265.7 ^b	NM	40.0
BSVE-INLET	06/25/10	0:50	NA	NA	16.5	2.1	477.3	0.0083	14.0	-72.5	1,377.7 ^b	NM	50.0
BSVE-INLET	06/26/10	0:22	NA	NA	17.3	1.9	424.8	0.012	11.0	-70.0	1,463.9 ^b	NM	50.0
BSVE-INLET	06/27/10	0:29	NA	NA	18.3	1.9	485.4	0.0094	13.0	-72.3	1,565.3 ^b	NM	50.0
BSVE-INLET	06/28/10	0:33	NA	NA	18.3	2.0	497.3	0.0092	12.0	-75.2	1,625.5 ^b	NM	51.0
BSVE-INLET	06/29/10	0:23	NA	NA	17.0	1.9	452.2	0.0075	12.0	-66.2	1,525.6 ^b	NM	50.0
BSVE-INLET	06/30/10	0:49	NA	NA	17.6	2.0	461.6	0.011	14.0	-67.6	1,619.2 ^b	NM	50.0
Injection/Extraction Wells													
BC-8B	05/19/10	9:18	51-96	60.75	11.0	4.6	<100.0	<0.015	<1.0	-0.2	NM	NM	NM
BV-1N	04/08/10	8:38	55-105	NA	15.7	<3.8	<100.0	<0.015	<1.0	-32.0 ^d	89	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Injection/Extraction Wells													
BV-1N	05/10/10	11:51	55-105	NA	16.4	3.4	<100.0	<0.015	<1.0	-30.0 ^d	89	NM	NM
BV-1N	06/17/10	15:23	55-105	NA	16.4	2.9	<100.0	<0.015	<1.0	-44.0 ^d	105	NM	NM
BV-2N	04/08/10	9:05	55-105	NA	18.5	<3.8	1,200.0	<0.015	5.0	-63.0 ^d	63	NM	NM
BV-2N	05/08/10	6:51	55-105	NA	18.8	<1.4	790.0	<0.022	3.0	-82.0 ^d	52	NM	NM
BV-2N	06/16/10	14:40	55-105	NA	18.9	<1.4	250.0	<0.015	1.0	-51.0 ^d	40	NM	NM
BV-3N	04/06/10	7:48	55-105	NA	20.6	<3.8	<100.0	<0.015	<1.0	-17.2 ^d	99	NM	NM
BV-3N	05/11/10	6:33	55-105	NA	20.9	<1.4	140.0	<0.022	<1.0	-36.0 ^d	63	NM	NM
BV-3N	06/17/10	13:42	55-105	NA	19.6	<1.4	<100.0	<0.015	<1.0	-43.7 ^d	20	NM	NM
BV-4N	04/08/10	11:36	55-105	NA	18.3	<3.8	1,800.0	0.064	8.0	-28.0 ^d	77	NM	NM
BV-4N	05/17/10	12:39	55-105	NA	18.7	<1.4	160.0	<0.022	<1.0	-0.3 ^d	99	NM	NM
BV-4N	06/17/10	13:01	55-105	NA	18.3	1.4	490.0	<0.015	2.0	-32.0 ^d	84	NM	NM
BV-5	04/06/10	9:35	46-66	NA	18.6	<3.8	430.0	<0.015	2.0	-22.0 ^d	95	NM	NM
BV-5	05/18/10	10:44	46-66	NA	19.0	<1.4	<100.0	<0.015	<1.0	-32.0 ^d	136	NM	NM
BV-5	06/15/10	3:51	46-66	NA	16.3	1.9	<100.0	<0.015	<1.0	-0.3 ^d	31	NM	NM
BV-6N	04/07/10	9:40	55-105	NA	17.9	<3.8	2,300.0	<0.015	10.0	-18.3 ^d	87	NM	NM
BV-6N	05/19/10	11:05	55-105	NA	18.6	1.5	1,300.0	<0.022	6.0	-40.0 ^d	141	NM	NM
BV-6N	06/16/10	5:24	55-105	NA	17.3	2.0	1,200.0	<0.015	5.0	-50.0 ^d	166	NM	NM
BV-7N	04/07/10	10:52	55-105	NA	12.9	6.6	4,550.0	0.048	21.0	-22.0 ^d	63	NM	NM
BV-7N	05/19/10	12:40	55-105	NA	15.2	3.6	890.0	<0.022	4.0	-40.0 ^d	52	NM	NM
BV-7N	06/16/10	4:12	55-105	NA	13.4	4.4	1,300.0	<0.015	6.0	-36.0 ^d	28	NM	NM
BV-8N	04/07/10	7:38	55-105	NA	8.2	8.4	2,241.2	0.029	10.5	-2.9 ^d	34	NM	NM
BV-8N	05/17/10	7:54	55-105	NA	15.7	3.0	1,300.0	<0.022	6.0	-0.2 ^d	77	NM	NM
BV-8N	06/15/10	6:38	55-105	NA	13.9	4.1	1,050.0	<0.015	5.0	-34.0 ^d	63	NM	NM
BV-9N	04/08/10	9:54	55-105	NA	18.7	<3.8	<100.0	<0.015	<1.0	-63.0 ^d	56	NM	NM
BV-9N	05/11/10	8:32	55-105	NA	18.4	1.5	110.0	<0.022	<1.0	-70.0 ^d	63	NM	NM
BV-9N	06/16/10	15:11	55-105	NA	17.8	1.7	<100.0	<0.015	<1.0	-54.0 ^d	49	NM	NM
BV-10N	04/08/10	10:29	55-95		5.5	8.6	1,360.9	<0.027	5.4	-38.0 ^d	77	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Injection/Extraction Wells													
BV-10N	05/11/10	10:37	55-95	NA	11.6	6.3	1,150.0	<0.022	5.0	-56.0 ^d	77	NM	NM
BV-10N	06/17/10	14:19	55-95	NA	5.7	9.4	469.1	<0.028	1.9	-48.0 ^d	NM	NM	NM
BV-11N	04/07/10	14:28	55-95	NA	13.8	<3.8	<100.0	<0.015	<1.0	-4.8 ^d	49	NM	NM
BV-11N	05/17/10	8:55	55-95	NA	16.4	2.5	<100.0	<0.015	<1.0	-8.0 ^d	56	NM	NM
BV-11N	06/14/10	15:25	55-95	NA	13.4	3.1	<100.0	<0.015	<1.0	-2.5 ^d	28	NM	NM
BV-12N	04/07/10	14:06	55-105	NA	16.6	<3.8	<100.0	<0.015	<1.0	-6.4 ^d	52	NM	NM
BV-12N	05/14/10	11:20	55-105	NA	20.9	<1.4	<100.0	<0.015	<1.0	-0.1 ^d	63	NM	NM
BV-12N	06/14/10	9:29	55-105	NA	17.1	<1.4	<100.0	<0.015	<1.0	-3.5 ^d	44	NM	NM
BV-13N	04/08/10	9:28	55-95	NA	17.2	<3.8	<100.0	<0.015	<1.0	-16.0 ^d	66	NM	NM
BV-13N	05/11/10	7:32	55-95	NA	19.3	1.4	190.0	<0.022	<1.0	-74.0 ^d	77	NM	NM
BV-13N	06/17/10	15:54	55-95	NA	18.5	2.3	<100.0	<0.015	<1.0	-48.0 ^d	44	NM	NM
BV-14N	04/07/10	10:08	55-105	NA	16.4	<3.8	2,450.0	0.067	11.0	-35.0 ^d	69	NM	NM
BV-14N	05/08/10	6:19	55-105	NA	17.4	2.1	1,600.0	0.034	7.0	-68.0 ^d	79	NM	NM
BV-14N	06/16/10	5:02	55-105	NA	16.0	3.0	870.0	<0.015	4.0	-52.0 ^d	93	NM	NM
BV-15N	04/07/10	14:51	55-85	NA	16.1	<3.8	<100.0	<0.015	<1.0	-5.5 ^d	49	NM	NM
BV-15N	05/14/10	10:48	55-85	NA	18.8	1.7	<100.0	<0.015	<1.0	-4.0 ^d	56	NM	NM
BV-15N	06/15/10	10:03	55-85	NA	16.9	2.9	<100.0	<0.015	<1.0	-5.0 ^d	56	NM	NM
BV-16N	04/07/10	8:34	55-105	NA	15.9	4.4	1,550.0	<0.015	7.0	-38.0 ^d	59	NM	NM
BV-16N	05/19/10	12:12	55-105	NA	17.2	2.3	900.0	0.063	4.0	-0.1 ^d	50	NM	NM
BV-16N	06/15/10	5:43	55-105	NA	15.6	3.5	610.0	<0.015	2.0	-40.0 ^d	44	NM	NM
BV-17N	04/07/10	7:05	55-105	NA	20.9	<3.8	240.0	<0.015	1.0	-1.7 ^d	91	NM	NM
BV-17N	05/19/10	15:12	55-105	NA	19.2	<1.4	<100.0	<0.015	<1.0	-10.0 ^d	223	NM	NM
BV-17N	06/15/10	3:08	55-105	NA	18.5	<1.4	140.0	<0.015	<1.0	-0.3 ^d	34	NM	NM
BV-18N	04/08/10	11:47	55-105	NA	19.2	<3.8	220.0	<0.015	1.0	-38.0 ^d	89	NM	NM
BV-18N	05/17/10	7:03	55-105	NA	19.5	1.6	720.0	<0.022	3.0	-0.1 ^d	69	NM	NM
BV-18N	06/16/10	9:01	55-105	NA	17.8	<1.4	500.0	<0.015	2.0	-34.0 ^d	63	NM	NM
BV-19N	04/07/10	8:19	55-105	NA	12.4	4.8	4,300.0	0.52	20.0	-36.0 ^d	44	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Injection/Extraction Wells													
BV-19N	05/10/10	12:40	55-105	NA	16.1	3.0	<100.0	<0.015	<1.0	-26.0 ^d	63	NM	NM
BV-19N	06/17/10	14:59	55-105	NA	12.7	4.9	<100.0	<0.015	<1.0	-48.0 ^d	40	NM	NM
BV-20N	04/08/10	7:42	55-105	NA	9.3	6.2	3,563.9	0.46	15.4	-37.0 ^d	52	NM	NM
BV-20N	05/17/10	11:39	55-105	NA	14.3	3.3	<100.0	<0.015	<1.0	-0.1 ^d	63	NM	NM
BV-20N	06/15/10	14:14	55-105	NA	9.2	7.0	<151.9	<0.023	<1.5	-43.0 ^d	40	NM	NM
BV-21N	04/06/10	11:30	55-105	NA	16.7	<3.8	3,800.0	0.027	18.0	-33.7 ^d	89	NM	NM
BV-21N	05/17/10	12:47	55-105	NA	18.7	<1.4	<100.0	<0.015	<1.0	-40.2 ^d	63	NM	NM
BV-21N	06/14/10	9:30	55-105	NA	13.4	3.8	1,700.0	0.18	8.0	-54.0 ^d	28	NM	NM
BV-22N	04/08/10	12:07	55-105	NA	19.4	<3.8	<100.0	<0.015	<1.0	-25.0 ^d	59	NM	NM
BV-22N	05/17/10	12:15	55-105	NA	19.3	<1.4	<100.0	<0.015	<1.0	-0.2 ^d	77	NM	NM
BV-22N	06/17/10	12:30	55-105	NA	19.5	<1.4	<100.0	<0.015	<1.0	-40.0 ^d	69	NM	NM
BV-23N	04/06/10	11:56	55-105	NA	17.5	<3.8	780.0	<0.015	3.0	-17.7 ^d	99	NM	NM
BV-23N	05/17/10	12:11	55-105	NA	18.9	<1.4	<100.0	<0.015	<1.0	-40.0 ^d	103	NM	NM
BV-23N	06/15/10	4:29	55-105	NA	17.5	1.9	270.0	<0.015	1.0	-54.0 ^d	101	NM	NM
BV-24N	04/06/10	12:29	55-105	NA	18.2	<3.8	540.0	<0.015	2.0	-13.5 ^d	99	NM	NM
BV-24N	05/19/10	6:59	55-105	NA	18.6	1.5	480.0	<0.022	2.0	-24.0 ^d	63	NM	NM
BV-24N	06/14/10	14:31	55-105	NA	17.2	2.2	<100.0	<0.015	<1.0	NM	NM	NM	NM
BV-25N	04/07/10	11:24	55-105	NA	19.0	<3.8	1,200.0	<0.015	5.0	-27.0 ^d	74	NM	NM
BV-25N	05/19/10	8:46	55-105	NA	19.3	<1.4	820.0	<0.022	3.0	-40.0 ^d	101	NM	NM
BV-25N	06/16/10	6:13	55-105	NA	18.8	<1.4	420.0	<0.015	2.0	-54.0 ^d	105	NM	NM
BV-26N	05/13/10	22:08	51-86	70.90	<1.0	10.3	<203.1	<0.03	<2.0	-0.2	NM	NM	NM
BV-27N	05/13/10	22:34	50-105	64.61	<1.0	8.0	53,303.6	7.7	>100.0	-0.1	NM	NM	NM
BV-28N	05/14/10	3:00	50-105	64.85	<1.0	6.9	18,150.5	2.6	85.3	-0.1	NM	NM	NM
BV-29N	05/14/10	2:33	51.5-91.5	NA	11.7	3.5	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
BV-30N	05/19/10	10:33	50-105	58.80	<1.0	14.2	<231.4	<0.035	<2.3	-0.1	NM	NM	NM
BV-31N	05/19/10	11:12	50-105	67.71	3.3	8.6	9,754.2	1.3	46.7	-0.1	NM	NM	NM
BV-32N	05/18/10	12:51	48.5-88.5	66.13	10.4	6.3	240.0	<0.022	1.0	-0.2	NM	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Injection/Extraction Wells													
BV-33N	05/19/10	9:52	50-105	59.19	<1.0	8.8	41,251.0	5.8	>100.0	-2.6	NM	NM	NM
PL-101A	04/06/10	10:31	35-75	NA	18.8	<3.8	<100.0	<0.015	<1.0	-11.2 ^d	99	NM	NM
PL-101A	05/19/10	15:40	35-75	NA	19.8	<1.4	<100.0	<0.015	<1.0	-10.0 ^d	77	NM	NM
PL-101A	06/15/10	10:03	35-75	NA	18.4	1.5	<100.0	<0.015	<1.0	-0.3 ^d	34	NM	NM
ASE-20A	04/06/10	11:02	61-81	NA	17.8	<3.8	3,650.0	0.019	17.0	-33.2 ^d	99	NM	NM
ASE-20A	05/07/10	9:13	61-81	NA	18.8	<1.4	3,150.0	0.022	15.0	-19.0 ^d	72	NM	NM
ASE-20A	06/14/10	13:32	61-81	NA	15.4	2.0	1,100.0	0.16	5.0	-4.2 ^d	40	NM	NM
ASE-39A	04/06/10	10:08	55-105	NA	17.7	<3.8	580.0	<0.015	2.0	-37.3 ^d	49	NM	NM
ASE-39A	05/07/10	8:29	55-105	NA	19.0	<1.4	430.0	<0.022	2.0	-64.0 ^d	56	NM	NM
ASE-39A	06/15/10	10:23	55-105	NA	16.9	<1.4	270.0	<0.015	1.0	-0.3 ^d	40	NM	NM
ASE-41A	04/08/10	11:21	60-90	NA	18.0	<3.8	230.0	<0.015	1.0	-7.0 ^d	89	NM	NM
ASE-41A	05/14/10	8:55	60-90	NA	19.8	<1.4	<100.0	<0.015	<1.0	-2.0 ^d	44	NM	NM
ASE-41A	06/16/10	9:36	60-90	NA	18.2	<1.4	530.0	<0.015	2.0	-16.0 ^d	44	NM	NM
ASE-46A	04/06/10	7:26	54.7-79.7	NA	19.8	<3.8	160.0	<0.015	<1.0	-9.5 ^d	99	NM	NM
ASE-46A	05/18/10	9:23	54.7-79.7	NA	19.3	<1.4	<100.0	<0.015	<1.0	-1.3 ^d	223	NM	NM
ASE-46A	06/17/10	11:30	54.7-79.7	NA	19.6	<1.4	130.0	<0.015	<1.0	-20.0 ^d	100	NM	NM
ASE-51A	04/06/10	13:30	55.6-80.6	NA	9.4	9.8	2,913.3	<0.023	12.3	-31.0 ^d	69	NM	NM
ASE-51A	05/19/10	13:09	55.6-80.6	NA	11.1	6.6	1,700.0	<0.015	8.0	-40.0 ^d	99	NM	NM
ASE-51A	06/15/10	5:10	55.6-80.6	NA	7.6	8.2	5,592.0	0.059	24.2	-36.0 ^d	34	NM	NM
ASE-53A	04/06/10	12:57	53.8-78.8	NA	11.7	7.8	5,150.0	0.37	24.0	-11.0 ^d	59	NM	NM
ASE-53A	05/19/10	14:00	53.8-78.8	NA	14.0	5.0	1,300.0	<0.022	6.0	-40.0 ^d	44	NM	NM
ASE-53A	06/14/10	15:08	53.8-78.8	NA	11.7	5.5	3,850.0	0.57	18.0	0.0 ^d	34	NM	NM
ASE-56A	04/06/10	8:14	55.4-80.4	NA	18.4	<3.8	440.0	<0.015	2.0	-34.2 ^d	72	NM	NM
ASE-56A	05/18/10	10:15	55.4-80.4	NA	18.3	<1.4	<100.0	<0.015	<1.0	-48.0 ^d	44	NM	NM
ASE-56A	06/15/10	2:41	55.4-80.4	NA	19.0	<1.4	<100.0	<0.015	<1.0	-48.0 ^d	52	NM	NM
ASE-57A	04/06/10	8:47	55.1-80.1	NA	18.0	<3.8	2,000.0	0.028	9.0	-11.7 ^d	99	NM	NM
ASE-57A	05/07/10	7:50	55.1-80.1	NA	18.6	<1.4	2,100.0	0.033	9.0	-20.0 ^d	99	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Injection/Extraction Wells													
ASE-57A	06/15/10	3:27	55.1-80.1	NA	17.8	1.6	<100.0	<0.015	<1.0	-0.4 ^d	34	NM	NM
ASE-59A	04/07/10	13:15	61-91	NA	11.5	7.6	1,700.0	<0.015	8.0	-25.0 ^d	49	NM	NM
ASE-59A	05/14/10	8:09	61-91	NA	14.7	4.7	1,350.0	<0.022	6.0	-24.0 ^d	40	NM	NM
ASE-59A	06/15/10	9:41	61-91	NA	11.2	6.1	850.0	<0.015	4.0	-12.0 ^d	20	NM	NM
ASE-66A	04/07/10	8:59	60.5-90.5	NA	18.7	<3.8	1,150.0	<0.015	5.0	-38.7 ^d	66	NM	NM
ASE-66A	05/14/10	9:52	60.5-90.5	NA	17.4	2.3	710.0	<0.022	3.0	-28.0 ^d	52	NM	NM
ASE-66A	06/16/10	5:50	60.5-90.5	NA	16.9	2.4	350.0	<0.015	1.0	-26.0 ^d	34	NM	NM
ASE-97A	05/18/10	12:18	51-111	NA	14.0	2.6	<100.0	<0.015	<1.0	-0.2	NM	NM	NM
Process Monitoring Wells													
P-24-U	05/16/10	5:15	7-12	--- ^c	20.9	<1.4	190.0	<0.022	1.0	0.0	NM	90.5	NM
P-24-M	05/16/10	5:27	53-58	--- ^c	7.4	5.4	57,552.6	8.6	>100.0	0.0	NM	99.2	NM
P-24-L	05/16/10	5:51	68-118	NA	19.2	<1.4	38,250.0	5.7	>100.0	0.1	NM	96.8	NM
P-25-U	05/15/10	23:44	7-12	--- ^c	16.1	3.1	<100.0	<0.015	<1.0	0.0	NM	92.9	NM
P-25-M	05/15/10	23:56	53-58	--- ^c	7.9	6.5	<126.2	<0.019	<1.3	0.0	NM	NM	NM
P-26-U	05/14/10	4:03	5.25-10.25	--- ^c	<1.0	6.7	31,548.8	4.7	>100.0	-0.1	NM	99.9	NM
P-26-U	05/20/10	0:13	5.25-10.25	--- ^c	7.1	4.0	10,909.5	1.4	50.4	0.0	NM	NM	NM
P-26-U	05/21/10	4:27	5.25-10.25	--- ^c	3.0	5.9	15,421.5	2.1	71.6	0.0	NM	NM	NM
P-26-M	05/14/10	4:25	53-58	--- ^c	<1.0	8.9	15,141.3	2.2	72.1	0.0	NM	99.9	NM
P-26-L	05/14/10	4:57	68-118	64.80	<1.0	6.9	19,648.1	2.6	90.7	-0.2	NM	99.9	NM
PMW-1-U	04/06/10	14:18	5-10	--- ^c	19.8	<3.8	<100.0	<0.015	<1.0	-0.1	NM	55.2	NM
PMW-1-U	05/10/10	7:51	5-10	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	-0.1	NM	96.2	NM
PMW-1-U	06/01/10	8:48	5-10	--- ^c	19.9	<1.4	<100.0	<0.015	<1.0	0.0	NM	99.9	NM
PMW-1-M	04/06/10	14:05	20-25	--- ^c	20.4	<3.8	<100.0	<0.015	<1.0	-0.5	NM	40.7	27.8
PMW-1-M	05/10/10	9:16	20-25	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	-0.1	NM	56.0	26.3
PMW-1-M	06/01/10	9:03	20-25	--- ^c	20.1	<1.4	<100.0	<0.015	<1.0	0.0	NM	99.9	26.4
PMW-1-ML	04/06/10	13:52	55-75	67.00	18.9	<3.8	790.0	<0.015	3.0	-0.2	NM	46.5	27.3
PMW-1-ML	05/10/10	10:12	55-75	65.70	19.7	<1.4	490.0	<0.022	2.0	-0.5	NM	60.0	26.6

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Process Monitoring Wells													
PMW-1-ML	06/01/10	9:26	55-75	64.98	16.8	1.6	1,600.0	0.024	7.0	0.0	NM	99.9	27.7
PMW-2-U	04/06/10	14:50	5-10	--- ^c	20.2	<3.8	<100.0	<0.015	<1.0	-0.2	NM	55.7	NM
PMW-2-U	05/11/10	7:35	5-10	--- ^c	20.9	<1.4	120.0	<0.022	<1.0	-0.1	NM	97.9	NM
PMW-2-U	06/01/10	7:48	5-10	--- ^c	19.6	<1.4	<100.0	<0.015	<1.0	0.0	NM	99.9	NM
PMW-2-M	04/06/10	15:07	20-25	--- ^c	20.2	<3.8	<100.0	<0.015	<1.0	-0.3	NM	58.2	27.6
PMW-2-M	05/11/10	7:58	20-25	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	0.0	NM	95.6	26.3
PMW-2-M	06/01/10	8:12	20-25	--- ^c	20.0	<1.4	<100.0	<0.015	<1.0	0.0	NM	99.9	27.3
PMW-2-ML	04/06/10	15:20	55-75	66.90	13.0	5.2	750.0	<0.015	3.0	-1.1	NM	41.4	27.6
PMW-2-ML	05/11/10	8:25	55-75	64.66	18.9	1.8	920.0	<0.022	4.0	-0.2	NM	81.2	26.6
PMW-2-ML	06/01/10	8:28	55-75	64.76	11.3	4.8	2,250.0	0.025	10.0	-0.1	NM	99.9	28.3
PMW-3-U	04/06/10	15:43	5-10	--- ^c	19.4	<3.8	<100.0	<0.015	<1.0	-0.2	NM	59.5	NM
PMW-3-U	05/11/10	8:54	5-10	--- ^c	20.5	<1.4	<100.0	<0.015	<1.0	0.0	NM	91.1	NM
PMW-3-U	06/01/10	11:21	5-10	--- ^c	18.5	<1.4	<100.0	<0.015	<1.0	0.0	NM	53.8	NM
PMW-3-M	04/06/10	16:00	20-25	--- ^c	19.7	<3.8	<100.0	<0.015	<1.0	-0.2	NM	57.5	28.6
PMW-3-M	05/11/10	9:18	20-25	--- ^c	20.7	<1.4	<100.0	<0.015	<1.0	0.0	NM	81.4	28.5
PMW-3-M	06/01/10	11:31	20-25	--- ^c	19.2	<1.4	<100.0	<0.015	<1.0	0.0	NM	55.2	28.3
PMW-3-ML	04/06/10	16:15	55-75	66.70	19.7	<3.8	<100.0	<0.015	<1.0	-1.3	NM	41.9	28.2
PMW-3-ML	05/11/10	9:34	55-75	65.11	20.3	<1.4	610.0	<0.022	2.0	0.0	NM	88.2	28.8
PMW-3-ML	06/01/10	11:44	55-75	64.31	11.3	3.2	16,560.0	1.8	76.8	0.1	NM	60.2	28.2
PMW-4-U	04/05/10	8:21	4.5-9	--- ^c	20.6	<3.8	<100.0	<0.015	<1.0	-0.1	NM	75.5	NM
PMW-4-U	05/13/10	7:50	4.5-9	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	0.0	NM	93.6	NM
PMW-4-U	06/01/10	9:44	4.5-9	--- ^c	19.2	<1.4	<100.0	<0.015	<1.0	0.0	NM	99.9	NM
PMW-4-M	04/05/10	8:40	20-25	--- ^c	20.6	<3.8	<100.0	<0.015	<1.0	-0.1	NM	60.5	26.2
PMW-4-M	05/13/10	7:21	20-25	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	0.0	NM	99.9	23.9
PMW-4-M	06/01/10	9:56	20-25	--- ^c	19.2	<1.4	<100.0	<0.015	<1.0	0.0	NM	99.9	27.3
PMW-4-ML	04/01/10	13:36	55-75	63.00	13.3	8.9	1,300.0	0.085	6.0	NM	NM	63.6	28.6
PMW-4-ML	04/05/10	9:36	55-75	62.80	14.4	5.4	720.0	<0.015	3.0	-0.2	NM	58.7	26.9

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Process Monitoring Wells													
PMW-4-ML	04/14/10	12:36	55-75	62.35	12.7	5.6	600.0	<0.015	2.0	-0.5	NM	38.8	28.8
PMW-4-ML	04/20/10	13:40	55-75	61.95	10.8	8.0	950.0	<0.015	4.0	-0.1	NM	42.9	30.3
PMW-4-ML	04/26/10	14:24	55-75	61.61	11.2	7.6	1,050.0	<0.015	5.0	-0.1	NM	29.8	27.9
PMW-4-ML	05/03/10	11:37	55-75	61.38	15.2	3.9	410.0	<0.015	1.0	-0.1	NM	34.5	28.9
PMW-4-ML	05/13/10	7:49	55-75	60.83	17.7	2.1	260.0	<0.022	<1.0	-0.1	NM	71.8	25.3
PMW-4-ML	05/19/10	10:05	55-75	60.56	7.4	9.1	197.2	<0.023	<1.5	-0.1	NM	37.7	28.5
PMW-4-ML	05/25/10	13:32	55-75	61.30	3.5	12.7	<395.5	<0.059	<4.0	0.0	NM	56.0	27.8
PMW-4-ML	06/01/10	10:11	55-75	60.10	<1.0	15.1	<234.1	<0.035	<2.3	0.0	NM	99.8	28.5
PMW-4-ML	06/07/10	8:09	55-75	59.93	<1.0	14.4	2,944.4	0.15	12.2	-0.1	NM	99.9	26.8
PMW-4-ML	06/14/10	9:20	55-75	59.77	<1.0	14.6	696.5	<0.03	2.0	-0.1	NM	68.4	27.2
PMW-4-ML	06/21/10	10:39	55-75	59.70	8.3	8.6	<135.5	<0.02	<1.4	-0.1	NM	37.3	27.0
PMW-4-ML	06/29/10	10:24	55-75	59.70	8.1	8.6	<126.7	<0.019	<1.3	-0.1	NM	35.4	27.8
PMW-5-U	04/05/10	9:12	5-10	--- ^c	19.9	<3.8	<100.0	<0.015	<1.0	-0.2	NM	80.3	NM
PMW-5-U	05/11/10	10:26	5-10	--- ^c	20.0	<1.4	<100.0	<0.015	<1.0	0.0	NM	99.9	NM
PMW-5-U	06/01/10	12:29	5-10	--- ^c	18.9	1.4	<100.0	<0.015	<1.0	0.0	NM	52.3	NM
PMW-5-M	04/05/10	9:30	20-25	--- ^c	20.2	<3.8	<100.0	<0.015	<1.0	-0.2	NM	86.0	27.4
PMW-5-M	05/11/10	10:43	20-25	--- ^c	20.2	<1.4	<100.0	<0.015	<1.0	0.0	NM	88.4	27.6
PMW-5-M	06/01/10	12:34	20-25	--- ^c	19.4	<1.4	<100.0	<0.015	<1.0	0.0	NM	57.5	27.7
PMW-5-ML	04/01/10	15:26	55-75	63.98	11.6	8.8	14,500.0	2.2	69.0	NM	NM	78.9	28.7
PMW-5-ML	04/05/10	10:12	55-75	63.70	12.3	6.5	13,750.0	1.6	64.0	-0.4	NM	55.7	27.5
PMW-5-ML	04/14/10	14:01	55-75	63.15	11.0	6.2	8,800.0	0.99	42.0	0.0	NM	44.2	27.5
PMW-5-ML	04/19/10	11:14	55-75	62.88	13.5	4.8	6,550.0	0.87	32.0	-0.2	NM	54.2	27.2
PMW-5-ML	04/29/10	14:54	55-75	NA	11.7	5.9	6,150.0	0.81	29.0	0.0	NM	52.5	27.5
PMW-5-ML	05/03/10	10:38	55-75	62.18	12.0	5.8	3,050.0	0.43	14.0	-0.2	NM	50.3	27.4
PMW-5-ML	05/11/10	11:11	55-75	61.60	14.7	3.9	1,400.0	0.04	6.0	0.0	NM	81.1	28.0
PMW-5-ML	05/19/10	9:00	55-75	61.25	8.3	9.4	2,564.0	0.05	11.7	-0.1	NM	94.8	27.1
PMW-5-ML	05/25/10	14:17	55-75	60.95	9.3	10.4	1,134.8	<0.038	<5.0	0.0	NM	37.9	29.1

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Process Monitoring Wells													
PMW-5-ML	06/01/10	12:49	55-75	60.71	7.5	11.3	NM	NM	NM	0.0	NM	49.8	27.9
PMW-5-ML	06/07/10	10:47	55-75	60.60	6.2	12.0	317.8	<0.03	<2.0	0.0	NM	42.8	27.8
PMW-5-ML	06/14/10	8:45	55-75	60.42	5.0	10.5	819.6	<0.024	3.3	-0.1	NM	72.2	26.9
PMW-5-ML	06/21/10	10:09	55-75	60.42	7.6	6.2	360.2	<0.021	<1.4	0.0	NM	46.1	26.7
PMW-5-ML	06/30/10	12:36	55-75	60.38	4.1	8.9	5,847.1	0.52	28.0	-0.2	NM	31.5	28.0
PMW-6-U	04/05/10	9:53	5-10	--- ^c	20.3	<3.8	<100.0	<0.015	<1.0	-0.2	NM	68.4	NM
PMW-6-U	05/11/10	13:42	5-10	--- ^c	20.5	<1.4	<100.0	<0.015	<1.0	0.0	NM	84.7	NM
PMW-6-U	06/01/10	13:10	5-10	--- ^c	20.1	<1.4	170.0	<0.015	1.0	0.0	NM	62.9	NM
PMW-6-M	04/05/10	10:10	20-25	--- ^c	20.2	<3.8	<100.0	<0.015	<1.0	-0.3	NM	81.5	28.7
PMW-6-M	05/11/10	13:57	20-25	--- ^c	20.5	<1.4	<100.0	<0.015	<1.0	-0.1	NM	62.7	29.2
PMW-6-M	06/01/10	13:21	20-25	--- ^c	20.4	<1.4	<100.0	<0.015	<1.0	0.0	NM	57.4	30.4
PMW-6-ML	04/05/10	10:42	55-75	66.25	18.5	<3.8	3,250.0	0.15	15.0	-2.5	NM	53.5	28.0
PMW-6-ML	05/11/10	14:25	55-75	64.35	20.7	<1.4	1,850.0	<0.022	8.0	-0.5	NM	89.1	29.4
PMW-6-ML	06/01/10	13:34	55-75	63.42	17.0	<1.4	4,000.0	0.4	19.0	0.0	NM	53.5	30.3
PMW-7-U	04/05/10	10:35	5-10	--- ^c	19.9	<3.8	<100.0	<0.015	<1.0	-0.1	NM	54.5	NM
PMW-7-U	05/17/10	7:14	5-10	--- ^c	20.8	<1.4	<100.0	<0.015	<1.0	0.0	NM	99.9	NM
PMW-7-U	06/01/10	13:50	5-10	--- ^c	20.1	<1.4	180.0	<0.015	<1.0	0.0	NM	62.2	NM
PMW-7-M	04/05/10	10:47	20-25	--- ^c	19.6	<3.8	<100.0	<0.015	<1.0	-0.1	NM	63.8	29.2
PMW-7-M	05/17/10	7:30	20-25	--- ^c	20.7	<1.4	<100.0	<0.015	<1.0	0.0	NM	88.4	28.1
PMW-7-M	06/01/10	14:00	20-25	--- ^c	20.1	<1.4	<100.0	<0.015	<1.0	0.0	NM	68.4	29.0
PMW-7-ML	04/05/10	11:10	55-75	63.42	17.8	3.4	<100.0	<0.015	<1.0	-0.2	NM	53.7	28.8
PMW-7-ML	05/17/10	7:53	55-75	61.09	20.9	<1.4	<100.0	<0.015	<1.0	-0.1	NM	89.2	27.2
PMW-7-ML	06/01/10	14:08	55-75	60.01	19.4	1.7	<100.0	<0.015	<1.0	0.0	NM	45.2	27.9
PMW-8-U	04/05/10	11:34	5-10	--- ^c	20.0	<3.8	<100.0	<0.015	<1.0	-0.1	NM	40.6	NM
PMW-8-U	05/17/10	8:42	5-10	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	0.0	NM	90.3	NM
PMW-8-U	06/01/10	9:12	5-10	--- ^c	19.2	<1.4	<100.0	<0.015	<1.0	0.0	NM	38.9	NM
PMW-8-M	04/05/10	11:45	20.5-25.5	--- ^c	20.0	<3.8	<100.0	<0.015	<1.0	-0.1	NM	46.4	28.6

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Process Monitoring Wells													
PMW-8-M	05/17/10	9:00	20.5-25.5	--- ^c	20.3	<1.4	<100.0	<0.015	<1.0	-0.1	NM	79.2	27.8
PMW-8-M	06/01/10	9:21	20.5-25.5	--- ^c	19.3	<1.4	<100.0	<0.015	<1.0	-24.5	NM	49.9	28.8
PMW-8-ML	04/05/10	11:58	55-75	66.25	18.3	<3.8	<100.0	<0.015	<1.0	-2.0	NM	62.2	29.5
PMW-8-ML	05/17/10	9:19	55-75	63.00	18.2	<1.4	<100.0	<0.015	<1.0	-3.0	NM	41.7	29.0
PMW-8-ML	06/01/10	9:31	55-75	62.50	2.7	4.0	<191.6	<0.029	<1.9	0.0	NM	60.1	30.0
PMW-8-ML	06/30/10	13:06	55-75	61.98	18.9	<1.4	<100.0	<0.015	<1.0	-2.4	NM	37.9	29.6
PMW-9-U	04/05/10	7:10	5-10	--- ^c	20.9	<3.8	<100.0	<0.015	<1.0	-0.2	NM	83.4	NM
PMW-9-U	05/10/10	11:23	5-10	--- ^c	20.8	<1.4	<100.0	<0.015	<1.0	0.0	NM	74.8	NM
PMW-9-U	06/01/10	11:17	5-10	--- ^c	19.3	<1.4	<100.0	<0.015	<1.0	0.0	NM	55.0	NM
PMW-9-M	04/05/10	7:25	20.5-25.5	--- ^c	20.9	<3.8	<100.0	<0.015	<1.0	-0.3	NM	79.9	26.8
PMW-9-M	05/10/10	11:58	20.5-25.5	--- ^c	20.8	<1.4	<100.0	<0.015	<1.0	-0.9	NM	81.9	27.9
PMW-9-M	06/01/10	11:27	20.5-25.5	--- ^c	18.9	<1.4	<100.0	<0.015	<1.0	0.0	NM	47.8	29.2
PMW-9-ML	04/05/10	8:10	51.5-71.5	69.98	15.5	4.0	1,650.0	0.021	8.0	-0.6	NM	99.9	25.9
PMW-9-ML	05/10/10	12:32	51.5-71.5	67.72	15.4	3.3	950.0	<0.022	4.0	-0.6	NM	61.7	28.4
PMW-9-ML	06/01/10	11:38	51.5-71.5	66.72	<1.0	12.1	287.4	<0.033	<2.2	0.0	NM	45.0	29.6
PMW-9-ML	06/30/10	13:34	51.5-71.5	66.20	15.4	3.2	790.0	<0.015	3.0	-0.2	NM	37.9	30.0
PMW-10-U	04/05/10	7:44	5-10	--- ^c	19.1	<3.8	<100.0	<0.015	<1.0	-0.1	NM	94.1	NM
PMW-10-U	05/11/10	14:54	5-10	--- ^c	19.0	<1.4	<100.0	<0.015	<1.0	0.0	NM	91.0	NM
PMW-10-U	06/01/10	10:11	5-10	--- ^c	17.4	<1.4	<100.0	<0.015	<1.0	0.0	NM	59.0	NM
PMW-10-M	04/05/10	7:56	20-25	--- ^c	12.7	4.2	<100.0	<0.015	<1.0	-0.2	NM	97.9	26.7
PMW-10-M	05/11/10	15:15	20-25	--- ^c	14.7	2.4	<100.0	<0.015	<1.0	0.0	NM	84.5	30.3
PMW-10-M	06/01/10	10:21	20-25	--- ^c	13.3	3.9	<100.0	<0.015	<1.0	0.0	NM	42.0	29.4
PMW-10-L	04/01/10	15:47	55-80	76.22	9.7	7.9	<196.5	<0.029	<2.0	NM	NM	96.6	27.2
PMW-10-L	04/05/10	8:28	55-80	76.98	11.2	5.6	<100.0	<0.015	<1.0	-0.1	NM	96.6	27.1
PMW-10-L	04/14/10	11:59	55-80	75.15	7.2	6.6	<249.1	<0.037	<2.5	0.0	NM	64.6	28.5
PMW-10-L	04/19/10	11:54	55-80	74.70	11.5	4.8	<100.0	<0.015	<1.0	-0.1	NM	51.5	28.5
PMW-10-L	04/26/10	14:55	55-80	74.05	2.5	3.0	<353.8	<0.053	<3.5	0.0	NM	18.9	28.6

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Process Monitoring Wells													
PMW-10-L	05/04/10	14:00	55-80	73.55	8.9	5.8	<206.9	<0.031	<2.1	0.0	NM	49.0	27.9
PMW-10-L	05/11/10	15:36	55-80	72.81	7.8	5.5	<137.9	<0.021	<1.4	0.0	NM	90.9	28.9
PMW-10-L	05/19/10	7:13	55-80	72.28	2.6	9.4	<240.8	<0.036	<2.4	-0.3	NM	99.9	27.1
PMW-10-L	05/25/10	15:36	55-80	71.93	2.2	10.1	<425.0	<0.063	<4.3	0.0	NM	NM	26.7
PMW-10-L	06/01/10	10:46	55-80	71.62	<1.0	10.3	<242.7	<0.036	<2.4	0.0	NM	20.5	28.0
PMW-10-L	06/07/10	9:18	55-80	71.40	<1.0	10.9	<310.8	<0.046	<3.1	0.0	NM	50.0	28.6
PMW-10-L	06/14/10	8:21	55-80	71.16	2.6	9.5	<171.0	<0.026	<1.7	-0.2	NM	92.8	27.2
PMW-10-L	06/21/10	11:15	55-80	71.18	5.6	7.3	<154.5	<0.023	<1.5	-0.1	NM	39.9	27.9
PMW-10-L	06/30/10	13:54	55-80	71.12	3.5	9.3	<172.3	<0.026	<1.7	0.0	NM	32.0	29.1
PMW-11-U	05/15/10	2:31	5-9	--- ^c	<1.0	5.4	<199.0	<0.03	<2.0	0.0	NM	92.7	NM
PMW-11-M	05/15/10	2:47	20-25	--- ^c	4.9	6.8	<164.9	<0.025	<1.6	0.0	NM	98.2	28.4
PMW-11-L	05/15/10	3:06	55-95	65.73	<1.0	6.0	288,550.0	42	>100.0	0.1	NM	98.9	27.2
PMW-12-U	05/16/10	1:43	5-9	--- ^c	16.9	2.4	<100.0	<0.015	<1.0	0.0	NM	98.3	NM
PMW-12-M	05/16/10	1:55	20-25	--- ^c	15.8	2.6	<100.0	<0.015	<1.0	-0.1	NM	99.2	28.3
PMW-12-L	05/16/10	2:11	55-95	63.32	7.3	5.8	<133.3	<0.02	<1.3	-0.1	NM	99.9	27.0
PMW-13-U	05/16/10	3:07	5-9	--- ^c	16.3	2.0	<100.0	<0.015	<1.0	0.0	NM	91.5	NM
PMW-13-M	05/16/10	3:21	20-25	--- ^c	14.8	3.4	<100.0	<0.015	<1.0	0.0	NM	97.7	27.4
PMW-13-L	05/16/10	3:39	54.7-94.7	65.77	<1.0	4.7	8,457.5	1.2	39.8	-0.2	NM	99.9	26.1
PMW-14-UR	05/16/10	4:06	5-10	NA	18.4	1.5	<100.0	<0.015	<1.0	0.0	NM	87.2	NM
PMW-14-M	05/16/10	4:18	20-25	NA	17.1	2.5	<100.0	<0.015	<1.0	-0.1	NM	90.7	26.9
PMW-14-ML	05/16/10	4:38	50-75	71.00	<1.0	9.8	10,159.5	0.053	48.2	-0.1	NM	99.8	27.8
Sentinel Wells													
BC-18	05/15/10	23:23	60-80	73.11	14.0	2.7	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
PL-2102	05/13/10	10:22	35-75	64.78	15.4	4.0	440.0	<0.022	2.0	-0.1	NM	NM	NM
P-47	05/13/10	9:35	6-11	--- ^c	20.3	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-1-U	05/07/10	10:21	5-9	--- ^c	20.4	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-1-M	05/07/10	10:38	20-25	--- ^c	20.0	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Sentinel Wells													
SMW-1-L	05/07/10	11:01	55-95	63.83	16.8	2.6	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-2-M	05/07/10	11:38	20-25	--- ^c	20.2	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-3-U	05/07/10	12:27	5-9	--- ^c	20.2	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-3-M	05/07/10	12:47	20-25	--- ^c	20.4	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-3-L	05/07/10	13:31	55-95	62.95	17.8	2.0	<100.0	<0.015	<1.0	0.1	NM	NM	NM
SMW-4-U	05/11/10	10:40	5-9	--- ^c	18.3	3.0	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-4-M	05/11/10	10:59	20-25	--- ^c	19.9	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-4-L	05/11/10	11:21	55-95	63.27	14.5	4.6	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-5-U	05/11/10	12:21	5-9	--- ^c	19.4	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-5-M	05/11/10	11:58	20-25	--- ^c	19.4	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-6-U	05/11/10	7:52	5-9	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-6-M	05/11/10	8:07	20-25	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-6-L	05/11/10	8:27	55-95	65.25	18.8	3.6	<100.0	<0.015	<1.0	-0.2	NM	NM	NM
SMW-7-U	05/11/10	13:45	5-9	--- ^c	19.8	<1.4	<100.0	<0.015	<1.0	-0.2	NM	NM	NM
SMW-7-M	05/11/10	14:03	20-25	--- ^c	19.8	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-7-L	05/11/10	14:21	55-95	NA	20.6	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-8-U	05/15/10	22:45	5-9	--- ^c	12.0	2.9	<100.0	<0.015	<1.0	0.1	NM	NM	NM
SMW-8-M	05/15/10	22:54	20-25	--- ^c	10.8	4.2	<100.0	<0.015	<1.0	0.1	NM	NM	NM
SMW-9-U	05/15/10	1:05	5-9	--- ^c	15.8	2.0	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-9-M	05/15/10	1:16	20-25	--- ^c	14.3	2.0	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-9-L	05/15/10	1:27	55-95	70.38	7.9	3.6	NM	NM	NM	0.1	NM	NM	NM
SMW-10-U	05/15/10	0:11	5-9	--- ^c	12.1	4.3	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-10-M	05/15/10	0:21	20-25	--- ^c	12.5	4.3	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-10-L	05/15/10	0:34	55-95	67.14	10.1	5.2	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-11-U	05/15/10	4:23	5-9	--- ^c	<1.0	10.7	<199.0	<0.03	<2.0	0.0	NM	NM	NM
SMW-11-M	05/15/10	4:42	20-25	--- ^c	1.1	8.8	<208.4	<0.031	<2.1	0.1	NM	NM	NM
SMW-11-L	05/15/10	4:59	55.2-95.2	67.31	7.1	5.4	<135.3	<0.02	<1.4	-0.1	NM	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Sentinel Wells													
SMW-12-U	05/14/10	1:40	5-9	--- ^c	11.3	3.6	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-12-M	05/14/10	1:53	20-25	--- ^c	8.7	4.6	<123.2	<0.018	<1.2	0.1	NM	NM	NM
SMW-13-U	05/14/10	11:31	5-9	--- ^c	12.0	4.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-13-M	05/14/10	23:39	19.1-24	--- ^c	12.4	4.3	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-13-L	05/14/10	23:53	54.9-94.9	67.17	9.7	5.3	<120.4	<0.018	<1.2	-0.1	NM	NM	NM
SMW-14-U	05/15/10	3:32	5-9	--- ^c	13.0	3.6	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SMW-14-M	05/15/10	3:45	20-25	--- ^c	10.9	4.7	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SMW-14-L	05/15/10	4:00	55-95	65.85	9.1	4.2	<131.1	<0.02	<1.3	-0.1	NM	NM	NM
SV Monitoring Wells													
P-28-U	05/12/10	8:02	6-11	--- ^c	19.8	1.5	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
P-28-M	05/12/10	8:27	43-48	--- ^c	18.2	2.7	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
P-28-L	05/12/10	8:44	58-78	63.66	17.6	3.5	<100.0	<0.015	<1.0	0.0	NM	NM	NM
P-30-U	05/13/10	7:15	6-11	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
P-30-M	05/13/10	7:34	50-55	--- ^c	19.5	1.5	520.0	<0.022	2.0	-0.5	NM	NM	NM
P-30-L	05/13/10	7:51	60-90	65.36	20.6	<1.4	<100.0	<0.015	<1.0	-0.5	NM	NM	NM
P-46-U	05/12/10	9:34	6-11	--- ^c	20.6	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
P-46-M	05/12/10	9:47	45-50	--- ^c	20.4	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
P-46-L	05/12/10	10:02	57-92	66.82	18.0	2.8	<100.0	<0.015	<1.0	-0.2	NM	NM	NM
PMW-15-U	05/18/10	10:20	5-10	NA	18.5	<1.4	<100.0	<0.015	<1.0	0.0	NM	87.3	NM
PMW-15-M	05/18/10	10:30	20-25	NA	19.1	<1.4	<100.0	<0.015	<1.0	0.0	NM	89.5	28.2
PMW-15-ML	05/18/10	10:44	50-65	71.68	7.5	7.2	<141.1	<0.021	<1.4	-0.1	NM	89.2	28.0
Groundwater Monitoring Wells													
BC-7A	05/12/10	10:11	39-76	59.50	17.0	2.2	<100.0	<0.015	<1.0	0.0	NM	NM	NM
PL-102A	05/13/10	13:12	37-77	NA	13.1	3.3	<100.0	<0.015	<1.0	0.0	NM	NM	NM
ASE-54A	05/12/10	7:50	55.5-80.5	65.05	19.8	<1.4	110.0	<0.022	<1.0	-0.2	NM	NM	NM
ASE-60A	04/29/10	13:59	61-91	61.65	10.3	5.9	690.0	<0.015	2.0	-0.3	NM	NM	NM
ASE-65A	05/13/10	14:35	69-99	NA	20.3	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Groundwater Monitoring Wells													
ASE-124A	05/15/10	2:00	69-119	71.30	8.5	5.6	<121.6	<0.018	<1.2	0.1	NM	NM	NM
ASE-125A	05/16/10	1:08	69-119	71.71	14.7	1.5	<100.0	<0.015	<1.0	0.1	NM	NM	NM
ASE-128A	05/16/10	0:45	68-118	68.45	18.2	2.0	<100.0	<0.015	<1.0	0.1	NM	NM	NM
Manhole													
SW-MH-01	05/16/10	6:18	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
SW-MH-02	05/16/10	6:05	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
Sub-slab													
P-31	05/20/10	15:04	5.5-6	--- ^c	20.4	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
P-32	05/20/10	14:44	5.5-6	--- ^c	20.0	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
P-33	05/19/10	14:22	5.5-6	--- ^c	19.2	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
P-35	05/20/10	10:56	5.5-6	--- ^c	18.7	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
P-36	05/20/10	14:12	5.5-6	--- ^c	19.7	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
P-37	05/19/10	14:49	5.5-6	--- ^c	19.8	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
P-38	05/19/10	15:17	5.5-6	--- ^c	19.5	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
P-39	05/20/10	9:36	5.5-6	--- ^c	20.2	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
P-41	05/20/10	8:50	5.5-6	--- ^c	20.9	<1.4	<100.0	<0.015	<1.0	-0.1	NM	NM	NM
SVV-1	05/20/10	10:15	4.75-5.25	--- ^c	20.8	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SVV-2	05/20/10	12:19	5-5.5	--- ^c	20.4	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SVV-3	05/20/10	11:18	5-5.5	--- ^c	10.8	7.0	<100.0	<0.015	<1.0	0.0	NM	NM	NM
SVV-4	05/20/10	11:36	5-5.5	--- ^c	19.6	<1.4	<100.0	<0.015	<1.0	0.0	NM	NM	NM
PSHIA Utility Vaults													
ELE-VLT-01	05/13/10	23:13	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-02	05/13/10	23:57	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-02	05/20/10	23:00	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-02	05/21/10	0:23	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-02	05/21/10	1:30	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-02	05/21/10	2:20	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
PSHIA Utility Vaults													
ELE-VLT-02	05/21/10	3:20	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-02	05/21/10	4:40	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-02	05/21/10	5:15	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-03	05/13/10	23:53	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-03	05/20/10	23:20	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-03	05/21/10	0:33	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-03	05/21/10	1:45	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-03	05/21/10	2:37	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-03	05/21/10	3:37	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-03	05/21/10	4:55	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-03	05/21/10	5:26	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
ELE-VLT-04	05/14/10	6:22	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-05	05/14/10	0:28	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-06	05/13/10	23:21	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-07	05/13/10	23:25	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-08	05/13/10	23:35	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-09	05/13/10	23:31	NA	NA	20.9	<1.4	4.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-10	05/13/10	23:41	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-11	05/15/10	3:20	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-12	05/16/10	1:33	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-13	05/16/10	2:38	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-14	05/16/10	2:42	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-15	05/15/10	5:31	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-16	05/15/10	5:28	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-17	05/15/10	5:25	NA	NA	20.9	<1.4	4.1	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-18	05/15/10	5:15	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-19	05/15/10	5:20	NA	NA	20.9	<1.4	30.0	<0.000028	<1.0	NM	NM	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
PSHIA Utility Vaults													
ELE-VLT-20	05/15/10	0:45	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
ELE-VLT-21	05/15/10	5:23	NA	NA	20.9	<1.4	7.2	<0.000028	<1.0	NM	NM	NM	NM
FBO-VLT-01	05/13/10	23:59	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
FBO-VLT-01	05/20/10	23:10	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-01	05/21/10	0:26	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-01	05/21/10	1:33	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-01	05/21/10	2:23	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-01	05/21/10	3:25	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-01	05/21/10	4:43	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-01	05/21/10	5:18	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-02	05/13/10	23:55	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
FBO-VLT-02	05/20/10	23:23	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-02	05/21/10	0:36	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-02	05/21/10	1:47	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-02	05/21/10	2:35	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-02	05/21/10	3:40	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-02	05/21/10	4:57	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-02	05/21/10	5:28	NA	NA	20.9	<1.4	<0.5	<0.015	<1.0	NM	NM	NM	NM
FBO-VLT-03	05/13/10	23:43	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
Honeywell Utility Vaults													
VLT-1093	05/05/10	11:38	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1094	05/05/10	11:41	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1095	05/05/10	11:43	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1100	05/05/10	11:53	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1115	05/05/10	11:56	NA	NA	20.7	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1134	05/05/10	11:58	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1135	05/05/10	12:00	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Honeywell Utility Vaults													
VLT-1141	05/05/10	12:26	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1142	05/05/10	12:06	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1143	05/05/10	12:03	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1144	05/05/10	12:08	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1149	05/05/10	12:20	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1150	05/05/10	12:23	NA	NA	19.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1153	05/05/10	12:12	NA	NA	20.7	<1.4	2.8	<0.000028	<1.0	NM	NM	NM	NM
VLT-1154	05/05/10	12:14	NA	NA	20.7	<1.4	1.8	<0.000028	<1.0	NM	NM	NM	NM
VLT-1155	05/05/10	12:15	NA	NA	20.7	<1.4	.7	<0.000028	<1.0	NM	NM	NM	NM
VLT-1156	05/05/10	12:17	NA	NA	20.9	<1.4	2.4	<0.000028	<1.0	NM	NM	NM	NM
VLT-1160	05/05/10	12:40	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1164	05/05/10	12:33	NA	NA	20.9	<1.4	10.5	0.0002	<1.0	NM	NM	NM	NM
VLT-1165	05/05/10	12:30	NA	NA	19.4	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1269	05/05/10	11:48	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1270	05/05/10	11:46	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1272	05/05/10	11:49	NA	NA	20.7	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-1273	05/05/10	11:51	NA	NA	19.8	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-2007	05/05/10	13:38	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-2008	05/05/10	13:40	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-2012	05/05/10	13:46	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-2013	05/05/10	13:48	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-2032	05/05/10	14:40	NA	NA	20.9	<1.4	8.9	0.00029	<1.0	NM	NM	NM	NM
VLT-2046	05/05/10	14:02	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-2126	05/05/10	14:30	NA	NA	20.9	<1.4	5.8	0.00032	<1.0	NM	NM	NM	NM
VLT-2127	05/05/10	14:34	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-2144	05/05/10	13:56	NA	NA	20.9	<1.4	2.0	<0.000028	<1.0	NM	NM	NM	NM
VLT-2145	05/05/10	13:59	NA	NA	20.9	<1.4	2.2	<0.000028	<1.0	NM	NM	NM	NM

TABLE 3-5

Summary of Field Parameter Measurements for Process and Non-process Soil-vapor Monitoring Network, Second Quarter 2010
 Second Quarter 2010 Remediation Status Report
 Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Date	Time	Screen Interval (ft bgs)	Depth to Water (ft bmp)	Oxygen (%)	Carbon Dioxide (%)	TPH (ppm)	Methane (%V/V)	LEL (%V/V)	Pressure ^a (inH ₂ O)	Flow Rate (scfm)	Relative Humidity (%)	Temperature (°C)
Honeywell Utility Vaults													
VLT-2178	05/05/10	13:42	NA	NA	20.9	<1.4	4.5	0.0001	<1.0	NM	NM	NM	NM
VLT-3006	05/05/10	14:05	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-3007A	05/05/10	14:15	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-3007B	05/05/10	14:17	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-3008A	05/05/10	14:11	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-3008B	05/05/10	14:13	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-3009	05/05/10	14:08	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-3010A	05/05/10	14:21	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-3010B	05/05/10	14:23	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-3023	05/05/10	14:25	NA	NA	20.9	<1.4	4.5	0.00014	<1.0	NM	NM	NM	NM
VLT-3053	05/05/10	14:50	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-B102-N-1	05/05/10	12:36	NA	NA	20.9	<1.4	3.5	0.000078	<1.0	NM	NM	NM	NM
VLT-B102-W-1	05/05/10	11:33	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM
VLT-B102-W-2	05/05/10	11:35	NA	NA	20.9	<1.4	<0.5	<0.000028	<1.0	NM	NM	NM	NM

Notes:

^a Unless otherwise noted, the pressure shown is static pressure at the wellhead prior to purging

^b Flow rate (FIT-100) is measured continuously by the control system (SCADA). Flow rate reported is the measurement closest to the collection time of the BSVE inlet field measurements.

^c Water level below the bottom of the well

^d Wellhead pressure measured during extraction from well

For RKI Eagle readings, %Methane (as methane) = Methane in ppm (calibrated with propane) x 100/(1,000,000 x 0.67)

For Micro-FID readings, %Methane (as methane) = Methane in ppm (calibrated with propane) x 100/(1,000,000 x 1.8)

Detection Limit represents the best equipment knowledge available at the time of measurement.

%V/V = percent volume per volume

% = percent

°C = degree Celsius

ft bgs = feet below ground surface

ft bmp = feet below measuring point

inH₂O = inches of water

LEL = lower explosive limit

ppm = parts per million

PSHIA = Phoenix Sky Harbor International Airport

NM = not measured

NA = not applicable

scfm = standard cubic feet per minute

TPH = total petroleum hydrocarbons

TABLE 3-6

Comparison of Portable Gas Detector Field Results to Analytical Laboratory Results, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Location Type	Date Collected	Field Results Oxygen (%)	Laboratory Results Oxygen (%)	Field Results Carbon Dioxide (%)	Laboratory Results Carbon Dioxide (%)	Field Results TPH (µg/L)	Laboratory Results TPH (µg/L)	Field Results Methane (%)	Laboratory Results Methane (%)
Process Locations										
BSVE-INLET	BSVE Air Treatment System	05/20/10	17.3	17	2	2	649	409	<0.022	0.029
BV-1N	Injection/Extraction Wells	05/10/10	16.4	15	3.4	4.3	<180	19	<0.015	0.00046
BV-3N	Injection/Extraction Wells	05/11/10	20.9	20	<1.4	0.47	252	49	<0.022	0.0043
BV-9N	Injection/Extraction Wells	05/11/10	18.4	17	1.5	1.9	198	73	<0.022	0.0044
BV-13N	Injection/Extraction Wells	05/11/10	19.3	18	1.4	1.9	343	35	<0.022	0.00034
BV-19N	Injection/Extraction Wells	05/10/10	16.1	14	3	4.3	<180	218	<0.015	0.023
ASE-46A	Injection/Extraction Wells	05/18/10	19.3	19	<1.4	0.65	<180	25	<0.015	0.0013
Non-Process Locations										
P-32	Sub-slab	05/20/10	20.0	NA	<1.4	NA	<180	1.8 ^a	<0.015	0.00027
SMW-2-M	Sentinel Wells	05/07/10	20.2	NA	<1.4	NA	<180	1.6 ^a	<0.015	0.00024
SMW-4-U	Sentinel Wells	05/11/10	18.3	NA	3	NA	<180	1.8 ^a	<0.015	0.00027
SMW-4-M	Sentinel Wells	05/11/10	19.9	NA	<1.4	NA	<180	1.9 ^a	<0.015	0.00029
SMW-4-L	Sentinel Wells	05/11/10	14.5	NA	4.6	NA	<180	1.3 ^a	<0.015	0.00020

Notes:

% = percent

µg/L = micrograms per liter

BSVE = biologically enhanced soil vapor extraction

NA = not applicable

TPH = total petroleum hydrocarbons

^a Methane was the only TO-3 compound analyzed.

An RKI Eagle™ was used to measure oxygen, carbon dioxide, TPH, and methane at the BSVE inlet and field locations.

Laboratory TPH was calculated by the summation of methane and C₁ through C₆+ compounds; one half of the laboratory reporting limit was used in calculation for non-detectable concentrations.

For RKI Eagle readings, %Methane (as methane) = Methane in parts per million (calibrated with propane) x 100/(1,000,000 x 0.67)

TPH Field measurement converted from parts per million by volume (ppmv) to µg/L using molecular weight (MW) of propane (44.09 grams/mole) using the following equation:

$$\mu\text{g/L} = \text{ppmv} \times \text{MW} \times (\text{Pressure} / [\text{R} \times \text{Temperature}])$$

Where, Pressure = 0.987 atmospheres; R = gas constant 0.08206 liter atmospheres/mole °Kelvin; Temperature = 21 °Celsius + 273.15 °Kelvin = 294.15 °Kelvin

Methane analytical results converted from µg/L to % using MW of methane (16.04 grams/mole) using the following equation:

$$\% = \mu\text{g/L} \times (\text{R} \times \text{Temperature}) / (\text{MW} \times \text{Pressure}) \times (1,000,000/100)$$

TABLE 3-7

Summary of Free-product Thickness Measurements, Second Quarter 2010

*Second Quarter 2010 Remediation Status Report**Honeywell 34th Street Facility, Phoenix, Arizona*

Well	04/05/10	04/19/10	05/07/10	05/21/10	06/05/10- 06/06/10	06/19/10
ASE-19A	0	NM	0	NM	0	NM
ASE-37A	0	NM	0 ^a	NM	0 ^a	NM
ASE-38A	0	NM	0	NM	0	NM
ASE-52A	0	NM	0	NM	0	NM
ASE-55A	0	NM	0	NM	0	NM
ASE-58A	0	NM	0	NM	0	NM
ASE-63A	0	NM	0 ^a	NM	0 ^a	NM
ASE-64A	0.01	NM	0.02 ^a	NM	0.01 ^a	NM
ASE-67A	0.03	NM	0.03	NM	0.02 ^a	NM
ASE-68A	0	NM	0 ^a	NM	0 ^a	NM
ASE-89A	0.01 ^a	NM	0 ^a	NM	0.01 ^a	NM
ASE-90A	0.01 ^a	NM	0 ^a	NM	0 ^a	NM
ASE-91A	0.01 ^a	NM	0.01 ^a	NM	0.01 ^a	NM
ASE-92A	0.07 ^a	NM	0.02 ^a	NM	0.05 ^a	NM
ASE-96A	0 ^a	NM	0 ^a	NM	0 ^a	NM
ASE-102A	0.04 ^a	NM	0.05 ^a	NM	0 ^a	NM
ASE-107A	0.93 ^a	0.82 ^a	1.78 ^a	2.47 ^a	0 ^a	2.22 ^a
ASE-111A	0	NM	0	NM	0	NM
ASE-113A	0	NM	0 ^a	NM	0 ^a	NM
ASE-114A	0.01	NM	0 ^a	NM	0 ^a	NM
ASE-115A	0.08	0.13	0.20	0.15	0.14	0.19
ASE-130A	0	NM	0	NM	0	NM
PL-105A	0	NM	0	NM	0	NM
PL-2101	0	NM	0	NM	0	NM

Notes:

This table includes all wells that have historically had measureable free product that are not currently connected to the BSVE system.

Monitoring wells with a confirmed free-product thickness less than 0.1 foot are measured monthly.

Monitoring wells with a confirmed free-product thickness greater than 0.1 foot are measured biweekly.

Free-product thickness measurements in feet.

NM = Free-product thickness not measured.

^aWell screen submerged at the time of measurement.

TABLE 3-8

Comparison of Historical Maximum Free-product Thickness Measurements to June 2010 Free-product Thickness Measurements, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Well	Historical Maximum Free-product Thickness		June 2010 Free-product Thickness Measurements	
	Date	Thickness	06/05/10-06/06/10	06/19/2010
Monitoring Wells Located on Honeywell Property North of Air Lane				
ASE-19A	02/10/00	3.00	0	NM
ASE-20A	01/07/03	2.20	NA	NA
ASE-37A	01/20/05	0.53	0	NM
ASE-38A	07/21/04	1.73	0	NM
ASE-39A	11/28/01	1.33	NA	NA
ASE-51A	12/19/01	3.42	NA	NA
ASE-52A	02/22/02	1.80	0	NM
ASE-53A	11/28/01	1.79	NA	NA
ASE-56A	03/21/02	1.90	NA	NA
ASE-57A	03/20/02	3.07	NA	NA
ASE-67A	07/26/05	4.52	0.02	NM
ASE-68A	06/27/02	3.13	0	NM
ASE-111A	10/03/07	2.25	0	NM
ASE-115A	11/28/07	0.41	0.14	0.19
PL-101A	03/06/02	1.41	NA	NA
PL-2101	06/14/00	0.44	0	NM
Monitoring Wells Located on Honeywell Property South of Air Lane				
ASE-41A	07/09/03	3.50	NA	NA
ASE-55A	10/19/05	0.81	0	NM
ASE-58A	05/07/08	0.01	0	NM
ASE-63A	09/09/04	0.02	0	NM
ASE-64A	07/09/03	1.95	0.01	NM
ASE-91A	10/03/07	0.05	0.01	NM
ASE-92A	11/03/04	0.24	0.05	NM
ASE-130A	01/07/09	0.16	0	NM
PL-105A	04/30/03	1.07	0	NM
Monitoring Wells Located on PSHIA Property				
ASE-89A	08/02/04	1.60	0.01	NM
ASE-90A	10/06/04	1.23	0	NM
ASE-96A	11/03/04	0.48	0	NM
ASE-102A	01/26/05	4.27	0	NM
ASE-107A	05/21/10	2.47	0	2.22
ASE-113A	05/18/05	0.01	0	NM
ASE-114A	02/05/09	0.26	0	NM

Notes:

This table includes all wells that have historically had measureable free product.

Monitoring wells with a confirmed free-product thickness less than 0.1 foot are measured monthly.

Monitoring wells with a confirmed free-product thickness greater than 0.1 foot are measured biweekly.

Free-product thickness measurements in feet.

Dates listed are the most recent dates on which the historical maximum free-product thickness was measured.

NA = Measurement not available due to connection to the BSVE system.

NM = Free-product thickness not measured.

PSHIA = Phoenix Sky Harbor International Airport

TABLE 3-9

Comparison between March 2010 and June 2010 Water-level Elevations, Second Quarter 2010

*Second Quarter 2010 Remediation Status Report**Honeywell 34th Street Facility, Phoenix, Arizona*

Location ID	Groundwater Elevation		Difference ^a (feet)
	3/1/2010 (ft amsl)	6/5/2010-6/6/2010 (ft amsl)	
ASE-19A	1,053.12	1,056.74	3.62
ASE-37A	1,056.08	1,061.09	5.01
ASE-38A	1,056.38	1,061.31	4.93
ASE-52A	1,055.80	1,059.87	4.07
ASE-54A	1,051.32	1,054.50	3.18
ASE-55A	1,047.26	1,052.33	5.07
ASE-58A	1,049.83	1,053.63	3.80
ASE-60A	1,056.92	1,061.39	4.47
ASE-61A	1,057.29	1,061.92	4.63
ASE-62A	1,047.73	1,052.49	4.76
ASE-63A	1,054.67	1,059.92	5.25
ASE-64A	1,050.54	1,058.29	7.75
ASE-65A	1,037.44	1,045.24	7.80
ASE-67A	1,055.77	1,060.20	4.43
ASE-68A	1,052.21	1,056.11	3.90
ASE-89A	1,049.19	1,057.03	7.84
ASE-90A	1,048.16	1,055.90	7.74
ASE-91A	1,048.72	1,055.17	6.45
ASE-92A	1,049.24	1,055.83	6.59
ASE-95A	1,039.03	1,047.26	8.23
ASE-96A	1,047.46	1,055.70	8.24
ASE-98A	1,043.28	1,052.25	8.97
ASE-99A	1,045.07	1,054.03	8.96
ASE-100A	1,040.07	1,048.67	8.60
ASE-101A	1,043.13	1,052.14	9.01
ASE-102A	1,046.42	1,055.07	8.65
ASE-103A	1,038.27	1,046.86	8.59
ASE-105A	1,049.64	1,058.20	8.56
ASE-106A	1,047.57	1,056.02	8.45
ASE-107A	1,048.92	1,057.90	8.98
ASE-108A	1,047.62	1,053.66	6.04
ASE-109A	1,050.14	1,058.81	8.67
ASE-110A	1,048.62	1,057.36	8.74
ASE-111A	1,056.47	1,061.12	4.65
ASE-112A	1,049.87	1,058.74	8.87
ASE-113A	1,050.38	1,059.23	8.85
ASE-114A	1,049.78	1,058.53	8.75
ASE-115A	1,056.61	1,061.39	4.78
ASE-116A	1,056.30	1,060.99	4.69
ASE-122A	1,051.15	1,059.91	8.76
ASE-123A	1,051.53	1,060.17	8.64
ASE-124A	1,039.65	1,048.04	8.39
ASE-125A	1,035.79	1,044.11	8.32
ASE-126A	1,037.46	1,046.14	8.68
ASE-127A	1,053.92	1,059.89	5.97
ASE-128A	1,043.37	1,052.28	8.91
ASE-129A	1,036.60	1,045.17	8.57
ASE-130A	1,049.87	1,055.41	5.54

TABLE 3-9

Comparison between March 2010 and June 2010 Water-level Elevations, Second Quarter 2010

*Second Quarter 2010 Remediation Status Report**Honeywell 34th Street Facility, Phoenix, Arizona*

Location ID	Groundwater Elevation		Difference^a (feet)
	3/1/2010 (ft amsl)	6/5/2010-6/6/2010 (ft amsl)	
BC-7A	1,055.01	1,061.19	6.18
BC-18	1,036.52	1,044.68	8.16
PL-105A	1,047.93	1,054.38	6.45
PL-201A	1,048.88	1,053.03	4.15
PL-2101	1,051.66	1,055.07	3.41
PL-2102	1,051.48	1,054.47	2.99

Notes:

^a Difference column calculated by subtracting March 2010 water-level elevations from June 2010 water-level elevations. Negative results indicate lower water-level elevations, signifying a falling water table over the reporting period; positive results indicate higher water-level elevations, signifying a rising water table over the reporting period

ft amsl = Feet above mean sea level

TABLE 3-10

Summary of SW8260 and SW8015 Detected Analytical Results for Groundwater Quality Samples, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Sample Date	TPH C10-C22	BZ	BBZ	s-BBZ	t-BBZ	CET	DCA	DCE	C12DCE	EBZ	IPBZ	p-IPT	MTBE	NAPH	n-PBZ	PCE	111TCA	TCE	124TMBZ	135TMBZ	VC	o-XYL
ASE-37A	06/09/10	<1,000	65	0.8	1.6	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	6.4	<0.5	4.1	5.3	4.1	<0.5	<0.5	0.8	1.4	<0.5	<0.5	<0.5
ASE-38A	06/10/10	<1,000	410	<3.1	<3.1	<3.1	<6.3	<3.1	<3.1	<3.1	51 J	12 J	<3.1	5.6 J	33 J	8.9	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1
ASE-52A	06/09/10	5,500	75	<1.0	<1.0	<1.0	8.9	60	1.2	3.4	5.4	1.4	1.6	100	44	1.4	<1.0	<1.0	5.2	48	13	1.5	<1.0
ASE-54A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	1.8	<0.5	<0.5	<0.5	<0.5
ASE-55A	06/10/10	9,900 J	18	<0.5	1.1	<0.5	2.3	13	<0.5	0.9	<0.5	2.3	<0.5	49	3.3 J	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5
ASE-58A	06/09/10	<1,000	5.2	<0.5	0.7	<0.5	<1.0	13	<0.5	1.7	<0.5	0.7	<0.5	12	<2.0	<0.5	<0.5	<0.5	2.1	<0.5	<0.5	2.9	<0.5
ASE-60A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	1.2	<0.5	19	<0.5	<0.5	<0.5	<0.5
ASE-61A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	1.3	<0.5	0.7	<0.5	<0.5	<0.5	<0.5
ASE-62A	06/10/10	<1,000	<0.5	<0.5	0.6	<0.5	<1.0	11	<0.5	0.7	<0.5	<0.5	<0.5	21	<2.0	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	1.5	<0.5
ASE-63A	06/10/10	15,000 J	1,100 J	<6.3	<6.3	<6.3	<13	<6.3	<6.3	<6.3	<6.3	67 J	<6.3	56 J	170 J	49 J	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3	<6.3
ASE-65A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	3.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<2.0	<0.5	<0.5	<0.5	2.2	<0.5	<0.5	<0.5	<0.5
ASE-68A	06/08/10	1,700	29	0.6	1.3	<0.5	<1.0	13	<0.5	0.8	<0.5	1.8	<0.5	65	2.1	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<0.5
ASE-90A	06/11/10	1,200	21	3.1	2.3	0.6	<1.0	<0.5	<0.5	<0.5	<0.5	8.7	<0.5	56	12	9.0	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5
ASE-95A	06/11/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-96A	06/11/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.4	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-98A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-99A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-100A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-101A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-103A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-105A	06/11/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-106A	06/09/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-108A	06/10/10	7,700	45 J	2.5 J	5.3 J	0.8 J	2.9 J	12 J	0.9 J	<0.5	<0.5	15 J	<0.5	74 J	3.1 J	5.6 J	<0.5	0.7 J	1.1 J	<0.5	<0.5	0.9 J	<0.5
ASE-109A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-110A	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-112A	06/11/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-113A	06/11/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-114A	06/11/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-116A	06/09/10	<1,000	8.5	<0.5	0.7	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	3.8	<0.5	4.3	3.1	2.7	0.7	<0.5	1.9	0.7	<0.5	<0.5	<0.5
ASE-122A	06/09/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-123A	06/09/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-124A	06/09/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-125A	06/10/10	<1,000	0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-126A	06/11/10	<1,000	<0.5	<0.5	4.4	<0.5	<1.0	4.0	<0.5	<0.5	<0.5	3.2	<0.5	130	<2.0	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5
ASE-127A	06/09/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-128A	06/07/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-129A	06/10/10	<1,000 ^a	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ASE-130A	06/10/10	2,800	210	3.9	2.9	<2.0	<4.0	4.9	<2.0	<2.0	19	8.6	<2.0	250	30 J	9.3	<2.0	<2.0	<2.0	9.9	<2.0	<2.0	<2.0
BC-7A	06/09/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BC-18	06/11/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	8.2	<0.5	0.7	<0.5	<0.5	<0.5	47	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5

TABLE 3-10

Summary of SW8260 and SW8015 Detected Analytical Results for Groundwater Quality Samples, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Location ID	Sample Date	TPH C10-C22	BZ	BBZ	s-BBZ	t-BBZ	CET	DCA	DCE	C12DCE	EBZ	IPBZ	p-IPT	MTBE	NAPH	n-PBZ	PCE	111TCA	TCE	124TMBZ	135TMBZ	VC	o-XYL
PL-105A	06/10/10	7,400	34	5.3	3.7	0.6	3.7	14	<0.5	<0.5	<0.5	11	<0.5	62	12	10	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	0.6
PL-201A	06/09/10	2,300	11	<0.5	2.2	<0.5	22	67	<0.5	1.2	<0.5	4.2	<0.5	35	<2.0	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	6.6	<0.5
PL-2101	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	6.4	<0.5	<0.5	<0.5	<0.5	<0.5	8.1	<2.0	<0.5	<0.5	<0.5	1.8	<0.5	<0.5	<0.5	<0.5
PL-2102	06/08/10	<1,000	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	0.6	<0.5	1.5	<0.5	<0.5	<0.5	<0.5

TABLE 3-10

Summary of SW8260 and SW8015 Detected Analytical Results for Groundwater Quality Samples, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 3rd Street Facility, Phoenix, Arizona

Location ID	Sample Date	mp-XYL	XYL
ASE-37A	06/09/10	<0.5	<0.5
ASE-38A	06/10/10	3.2 J	3.2 J
ASE-52A	06/09/10	5.1	5.1
ASE-54A	06/08/10	<0.5	<0.5
ASE-55A	06/10/10	<0.5	<0.5
ASE-58A	06/09/10	<0.5	<0.5
ASE-60A	06/08/10	<0.5	<0.5
ASE-61A	06/08/10	<0.5	<0.5
ASE-62A	06/10/10	<0.5	<0.5
ASE-63A	06/10/10	<6.3	<6.3
ASE-65A	06/08/10	<0.5	<0.5
ASE-68A	06/08/10	<0.5	<0.5
ASE-90A	06/11/10	<0.5	<0.5
ASE-95A	06/11/10	<0.5	<0.5
ASE-96A	06/11/10	<0.5	<0.5
ASE-98A	06/08/10	<0.5	<0.5
ASE-99A	06/08/10	<0.5	<0.5
ASE-100A	06/08/10	<0.5	<0.5
ASE-101A	06/08/10	<0.5	<0.5
ASE-103A	06/08/10	<0.5	<0.5
ASE-105A	06/11/10	<0.5	<0.5
ASE-106A	06/09/10	<0.5	<0.5
ASE-108A	06/10/10	<0.5	<0.5
ASE-109A	06/08/10	<0.5	<0.5
ASE-110A	06/08/10	<0.5	<0.5
ASE-112A	06/11/10	<0.5	<0.5
ASE-113A	06/11/10	<0.5	<0.5
ASE-114A	06/11/10	<0.5	<0.5
ASE-116A	06/09/10	<0.5	<0.5
ASE-122A	06/09/10	<0.5	<0.5
ASE-123A	06/09/10	<0.5	<0.5
ASE-124A	06/09/10	<0.5	<0.5
ASE-125A	06/10/10	<0.5	<0.5
ASE-126A	06/11/10	<0.5	<0.5
ASE-127A	06/09/10	<0.5	<0.5
ASE-128A	06/07/10	<0.5	<0.5
ASE-129A	06/10/10	<0.5	<0.5
ASE-130A	06/10/10	5.8	5.8
BC-7A	06/09/10	<0.5	<0.5
BC-18	06/11/10	<0.5	<0.5

TABLE 3-10

Summary of SW8260 and SW8015 Detected Analytical Results for Groundwater Quality Samples, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 3rd Street Facility, Phoenix, Arizona

Location ID	Sample Date	mp-XYL	XYL
PL-105A	06/10/10	<0.5	0.6
PL-201A	06/09/10	<0.5	<0.5
PL-2101	06/08/10	<0.5	<0.5
PL-2102	06/08/10	<0.5	<0.5

Notes:

All results are reported in micrograms per liter.

Maximum detected concentration between primary samples and field duplicates is shown. If an analyte is not detected in both the primary and field duplicate sample and the reporting limits differ, the lower of the two reporting limits is shown.

J = Estimated value

^a The sample collected from groundwater monitoring well ASE-129A for analysis by EPA Method SW8015 was collected on June 8, 2010.

TPH C10-C22 = Total Petroleum Hydrocarbons, Carbon Range C10-C22

BZ = Benzene

BBZ = Butylbenzene

s-BBZ = sec-Butylbenzene

t-BBZ = tert-Butylbenzene

CET = Chloroethane

DCA = 1,1-Dichloroethane

DCE = 1,1-Dichloroethene

C12DCE = cis-1,2-Dichloroethene

EBZ = Ethylbenzene

IPBZ = Isopropylbenzene

p-IPT = p-Isopropyltoluene

MTBE = Methyl tert-butyl ether

NAPH = Naphthalene

n-PBZ = n-Propylbenzene

PCE = Tetrachloroethene

111TCA = 1,1,1-Trichloroethane

TCE = Trichloroethene

124TMBZ = 1,2,4-Trimethylbenzene

135TMBZ = 1,3,5-Trimethylbenzene

VC = Vinyl chloride

o-XYL = o-Xylene

mp-XYL = Xylenes, m & p

XYL = Total xylenes

TABLE 4-1

Contingency Triggers and Contingency Measures, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Contingency Trigger		Trigger	Quarterly Observations	Contingency Triggered	Contingency Measure(s) Taken
Vadose Zone					
Changing Site Conditions	Water Levels, Contaminant Type or Distribution, Estimated Contaminant Mass	Re-evaluate the remedial strategy approach if a change in the site conditions impacting the propriety or efficacy of the selected remedy occurs.	Groundwater elevations increased on average approximately 6.74 feet during Second Quarter 2010. June 5 and 6, 2010 water levels are approximately 10 feet to 25 feet higher than December 1, 2004 water levels.	Yes	See Groundwater Levels below.
Performance Metrics Cannot Be Maintained for 3 Continuous Months	Biodegradation Rate	Significant Decreases	Planned in situ respiration testing was conducted from May 24, 2010 through June 7, 2010 during the annual BSVE system shutdown period. Results indicated an average oxygen uptake rate of 1.4 percent per day among deep process monitoring wells in Phases A and B and an overall oxygen uptake rate of 0.53 percent per day for the entire vadose zone. These rates are consistent with oxygen uptake rates observed during testing conducted in First Quarter 2010, where the average oxygen uptake rate among deep process monitoring wells was observed to range from 2.2 (February 2010 testing) to 0.8 percent per day (March 2010 testing), and the overall oxygen uptake rate for the entire vadose zone was observed to be 0.3 percent per day.	No	These metrics are defined as applying 6 months after full-scale BSVE operations. Full-scale BSVE operations in Phases A&B commenced on June 17, 2010, following initial ramp-up. As such these metrics are to be applied in Phases A&B beginning December 17, 2010.
		Rates Not Consistent with Achieving the Remediation Standards within the Prescribed times of system startup.	The biodegradation rate based on in situ respiration testing indicated a TPH mass removal for the reporting period of 337,415 pounds (as presented in Section 2.1.1). These biodegradation rates are consistent with achieving the remediation standards within the prescribed times of system startup.	No	--
	TPH in Soil Vapor	Failure of TPH concentrations in soil vapor to decline or problematic rebound.	A steady decrease in TPH concentration at the BSVE inlet was observed over the reporting period; these concentrations decreased from 2,178 ppm on April 1, 2010 to 461.6 ppm on June 30, 2010. No problematic rebound was observed during the reporting period.	No	--
	Temperature	Subsurface reductions greater than 50% of the observed temperature rise.	No significant changes in temperature have been observed since the start of BSVE system operation in May 2009.	No	--
	Subsurface Moisture	Drying of the soils in the deep vadose zone to the point that biodegradation is greatly reduced or not possible.	No significant changes in relative humidity have been observed since the start of BSVE system operation in May 2009. The biodegradation rates reported above support the observation that subsurface relative humidity has not negatively impacted biodegradation.	No	--

TABLE 4-1

Contingency Triggers and Contingency Measures, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Contingency Trigger	Trigger	Quarterly Observations	Contingency Triggered	Contingency Measure(s) Taken	
Groundwater Levels	Failure to decrease in any consecutive 12-month period during BSVE operations.	Groundwater elevations increased on average approximately 6.74 feet during Second Quarter 2010. June 5 and 6, 2010 water levels are approximately 10 feet to 25 feet higher than December 1, 2004 water levels.	Yes	No current action. This trigger was first documented in the Second Quarter 2009 Remediation Status Report (CH2M HILL, 2009a). As reported during Second Quarter 2009, Honeywell evaluated the impact of rising groundwater levels in the Phase C and D areas. For Phase C, the design was modified to include three additional injection/extraction wells, bringing the total well count to 10. Additionally, Honeywell adjusted the Phase C wells' locations to maximize their influence in the Phase D area, and raised the elevation of the top of the wells' screens to accommodate the current groundwater levels and future rises in groundwater levels in this area. All of the new Phase C wells were installed in Fourth Quarter 2009 and soil vapor extraction is anticipated to begin in this area in the fall of 2010. For Phase D, Honeywell continues to work in cooperation with the COP to evaluate appropriate alternatives. On February 26, 2010 Honeywell submitted the Phase D Remedial Alternatives Detailed Evaluation Report (CH2M HILL, 2010b) to the COP for consideration and evaluation, including identification of the potential disruption to PSHIA operations. Following the start of full scale operation of the BSVE system in Phase A and B, average TPH mass removal of approximately 4,000 pounds per day as compared to the trigger of 2,000 pounds per day indicate that system performance in Phases A and B is currently meeting remedial objectives and no action is required at this time.	
Mass Removal Rates	Failure to achieve and maintain a removal rate of initially, 2,000 pounds per day of TPH within 12 months of initiation (Honeywell only), and then 3,000 pound per day of TPH within 12 months of startup of the combined system (Honeywell and PSHIA).	The average daily TPH mass removal rates for the BSVE system have been 3,971 pounds per day for Second Quarter 2010 and 4,716 pounds per day since the initial start of the BSVE system.	No	--	
Toxicity and Safety Standards	Soil Vapor Concentrations of Methane or Any Petroleum Hydrocarbon	Exceed 20% of LEL in vadose zone	The 20% LEL threshold was exceeded at one shallow soil vapor location, P-26-U, in the Phase C Area during Second Quarter 2010.	Yes	Surrounding vaults (ELE-VLT-02, and FBO-VLT-01) were measured, and the LEL measurements were below detection limits. Quarterly monitoring of these locations will continue to monitor trends. Construction continues in Phase C to bring injection/extraction wells online in this area; this is anticipated to decrease LEL concentrations in the vadose zone in Phase C.
Fuel Related COCs	Exceed Risk-Based Corrective Action Standards determined by Risk Assessment	As presented in Tables 3-1 through 3-4, soil vapor samples were collected from a total of 75 soil vapor monitoring wells during the Second Quarter 2010 soil vapor monitoring event. The analytical results for these samples were compared to vapor action levels as presented in the O&M Manual (CH2M HILL, 2009b). Zero locations exhibited soil vapor concentrations in excess of a vapor action level.	No	--	
Remediation Standards	Soil Vapor Concentrations of VOCs	Soil vapor concentrations of benzene exceed 340 µg/L in the vadose zone	Zero locations exhibited concentrations of benzene above 340 µg/L. The maximum concentration of benzene measured in the vadose zone during Second Quarter 2010 was 2.7J µg/L at process monitoring well PMW-4-ML. Among non-process monitoring locations, the maximum concentration of benzene measured during Second Quarter 2010 was 0.014 µg/L at sentinel monitoring well SMW-13-L.	No	These metrics are defined as applying 18 months after full-scale BSVE operations. Full-scale BSVE operations in Phases A&B commenced on June, 17, 2010, following initial ramp-up. As such these metrics are to be applied in Phases A&B beginning December 17, 2011.
Soil Vapor Concentrations of COCs	Soil vapor concentrations of COCs exceed risk-based corrective action standards determined by risk assessment in the deep vadose zone.	Among the 41 non-process soil vapor monitoring wells and 34 process soil vapor monitoring wells sampled, no risk-based corrective action standards (i.e., Tier 1 or Tier 2 VALs) were exceeded.	No	--	

TABLE 4-1

Contingency Triggers and Contingency Measures, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Contingency Trigger	Trigger	Quarterly Observations	Contingency Triggered	Contingency Measure(s) Taken
Soil Vapor Concentrations of Oxygen	Soil vapor concentrations of oxygen shall not exceed 5% by volume in the deep vadose zone.	As presented in Figure E-2 (Appendix E), all Phase A and B soil vapor monitoring locations monitored during the Second Quarter 2010 soil vapor monitoring event exhibited oxygen concentrations greater than 5%. Oxygen concentrations in Phases C and D were observed to be below 5% in some areas; however, the subsurface oxygen concentration in these areas is anticipated to increase following the start of remedial operation in Phases C and D.	No	--
Methane	Soil vapor concentrations of methane exceed 1% by volume in the deep vadose zone.	As presented in Figure E-4 (Appendix E), all Phase A and B soil vapor monitoring locations monitored during the Second Quarter 2010 soil vapor monitoring event exhibited methane concentrations less than 1%. Methane concentrations in Phases C and D were observed to be above 1% in some areas; however, the subsurface methane concentration in these areas is anticipated to decrease following the start of remedial operation in Phases C and D.	No	--
Free-product Jet Fuel				
Free-product Thickness	During any 24-month period of remedial operation, free-product thicknesses in any well increases.	Small increases (and subsequent decreases) in free-product thickness are regularly observed from one measurement to the next and have primarily occurred in monitoring wells with submerged screens. Free-product thicknesses in these wells are more reflective of accumulation in the well casing between recovery efforts rather than the free-product thickness in the adjacent formation.	No	This metric is defined as free-product thicknesses increasing in any well during any 24-month period following initiation of BSVE operations (remedial operations). BSVE operations were initiated on May 27, 2009, and therefore this metric will be evaluated starting on May 27, 2011.
	Wells with confirmed free-product thicknesses in excess of 0.75 foot.	Free-product thickness measurements exceeding 0.75 foot were recorded for monitoring well ASE-107A during Second Quarter 2010 (on 4/5/10, 4/19/10, 5/7/10, 5/2/10 and 6/19/10).	Yes	A dedicated, automatic free-product skimming pump is not installed at ASE-107A because installation of recovery equipment, requiring electricity or some alternative form of power and a storage vessel, in this well would cause disruption to airport operations. Pursuant to discussions with ADEQ's Case Manager for the LUST Enforcement Unit and the COP in June 2007 (in regard to the initial occurrence of a metric exceedance in monitoring well ASE 107A), Honeywell manually recovered free product from monitoring well ASE-107A on a biweekly basis (whenever free product thickness measurements exceeded 0.1 foot) during Second Quarter 2010. Honeywell plans to continue biweekly manual free-product recovery, as required for confirmed exceedances of the 0.1 foot CAP metric, from monitoring well ASE 107A (subject to PSHIA operations' site access approval) whenever free product thicknesses in monitoring well ASE-107A exceed a thickness of 0.75 foot.
	Wells with free product in excess of 0.1 foot but less than 0.75 foot.	Free-product thicknesses exceeding 0.1 foot but less than 0.75 foot occurred in one monitoring well, ASE-115A, during the quarter.	Yes	Manual recovery of free product was conducted biweekly in monitoring well ASE-115A during Second Quarter 2010 (when measured thicknesses exceeded 0.1 foot). Initial exceedances of the 0.1 foot free-product thickness metric were recorded during First Quarter 2010 for monitoring well ASE-115A (on 3/1/10), and the monitoring well was placed in a six-week evaluation period. A second (confirmatory) free product measurement greater than 0.1 foot occurred before the end of the evaluation period, on April 19, 2010, and thus the monitoring well was formally placed into the biweekly free product monitoring program where it remained through Second Quarter 2010.

TABLE 4-1

Contingency Triggers and Contingency Measures, Second Quarter 2010

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

Contingency Trigger	Trigger	Quarterly Observations	Contingency Triggered	Contingency Measure(s) Taken	
Groundwater Levels	Groundwater levels in any given 12-month period are substantially above the levels of December 2004.	Groundwater elevations increased on average approximately 6.74 feet during the Second Quarter 2010. June 5 and 6, 2010 water levels are approximately 10 feet to 25 feet higher than December 1, 2004 water levels.	Yes	This trigger was first documented in the <i>Second Quarter 2009 Remediation Status Report</i> (CH2M HILL, 2009a). As reported during Second Quarter 2009, Honeywell evaluated the impact of rising groundwater levels in the Phase C and D areas. For Phase C, the design was modified to include three additional injection/extraction wells, bringing the total well count to 10. Additionally, Honeywell adjusted the Phase C wells' locations to maximize their influence in the Phase D area, and raised the elevation of the top of the wells' screens to accommodate the current groundwater levels and future rises in groundwater levels in this area. All of the new Phase C wells were installed in Fourth Quarter 2009 and soil vapor extraction is anticipated to begin in this area in the fall of 2010. For Phase D, Honeywell continues to work in cooperation with the COP to evaluate appropriate alternatives. On February 26, 2010 Honeywell submitted the <i>Phase D Remedial Alternatives Detailed Evaluation Report</i> (CH2M HILL, 2010b) to the COP for consideration and evaluation, including identification of the potential disruption to PSHIA operations. Following the start of full scale operation of the BSVE system in Phase A and B, average TPH mass removal of approximately 4,000 pounds per day as compared to the trigger of 2,000 pounds per day indicate that system performance in Phases A and B is currently meeting remedial objectives and no action is required at this time.	
Minimization of Remedial Time	Free-product thickness is not reduced to less than 0.01 feet within 10 years.	In Phases A and B, the initial system ramp-up period was completed in the Second Quarter 2010, and the start of full-scale BSVE system operation began on June 17, 2010. This trigger will be evaluated after several years of full-scale operation has been conducted and the timeframe to meet this trigger (June 17, 2019) is closer.	No	--	
Performance Metrics	Wells with Automatic Free-product Extraction Systems	Automated free-product recovery will cease when free-product thicknesses fall below 0.75 foot and product recovery rates diminish to less than 2 gallons per month for 2 consecutive months.	No wells contained dedicated, automatic free-product pumps during the quarter.	No	--
	Wells with Manual Free Product Recovery	Less than 0.1 foot of free product is present and less than 2 gallons per month are recovered for 3 consecutive months. Well has between 0.1 and 0.75 foot of free product, which after 6 months of attempted recovery, does not yield a minimum of 2 gallons in at least 1 month.	Free product is only recovered from wells containing free-product thicknesses exceeding 0.1 foot. Monitoring wells ASE-107A and ASE-115A were formally part of the biweekly monitoring/recovery program during Second Quarter 2010. Monitoring wells ASE-107A and ASE-115A continued to have free-product thickness measurements exceeding 0.1 foot during the quarter, and therefore were not eligible for transfer into the monthly monitoring program.	No	--
Commingled Plumes	Honeywell free-product plume has commingled or is threatening to commingle with other free-product plumes beneath PSHIA.	Based on the locations where free product was detected in Second Quarter 2010 (Table 3-7), the Honeywell free-product plume has not commingled with other free-product plumes beneath PSHIA, nor is the Honeywell free-product plume threatening to commingle with other free-product plumes beneath PSHIA.	No	--	

TABLE 4-1

Contingency Triggers and Contingency Measures, Second Quarter 2010

*Second Quarter 2010 Remediation Status Report**Honeywell 34th Street Facility, Phoenix, Arizona*

Contingency Trigger	Trigger	Quarterly Observations	Contingency Triggered	Contingency Measure(s) Taken
Changing Site Conditions	Significant variations in water levels, contaminant type or distribution, estimated contaminant mass, and/or lithology type containing the majority of contaminant mass.	June 5 and 6, 2010 water levels are approximately 10 feet to 25 feet higher than December 1, 2004 water levels.	Yes	This trigger was first documented in the Second Quarter 2009 Remediation Status Report (CH2M HILL, 2009a). As reported during Second Quarter 2009, Honeywell evaluated the impact of rising groundwater levels in the Phase C and D areas. For Phase C, the design was modified to include three additional injection/extraction wells, bringing the total well count to 10. Additionally, Honeywell adjusted the Phase C wells' locations to maximize their influence in the Phase D area, and raised the elevation of the top of the wells' screens to accommodate the current groundwater levels and future rises in groundwater levels in this area. All of the new Phase C wells were installed in Fourth Quarter 2009 and soil vapor extraction is anticipated to begin in this area in the fall of 2010. For Phase D, Honeywell continues to work in cooperation with the COP to evaluate appropriate alternatives. On February 26, 2010 Honeywell submitted the Phase D Remedial Alternatives Detailed Evaluation Report (CH2M HILL, 2010b) to the COP for consideration and evaluation, including identification of the potential disruption to PSHIA operations. Following the start of full scale operation of the BSVE system in Phase A and B, average TPH mass removal of approximately 4,000 pounds per day as compared to the trigger of 2,000 pounds per day indicate that system performance in Phases A and B is currently meeting remedial objectives and no action is required at this time.

Dissolved Phase Contaminants of Concern*Dissolved phase COC triggers will be evaluated following approval of the groundwater component of Honeywell's CAP.*

Notes:

ADEQ = Arizona Department of Environmental Quality

BSVE = biologically enhanced soil vapor extraction

CAP = Corrective Action Plan

COC = contaminant of concern

COP = City of Phoenix

LEL = lower explosive limit

LUST = leaking underground storage tank

µg/L =micrograms per liter

mg/L = milligrams per liter

MTBE = methyl tert-butyl ether

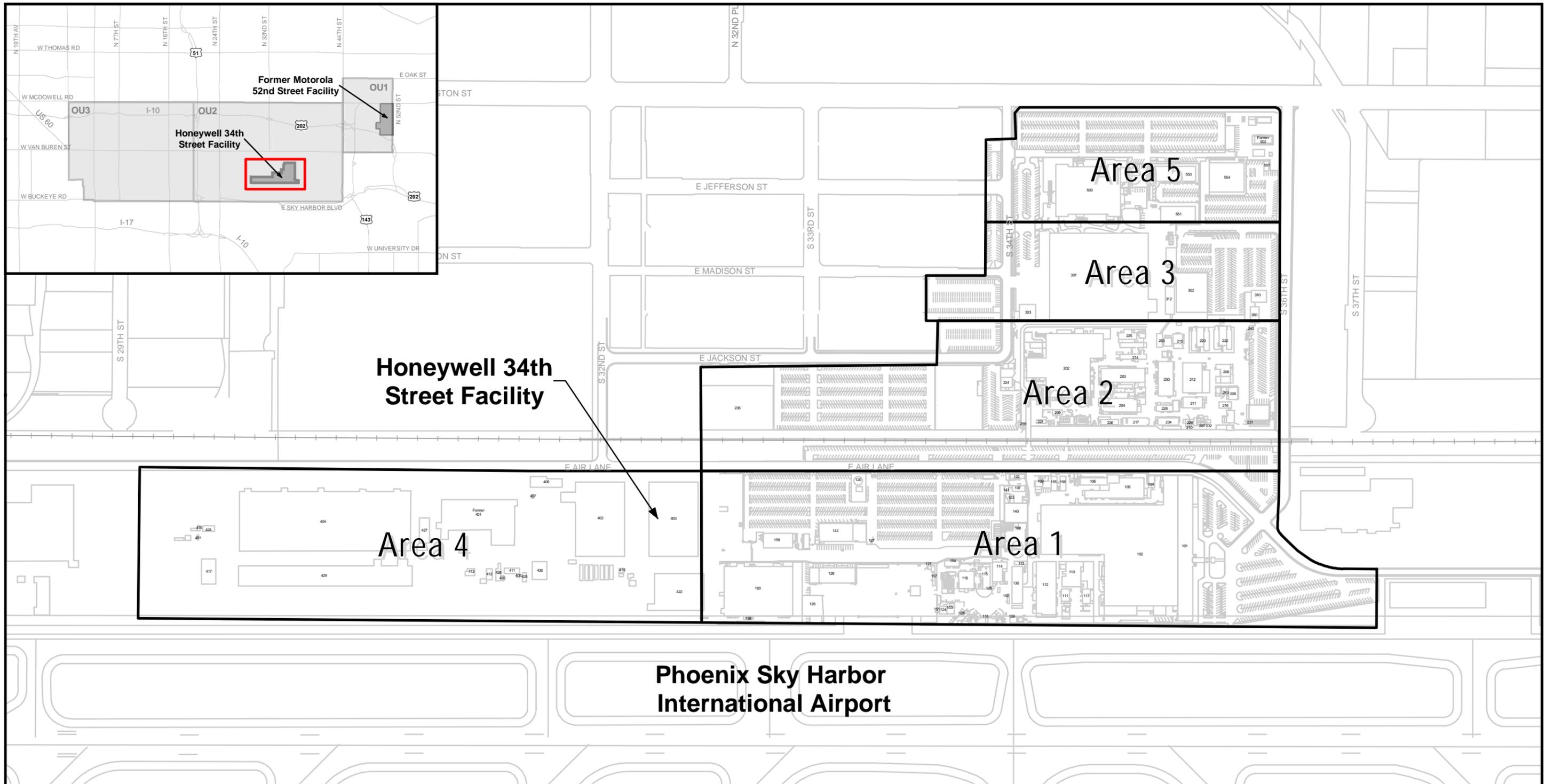
ppm = parts per million

PSHIA = Phoenix Sky Harbor International Airport

TPH = total petroleum hydrocarbons

VAL = vapor action level

Figures



Legend

- Street and Airport Features
- Railroad
- Operational Area Boundaries
- Honeywell Buildings

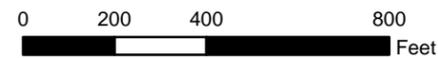
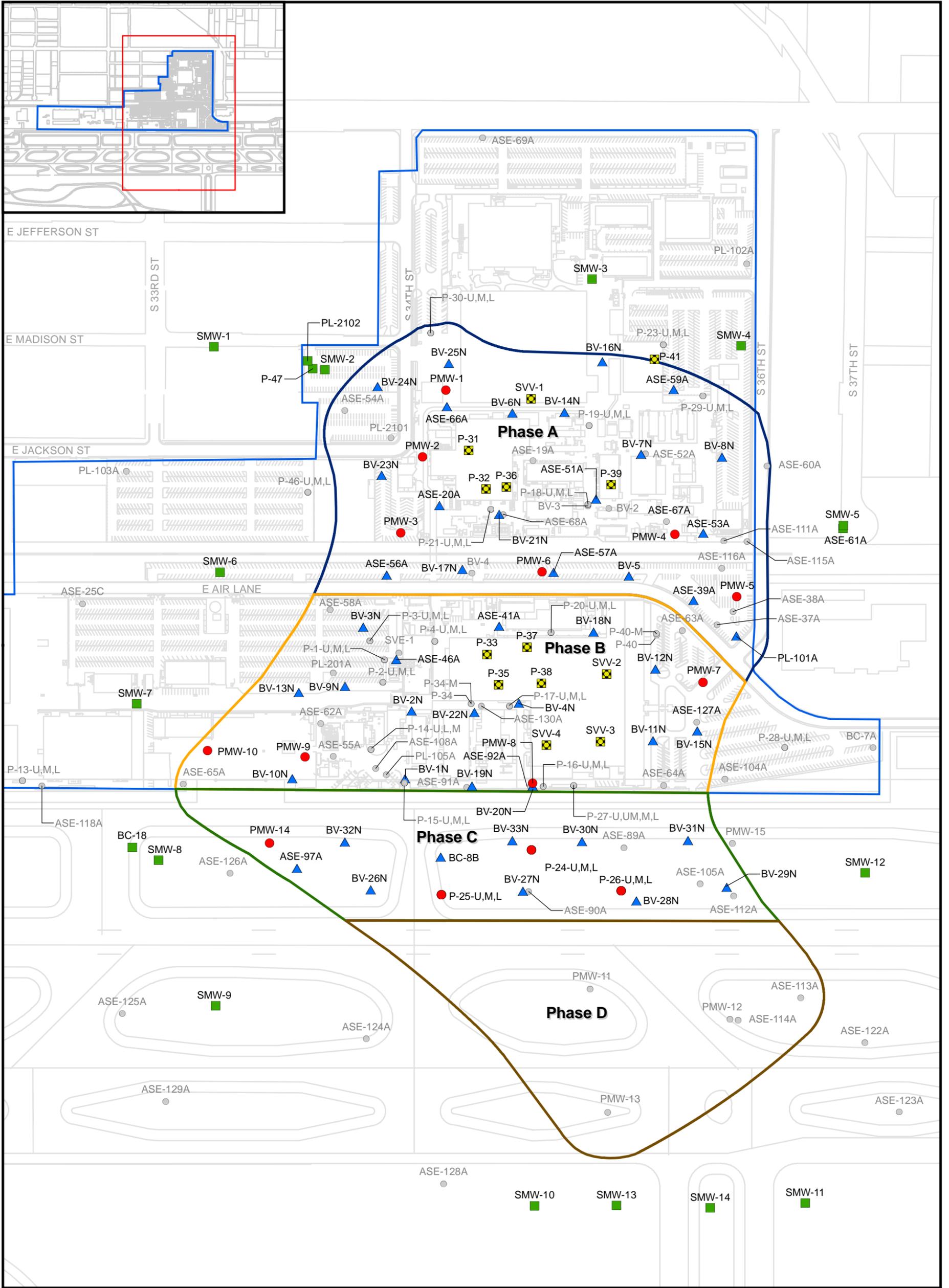


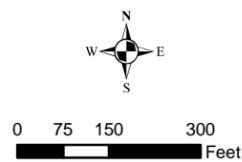
FIGURE 1-1
FACILITY LOCATION AND LAYOUT
Honeywell 34th Street Facility
Phoenix, Arizona



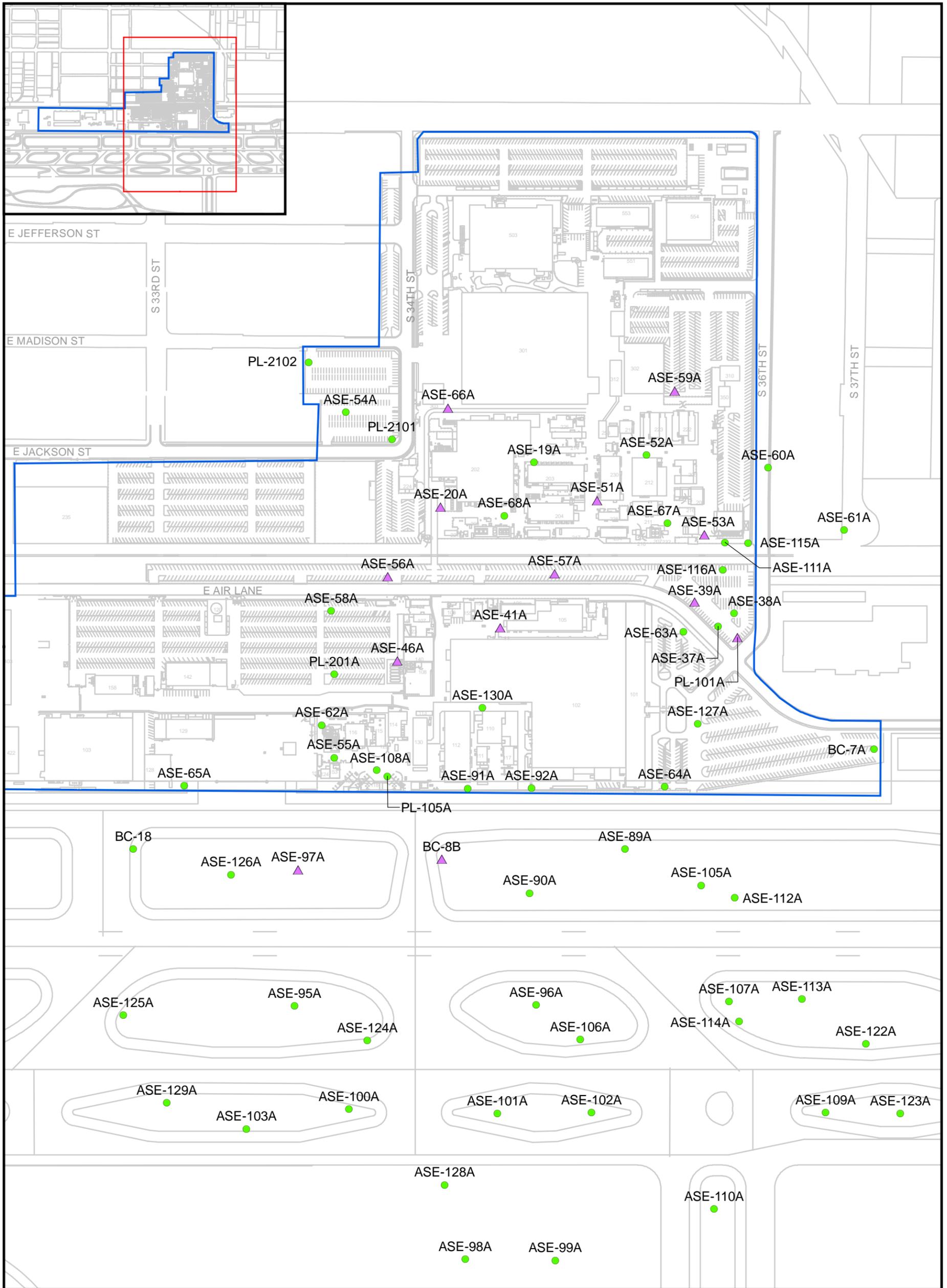
Legend

- ▲ Injection/Extraction Well
- Process Monitoring Well
- Sentinel Monitoring Well
- Honeywell Monitoring Well
- Sub-slab Monitoring Well
- Street and Airport Features
- Honeywell Facility
- Honeywell-owned Property, Phase A
- Honeywell-leased Property, Phase B
- PSHIA Property North of Runway 8-26, Phase C
- PSHIA Property South of Runway 8-26, Phase D

Notes:
 1. BSVE = Biologically Enhanced Soil Vapor Extraction.
 2. Phase C Injection/Extraction Wells not currently connected to the BSVE system.
 3. Groundwater wells with a top of screen less than or equal to 75 feet below ground surface presented in figure.
 4. Utility Vault and Manhole Monitoring locations not presented.

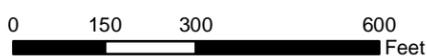


**FIGURE 1-2
 BSVE SYSTEM SOIL VAPOR
 MONITORING WELL NETWORK**
*Honeywell 34th Street Facility
 Phoenix, Arizona*



Legend

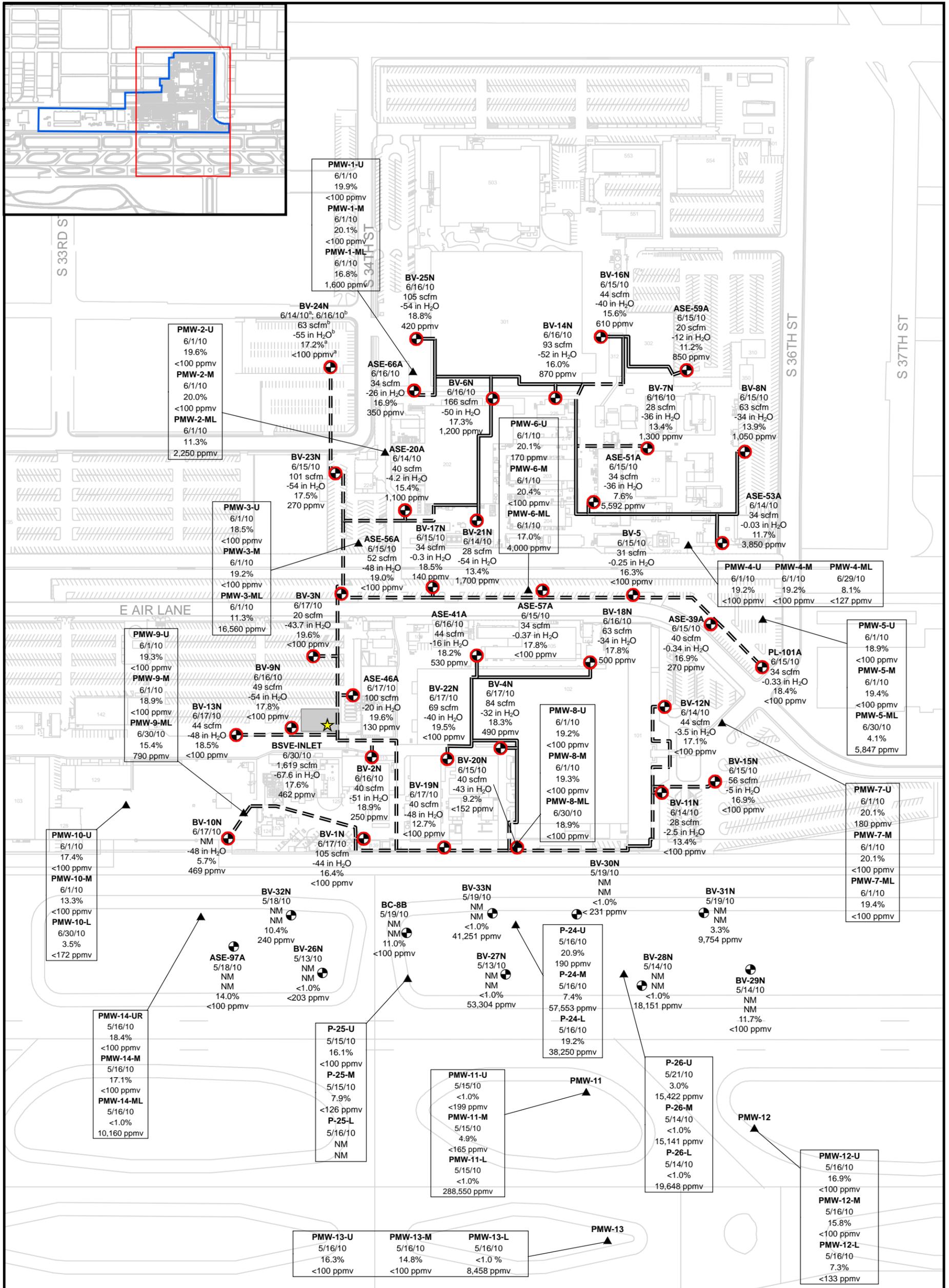
- UST Groundwater Monitoring Well
- ▲ UST Groundwater Monitoring Well Connected to BSVE System
- Street and Airport Features
- Honeywell Facility



- Notes:**
1. UST = Underground Storage Tank
 2. BSVE = Biologically Enhanced Soil Vapor Extraction

**FIGURE 1-3
UNDERGROUND STORAGE TANK
GROUNDWATER MONITORING
WELL NETWORK**

*Honeywell 34th Street Facility
Phoenix, Arizona*



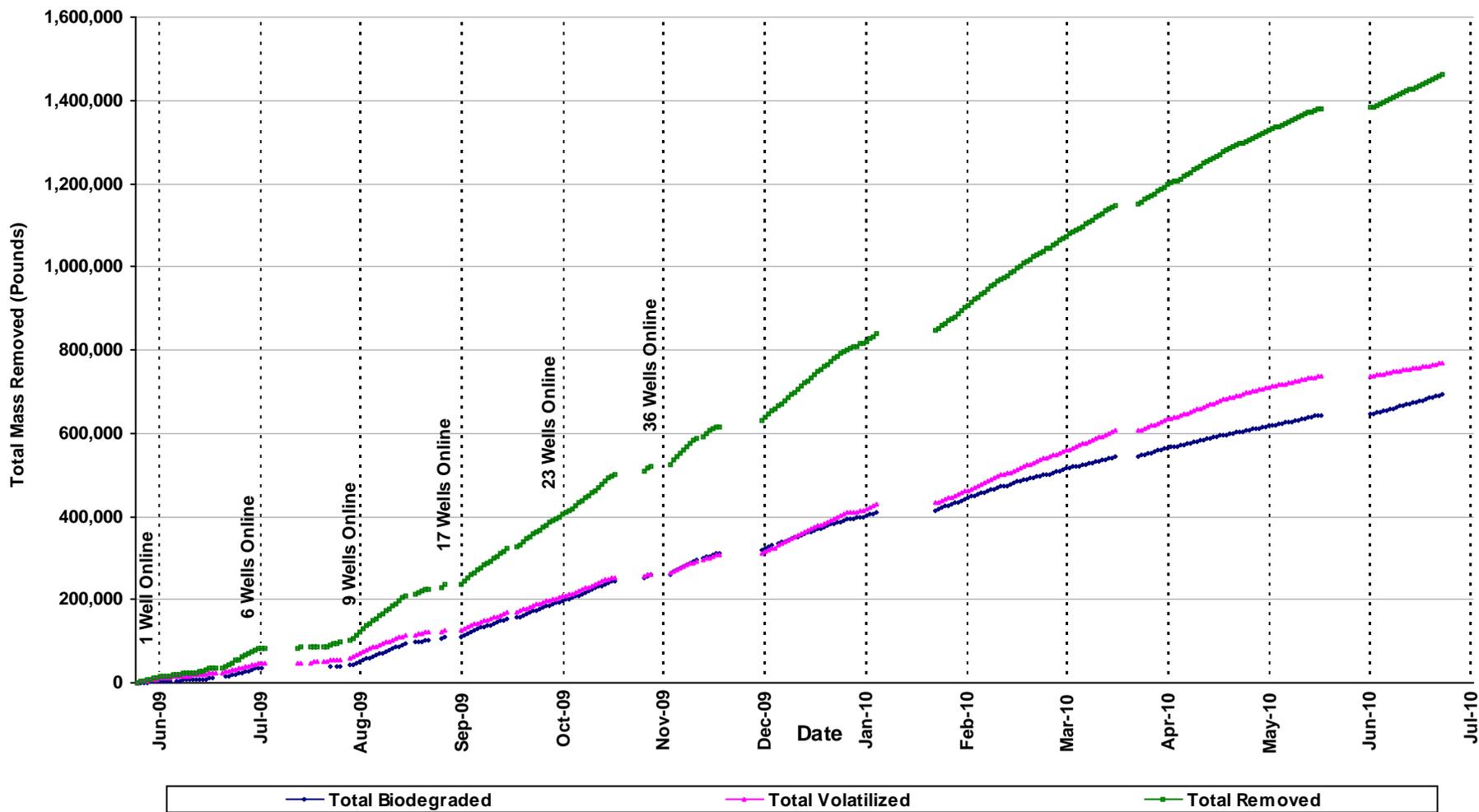
Legend

- ★ BSVE Inlet
 - BSVE Injection/Extraction Well (Offline)
 - ⊕ BSVE Injection/Extraction Well (Extraction Mode)
 - ▲ Process Monitoring Well
 - ==== Above Grade Piping
 - == Below Grade Piping
- | | |
|---|---|
| <ul style="list-style-type: none"> BV-19N — Location ID 6/17/10 — Monitoring Date 40 scfm — Flow Rate -48 in H₂O — Pressure 12.7% — Oxygen <100 ppmv — TPH | <ul style="list-style-type: none"> PMW-10-L — Location ID 6/30/10 — Monitoring Date 3.5% — Oxygen <172 ppmv — TPH |
|---|---|



- Notes:**
1. BSVE = Biologically Enhanced Soil Vapor Extraction
 2. TPH = Total Petroleum Hydrocarbons
 3. scfm = standard cubic feet per minute
 4. in H₂O = inches of water
 5. % = percent
 6. ppmv = parts per million volume
 7. NM = Not Measured
 8. a = Data measured on 6/14/10; b = Data measured on 6/16/10.
 9. All Phase A and B BSVE wells connected as of October 2009.
 10. Phase C Injection/Extraction wells not currently connected to the BSVE system.

FIGURE 2-1
BSVE WELL AND
PROCESS MONITORING WELL
OPERATIONAL DATA
SECOND QUARTER 2010
Honeywell 34th Street Facility
Phoenix, Arizona

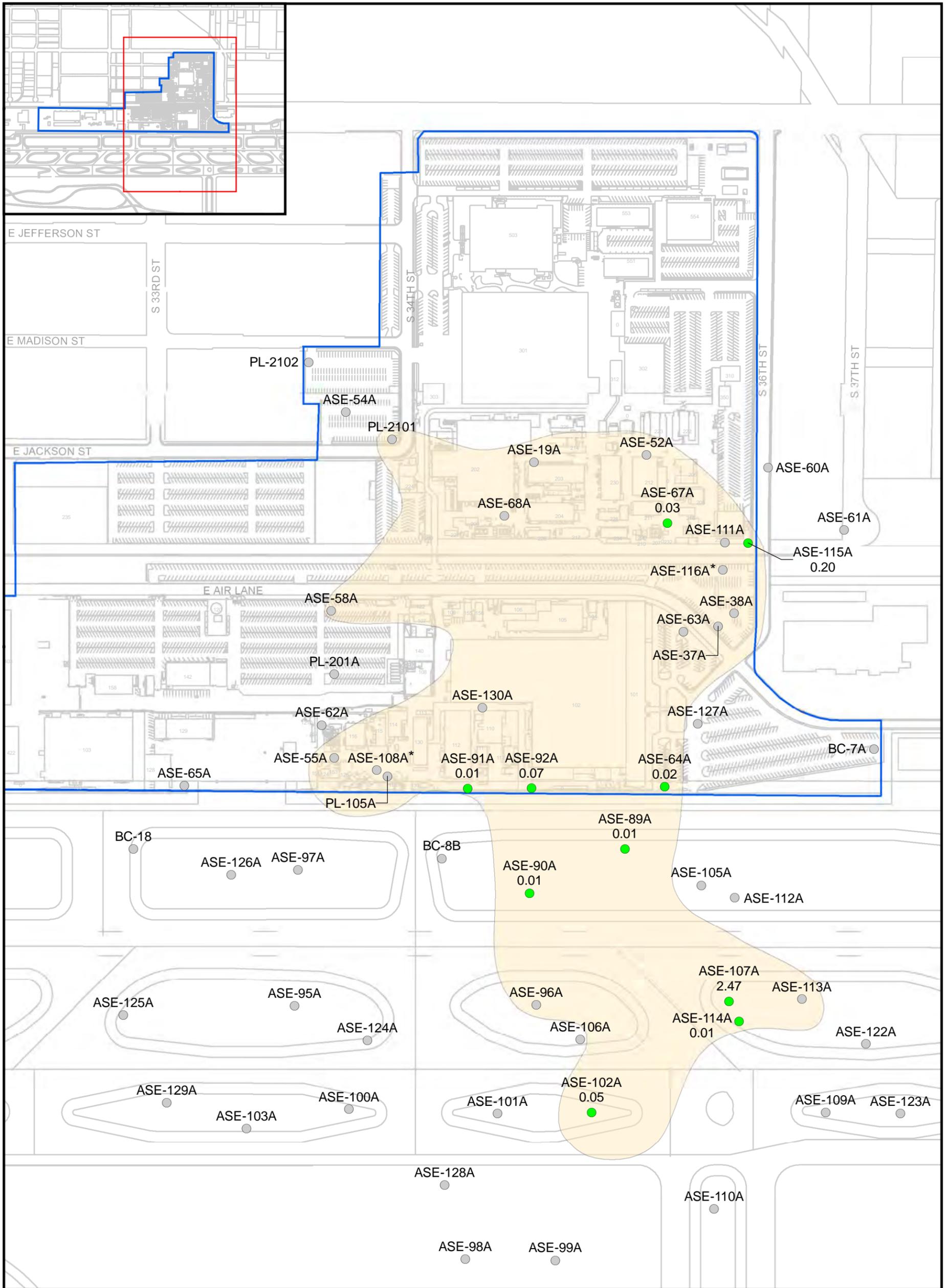


Notes:

1. Total mass removed via biodegradation based on oxygen concentrations was estimated following the equation presented in Standard Operating Procedure 4.6, *Calculations for Mass Removal Estimations*, provided in Volume 2 of the BSVE O&M Manual (CH2M HILL, 2010a).
2. Total mass removed via volatilization was estimated based on British thermal unit (BTU) consumption as measured at the thermal oxidation unit following the equation presented in Standard Operating Procedure 4.6, *Calculations for Mass Removal Estimations*, provided in Volume 2 of the BSVE O&M Manual (CH2M HILL, 2010a).

**FIGURE 2-2
CUMULATIVE MASS REMOVAL BY BIODEGRADATION AND
VOLATILIZATION**

*Honeywell 34th Street Facility
Phoenix, Arizona*



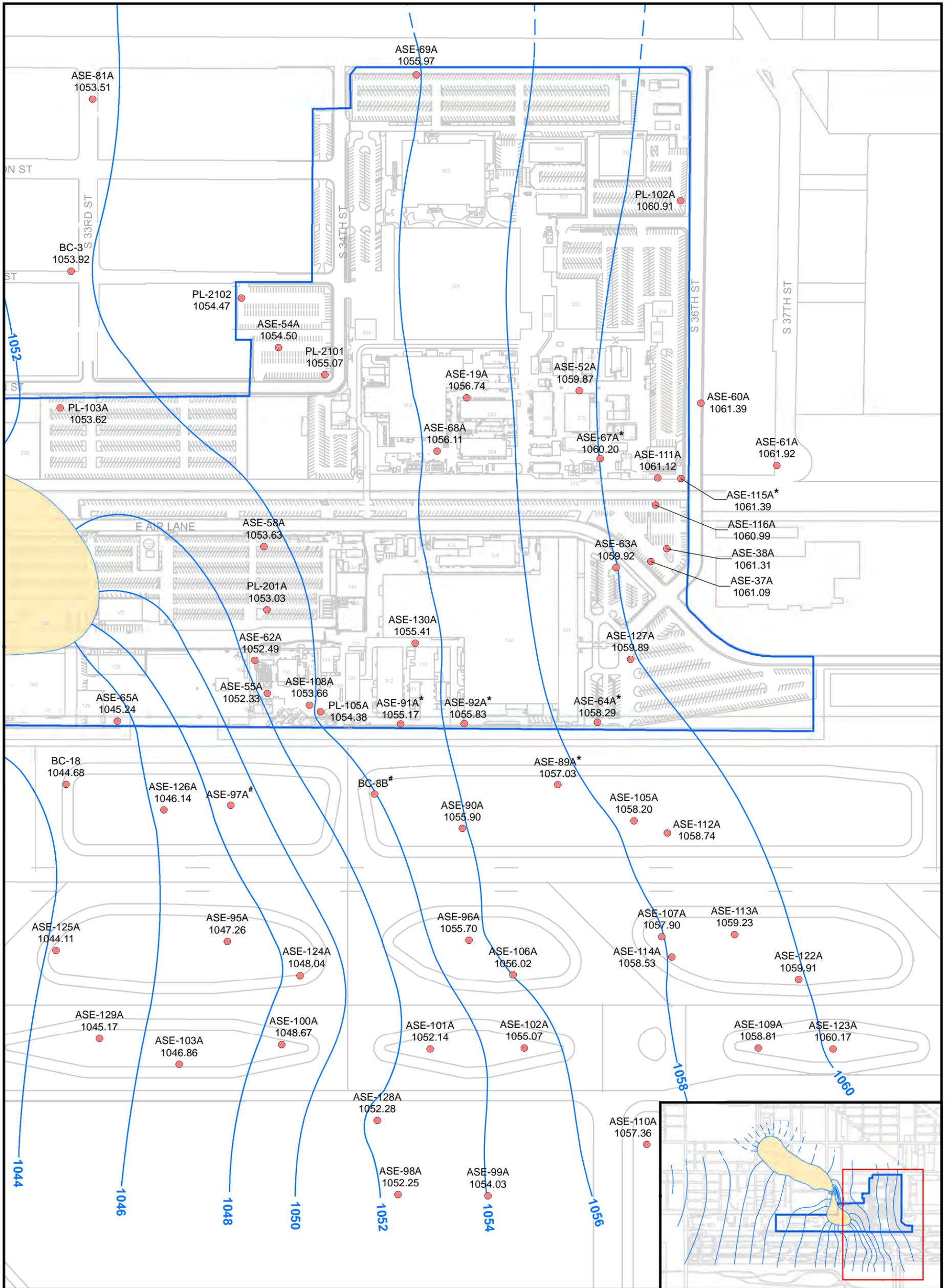
Legend

- Free Product Detected (thickness provided in feet)
- Free Product Not Detected
- Street and Airport Features
- Honeywell Facility
- Historical Free-Product Extent (as of June 30, 2010)



Notes:
 1. The maximum free-product thickness measurement collected during the quarter is posted for monitoring wells that contained free product during the quarter.
 2. * Free product has not been observed in monitoring wells ASE-108A and ASE-116A. These wells are included within the historical free-product extent due to their proximity to wells that have contained free product.

**FIGURE 3-1
 MAXIMUM
 FREE-PRODUCT THICKNESS
 SECOND QUARTER 2010
 Honeywell 34th Street Facility
 Phoenix, Arizona**



Legend

- ASE-128A 1052.28 Well Identifier
Water-level Elevation, in feet above mean sea level
- Water-level Contours (ft amsl)
(dashed where inferred)
- Honeywell Facility
- Honeywell Bedrock Rise

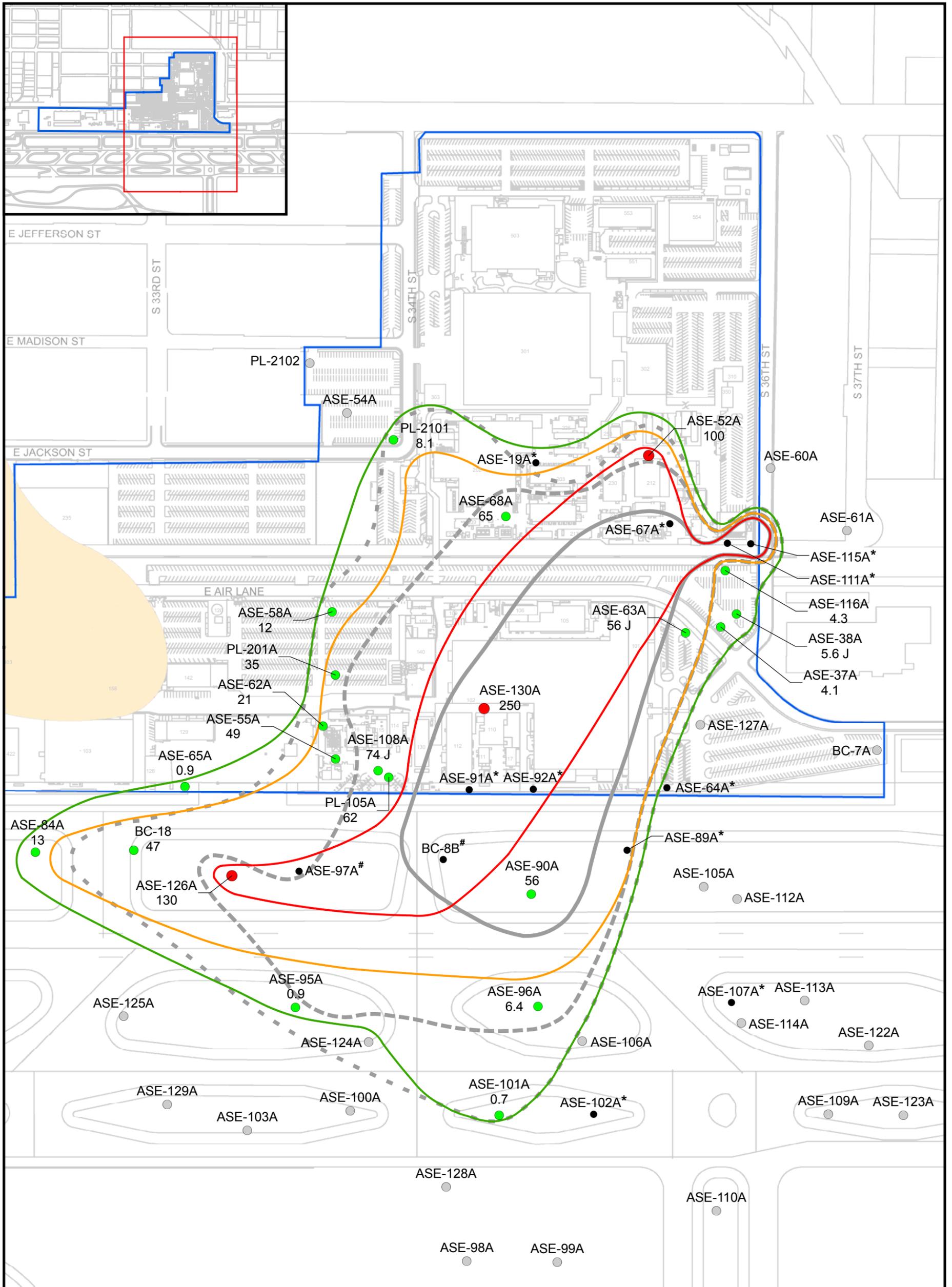


0 150 300 600 Feet

Notes:

1. All measurements recorded between June 5 and June 6, 2010.
2. * Monitoring well contained free product. Value represents corrected water-level elevation based on a free-product specific gravity of 0.81. Value not used to produce contours.
3. # Indicates water level not measured due to connection of monitoring well to the BSVE system.

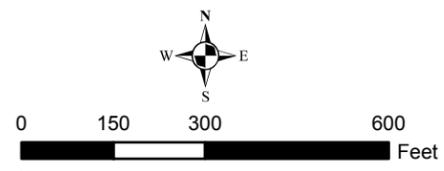
FIGURE 3-2
WATER-LEVEL CONTOURS
JUNE 2010
SUB-UNIT A
Honeywell 34th Street Facility
Phoenix, Arizona



Legend

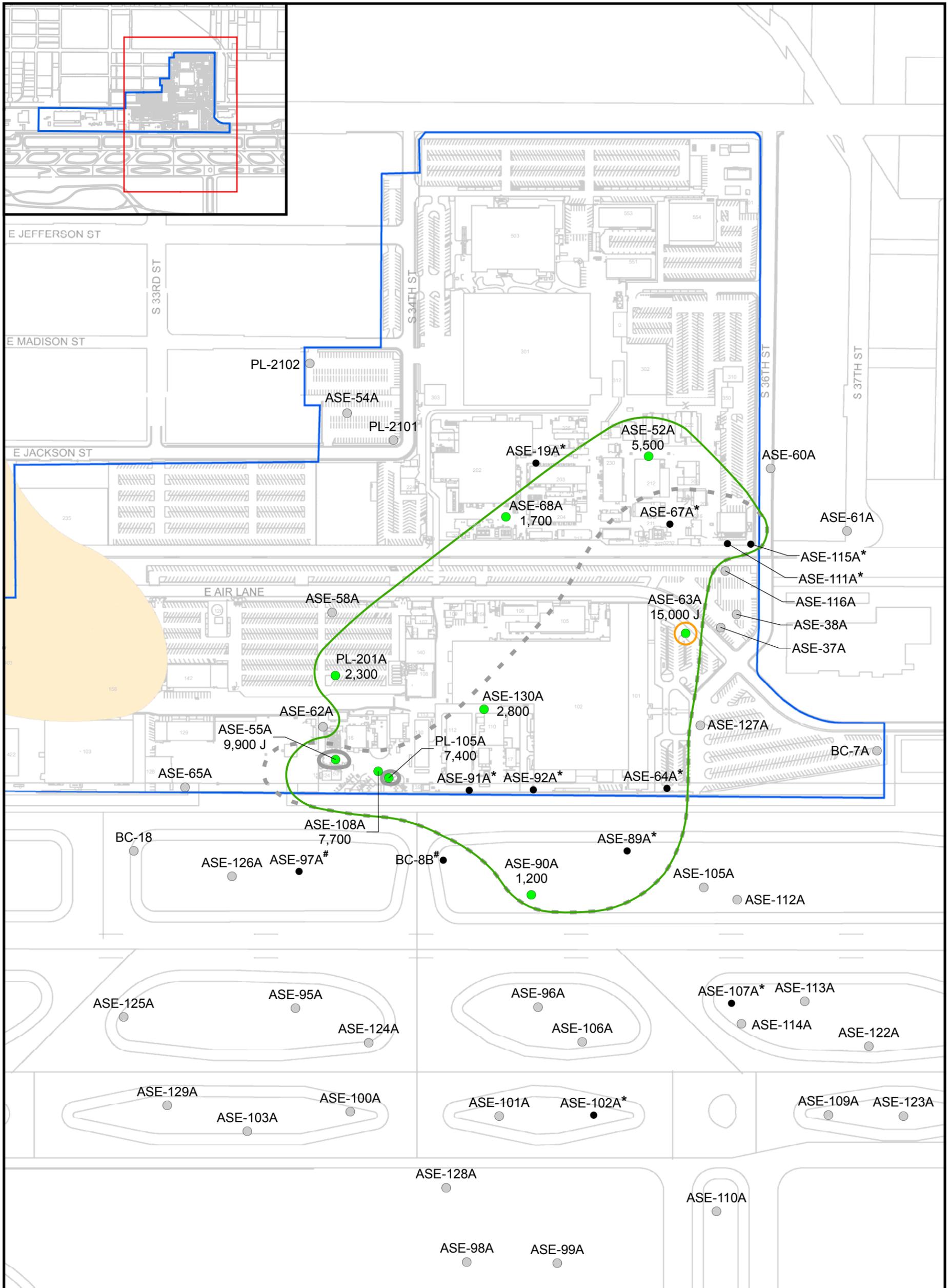
- Compound Not Detected
- Compound Detected (µg/L)
- Corrective Action Standard Exceeded
- Well Not Sampled
- Street and Airport Features
- ▭ Honeywell Facility
- ▭ Honeywell Bedrock Rise

- June 2010**
- ▭ Not Detected Above Reporting Limit
 - ▭ 20 µg/L
 - ▭ 94 µg/L
- March 2010**
- ▭ Not Detected Above Reporting Limit
 - ▭ 20 µg/L
 - ▭ 94 µg/L



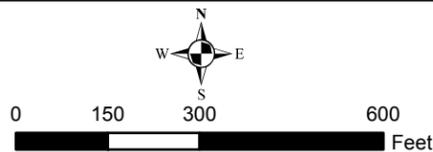
Notes:
 1. µg/L = micrograms per liter
 2. The Arizona Department of Environmental Quality Tier 1 Corrective Action Standard is 94 µg/L.
 3. The Arizona Department of Environmental Quality Investigative Level is 20 µg/L.
 4. J = Analyte detected, but concentration estimated by laboratory.
 5. Samples collected between June 7, 2010 and June 11, 2010.
 6. * Indicates monitoring well not sampled due to presence of free product per CH2M HILL, 2008a.
 7. # Indicates monitoring well not sampled due to connection to BSVE system.

FIGURE 3-4
METHYL TERT-BUTYL ETHER
JUNE 2010
GROUNDWATER PARAMETERS
Honeywell 34th Street Facility
Phoenix, Arizona



Legend

- Compound Not Detected
 - Compound Detected (µg/L)
 - Well Not Sampled
 - Street and Airport Features
 - ▭ Honeywell Facility
 - ▭ Honeywell Bedrock Rise
- June 2010**
- ▭ 1,000 µg/L (Reporting Limit)
 - ▭ 10,000 µg/L
- March 2010**
- ▭ 1,000 µg/L
 - ▭ 10,000 µg/L



- Notes:**
1. µg/L = micrograms per liter
 2. Value posted is the sum of C10 through C32 compounds.
 3. J = Analyte detected, but concentration estimated by laboratory.
 4. Samples collected between June 7, 2010 and June 11, 2010.
 5. * Indicates monitoring well not sampled due to presence of free product per CH2M HILL, 2008a.
 6. # Indicates monitoring well not sampled due to connection to BSVE system.
 7. Wells not sampled due to the presence of free product were included within the 1,000 µg/L contour if when last sampled their concentrations exceeded 1,000 µg/L.

FIGURE 3-6
TOTAL RECOVERABLE
PETROLEUM HYDROCARBONS
JUNE 2010
GROUNDWATER PARAMETERS
Honeywell 34th Street Facility
Phoenix, Arizona

Appendix A
Status of Deliverables

APPENDIX A

Status of Deliverables

The following is a list of deliverables submitted through Second Quarter 2010, since the Site Characterization Report (dated August 23, 2002) was submitted to ADEQ:

- On May 27, 2010, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *First Quarter 2010 Remediation Status Report, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.20.*
- On April 26, 2010, CH2M HILL, on behalf of Honeywell submitted to ADEQ the August 2009 and February 2010 semi-annual air monitoring report data required by Section 34.D.3 of the Title V Air Quality Operating Permit No. V97-008 for the *BSVE System, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.20.*
- On March 1, 2010, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Fourth Quarter 2009 Remediation Status Report, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.20.*
- On December 30, 2009, CH2M HILL, on behalf of Honeywell, submitted to ADEQ an updated *Operation and Maintenance Plan for the Biologically-enhanced Soil Vapor Extraction System, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File No. 0393.02-.10, .15-.20.*
- On November 25, 2009, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Third Quarter 2009 Remediation Status Report, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.20.*
- On September 18, 2009, CH2M HILL, on behalf of Honeywell, submitted to ADEQ a copy of MCAQD's approval letters for the four BSVE performance test protocols (dated August 20, 2009) and the Response to Comments on Test Plans for Performance Testing and 14-day notification letter that was submitted to MCAQD on September 11, 2009.
- On August 31, 2009, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Second Quarter 2009 Remediation Status Report, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.20.*
- On July 23, 2009, CH2M HILL, on behalf of Honeywell, submitted to ADEQ a copy of the four BSVE performance test protocols that were submitted to MCAQD on July 21, 2009.
- On May 28, 2009, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *First Quarter Status Report for 2009, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.20.*
- On May 12, 2009, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Operation and Maintenance Plan for the Biologically-enhanced Soil Vapor Extraction System, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File No. 0393.02-.10, .15-.17.*

- On February 27, 2009, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Fourth Quarter Status Report for 2008, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.20.*
- On February 10, 2009, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Response to January 6, 2009 Comments on the Operation and Maintenance Manual for the Biologically-enhanced Soil Vapor Extraction System, Honeywell 34th Street Facility, LUST File #0393.02-.10, .15-.20.*
- On December 19, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Second Baseline Soil Vapor Sampling Report, Honeywell 34th Street Facility, Facility ID #0-002227, LUST File #0393.02-.10, .15-.20.*
- On December 1, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Third Quarter Status Report for 2008, Honeywell 34th Street Facility, Facility ID #0-002227, LUST File #0393.02-.10, .15-.17.*
- On November 20, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *draft Startup Plan for the Biologically Enhanced Soil Vapor Extraction System, Honeywell 34th Street Facility.*
- On November 7, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Final Biologically-enhanced Soil Vapor Extraction System Operations and Maintenance Plan, Honeywell 34th Street Facility, Facility ID #0-002227, LUST File #0393.02-.10, .15-.17.*
- On October 24, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *First Baseline Soil Vapor Sampling Report, Honeywell 34th Street Facility, Facility ID #0-002227, LUST File #0393.02-.10, .15-.17.*
- On October 3, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Groundwater Sampling and Free-product Monitoring and Recovery Plan, Honeywell 34th Street Facility, Facility ID #0-002227, LUST File #0393.02-.10, .15-.17.*
- On September 26, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ a technical memorandum titled, *Investigation of Concrete Conduit Encountered During BSVE Construction, Honeywell 34th Street Facility, Phoenix, Arizona.*
- On August 26, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Second Quarter Status Report for 2008, Honeywell 34th Street Facility, Facility ID #0-002227, LUST File #0393.02-.10, .15-.17.*
- On June 17, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Honeywell 34th Street Facility, BSVE North of Runway 8-26 Phase Design Basis Report (PSHIA side), Facility ID #0-002227, LUST File #0393.02-.10, .15-.17.*
- On May 23, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *First Quarter Status Report for 2008, Honeywell 34th Street Facility, Facility ID #0-002227, LUST File #0393.02-.10, .15-.17.*
- On April 18, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ an update to the *Non-Process Soil Vapor Monitoring Program, Honeywell 34th Street Facility, Facility ID #0-002227, LUST File #0393.02-.10, .15-.17.*

- On February 26, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Fourth Quarter Status Report for 2007, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17.*
- On February 20, 2008, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Biologically-Enhanced Soil Vapor Extraction Underground Process Pipeline Installation – Soil Observation Plan.*
- On February 19, 2008, Honeywell submitted a letter to ADEQ requesting approval for modification to the approved CAP to revise the BSVE remediation project schedule based on receipt of Maricopa County’s approval of Honeywell’s air permit modification.
- On November 21, 2007, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Third Quarter Status Report for 2007, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17.*
- On August 22, 2007, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Second Quarter Status Report for 2007, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17.*
- On August 17, 2007, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Non-Process Soil Vapor Monitoring Program, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17.*
- On August 17, 2007, CH2M HILL, on behalf of Honeywell, submitted to ADEQ a courtesy copy of the revised BSVE design package that was submitted to the COP Development Services Department on August 9, 2007 and the Aviation Department’s Tenant Improvement group on August 10, 2007. This package was composed of design drawings, specifications, and a Tenant Improvement Plan.
- On May 23, 2007, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *First Quarter Status Report for 2007, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17.*
- On May 15, 2007, Honeywell submitted to ADEQ a technical memorandum titled, *Evaluation of Well Dilution Effects, Honeywell 34th Street Facility and Phoenix Sky Harbor International Airport, Phoenix, Arizona.*
- On April 30, 2007, CH2M HILL, on behalf of Honeywell, submitted to ADEQ a courtesy copy of the BSVE design package that was submitted to the COP Development Services Department and the Aviation Department’s Tenant Improvement group. This package was composed of design drawings, specifications, and a Tenant Improvement Plan.
- On March 19, 2007, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Biologically Enhanced SVE with Product Recovery System Design Basis Report Honeywell International 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17.*
- On February 27, 2007, Honeywell submitted a letter to ADEQ requesting approval for modification to the approved CAP to reflect delays in obtaining the BSVE air permit and adjust the frequency of manual free-product monitoring and recovery.

- On February 27, 2007, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Fourth Quarter Status Report for 2006, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15-.17.*
- On November 29, 2006, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Third Quarter Status Report for 2006, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15.*
- On November 29, 2006, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Field Sampling Plan for PSHIA Subsurface Utility Vaults for Baseline Air Sampling Using EPA Method TO-15, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15.*
- On October 20, 2006, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Air Injection Pilot Test Report Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15.*
- On September 15, 2006, Honeywell submitted a letter to ADEQ proposing to modify the scheduled submittal dates of quarterly status reports such that future reports are submitted to ADEQ no later than 60 days following the end of each calendar quarter.
- On August 3, 2006, Honeywell submitted to ADEQ a letter "Modification to Final Air Injection Pilot Test Work Plan, dated October 4, 2005," that explained the method for conducting a short-term pilot test and the plan for implementation on PSHIA Property.
- On July 20, 2006, Honeywell submitted to ADEQ a letter that explained the status of the pilot test, Honeywell's agreement with the City of Phoenix to evaluate the BSVE design (assuming 8-percent oxygen utilization rate) and the status of the air permit applications.
- On July 14, 2006, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Second Quarter Status Report for 2006, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15.*
- On April 14, 2006, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *First Quarter Status Report for 2006, Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File Nos. 0393.02-.10, .15.*
- On March 2, 2006, Honeywell submitted to ADEQ the *Proposed Modification to Honeywell's Groundwater Sampling, Free Product Monitoring and Recovery Plan – Total Recoverable Petroleum Hydrocarbons Analytical Method, LUST File #0393.02-.10, .15, Facility ID #0-002227.*
- On January 16, 2006, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Quarterly Status Report, Quarter 1 (October 17, 2005 to January 15, 2006), Honeywell 34th Street Facility, Facility ID No. 0-002227, LUST File No. 0393.02-.10, .15.*
- On January 13, 2006, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Soil Vapor Field Sampling Report, Honeywell 34th Street Facility, 111 S. 34th Street, Phoenix, Arizona.*

- On December 9, 2005, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *LUST Field Sampling Plan – Groundwater Sampling, Free Product Monitoring and Recovery Plan*.
- On December 7, 2005, CH2M HILL, on behalf of Honeywell, submitted to Maricopa County (1) the Revised Air Permit Application for BSVE and (2) the Air Permitting Evaluation for Air Injection Pilot Study. On December 19, 2005, copies of the Revised Air Permit Application for BSVE were sent to ADEQ, City of Phoenix Aviation Department, and USEPA.
- On November 17, 2005, CH2M HILL, on behalf of Honeywell, submitted to ADEQ's LUST Enforcement Unit a letter that explained the reasons for the differences in the timeline for "Startup and Initial Testing" presented in the revised schedule (Revised Figure 32, attachment to the November 2, 2005 letter) and the original schedule in the CAP.
- On November 2, 2005, CH2M HILL, on behalf of Honeywell, submitted to ADEQ's LUST Enforcement Unit a letter that provided a status update on several aspects of the CAP implementation and on the conditions established in ADEQ's October 7, 2005 CAP approval letter. Attachments to this letter included: (1) revised Figure 32 – Remedial Alternative 3 Implementation Schedule, (2) free-product thickness map, October 2005, (3) list of site characterization activities since submittal of the *Site Characterization Report*, (4) updated site characterization figures and tables, (5) boring logs, and (6) a compact disc containing analytical and monitoring well measurement data.
- On October 20, 2005, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Work Plan for Additional Characterization of LUST File #0393.15 – JP-4 Fuel Pipeline Release at the Honeywell 34th Street Facility*.
- On October 4, 2005, Honeywell submitted to ADEQ the *Final Air Injection Pilot Test Work Plan, Honeywell 34th Street Facility and Phoenix Sky Harbor International Airport North Airfield, Phoenix, Arizona*.
- On September 19, 2005, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Quality Assurance Project Plan, Honeywell 34th Street Facility*.
- On September 7, 2005, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Work Plan for Phase III Monitoring Well Installation on Honeywell Leasehold and Phoenix Sky Harbor International Airport, Honeywell 34th Street Facility*.
- On August 22, 2005, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Work Plan for Installation of Multi Level Soil Vapor Monitoring Wells and Shallow/Sub-slab Soil Vapor Monitoring Points, Honeywell 34th Street Facility*.
- On July 11, 2005, CH2M HILL, on behalf of Honeywell, submitted to ADEQ the *Soil Vapor Baseline Sampling and Analysis Plan, Honeywell 34th Street Facility*.
- On July 1, 2005, Honeywell submitted to ADEQ's Tank Programs Division the *Free Product Report – LUST File #0393.15 – JP-4 Fuel Line from UST #203*.

- On June 13, 2005, Honeywell submitted to ADEQ's Tank Programs Division the *Initial Site Characterization Report – LUST File #0393.15 – JP-4 Fuel Line from UST #203*.
- On March 29, 2005, Honeywell submitted to ADEQ's Tank Programs Division the *14-day Report – LUST File #0393.15 – JP-4 Fuel Line from UST #203*.
- On November 15, 2004, CH2M HILL, on behalf of Honeywell, submitted to ADEQ's UST Corrective Action Section responses to ADEQ's September 30, 2004 comments on Honeywell's July 30, 2004 *Revised Corrective Action Plan*. The corresponding replacement pages of the revised text, tables, and figures of the Revised CAP were also submitted.
- On July 30, 2004, CH2M HILL, on behalf of Honeywell, submitted the *Revised Corrective Action Plan* to ADEQ's UST Corrective Action Section. The revised CAP supersedes and replaces the original July 18, 2003, CAP.
- On May 27, 2004, Honeywell submitted a three-ring binder to ADEQ's UST Corrective Action Section titled *Supporting Material, UST Informal Settlement Conference, May 28, 2004*.
- On May 7, 2003, CH2M HILL, on behalf of Honeywell, submitted to ADEQ a technical memorandum titled *Summary of Results from the Bioventing/SVE Pilot Study February 24 through March 1, 2003*.
- On May 1, 2003, Honeywell submitted to ADEQ's UST Corrective Action Section the *Free-product Report, Honeywell International Inc., 34th Street Facility, Phoenix, Arizona, Facility ID# 0-002227, LUST File Nos. 0393.02 -.10*.
- On December 18, 2002, Honeywell submitted to ADEQ's UST Corrective Action Section *Supplemental Site Characterization Information for the Honeywell International Inc., 34th Street Facility, Phoenix, Arizona, Facility ID# 0-002227, LUST File Nos. 0393.02 -.10*.
- On August 23, 2002, CH2M HILL, on behalf of Honeywell, submitted to ADEQ's UST Corrective Action Section the *Site Characterization Report*.

Appendix B
Oxygen Uptake Testing Technical Memorandum

Report of Oxygen Uptake Testing May - June 2010

PREPARED FOR: Doug Ashline/PHX
PREPARED BY: Baine Foehr/PHX, Jim Hartley/SAC
DATE: June 11, 2010

An objective of the BSVE system is to remove hydrocarbons through in-situ bio-respiration. The rate of this process depends on the concentration of hydrocarbons present and soil conditions that promote the respiration, including the dissolved oxygen in soil moisture. The effective rate of bio-respiration can be estimated from the rate of oxygen consumption when the BSVE system is inactive; in 2010, there are plans to conduct two formal oxygen uptake tests (from all 30 Process Monitoring Well (PMW) ports in Phases A & B) and up to four opportunistic tests during unscheduled system downtimes.

The first formal oxygen uptake test was performed over a one week period between March 22 and March 28, 2010. This memorandum presents the data collected from the second formal oxygen uptake test of 2010, carried out between Monday, May 24 and Monday, June 7. During this time the BSVE system was turned off and not extracting or injecting soil vapor for approximately 14 days.

During this test, all 30 PMW ports in Phases A and B and the open screened portion of ASE-65A were monitored for oxygen decay in order to calculate respiration rates. Daily measurements were collected from all ports directly before the shutdown, as well as on the morning after the shutdown. Following this initial monitoring, the measurements were collected according to the following schedule:

- PMW-ML or -L: Daily measurements
- PMW-M: Monday-Wednesday-Friday measurements
- PMW-U: Monday and Friday measurements
- Wells below 5% Oxygen: One measurement below 5%, then Monday and Friday

This frequency was adhered to for the first week, after which time the data trends were evaluated to optimize later measurements. The first weekend included the Memorial Day holiday, so a limited number of strategic readings were collected on that Monday. All wells that were still above 5% were then monitored once every three days, on three occasions, with the last measurement on June 7, 2010. In this way, the number of oxygen measurements ranged from six to ten, including the background value collected on May 23, 2010. A total of 229 measurements were made from 31 ports at 11 locations across the site. The measured values are presented in Table 1.

The most significant oxygen decay occurred within the deep vadose zone. Table 2 shows the estimated respiration rates for the lower ports measured in the most recent respiration testing event, with the previous two events presented for comparison. The average respiration rate in deep ports has fluctuated from a maximum of 2.2% per day in February to a minimum of 0.8% per day in March, and was observed to be 1.4% per day during the May-June 2010 testing. The maximum respiration rate has stayed nearly constant from February (5% per day) to May-June (5.3% per day), but was observed to be lower in the March respiration testing (1.8% per day). This is consistent with the data presented in Table 3, which shows that the March respiration testing resulted in the fewest deep piezometers showing higher rates of oxygen decay.

Charts of the oxygen measurements over time are presented for all ports on Figures 1 through 6. The estimates of decay rate basis and the calculations are shown on Table 4.

The method employed for using this information to estimate the mass degradation rate for the entire site takes the average decay rate for all ports, and applies it to the entire treatment volume. The rate used as the average of all ports is 0.53%/day. This calculation is shown on Table 4.

Tables

Table 1

Respiration Testing Results, May 23, 2010 through June 7, 2010
 Honeywell 34th Street Facility, Phoenix, Arizona

		Week 1								Week 2						Week 3																	
		Sunday 5/23/2010		Monday 5/24/2010		Tuesday 5/25/2010		Wednesday 5/26/2010		Thursday 5/27/2010		Friday 5/28/2010		Saturday 5/29/2010		Sunday 5/30/2010		Monday 5/31/2010		Tuesday 6/1/2010		Wednesday 6/2/2010		Thursday 6/3/2010		Friday 6/4/2010		Saturday 6/5/2010		Sunday 6/6/2010		Monday 6/7/2010	
Probe	Port	O ₂ %	Time	O ₂ %	Time	O ₂ %	Time	O ₂ %	Time	O ₂ %	Time	O ₂ %	Time			O ₂ %	Time	O ₂ %	Time			O ₂ %	Time			O ₂ %	Time			O ₂ %	Time		
PMW-1	U	19.4	1152	19.5	1157							20.9	833	NA	NA			19.9	848	NA	NA	20	822	NA	NA	20.2	725			20.9	729		
	M	19.7	1156	19.7	1202			20.9	1015			20.9	838	NA	NA			20.1	903	NA	NA	20.3	826	NA	NA	20.9	729			20.9	729		
	ML	17.4	1201	17.4	1210	18.2	1029	18.2	1022	17.7	930	17.9	845	NA	NA			16.8	926	NA	NA	16.6	835	NA	NA	16.3	740			16.3	740		
PMW-2	U	19.2	1210	19.5	1228							20.9	812	NA	NA			19.6	748	NA	NA	19.7	800	NA	NA	20	653			20	653		
	M	19.3	1214	19.5	1234			20.6	1035			20.9	817	NA	NA			20	812	NA	NA	20.1	805	NA	NA	20.4	658			20.4	658		
	ML	17.5	1220	17.0	1240	17.2	1050	15.3	1042	15.3	938	13.9	825	NA	NA	12.3	905	11.3	828	NA	NA	8.9	816	NA	NA	6.8	712			6.8	712		
PMW-3	U	18.7	1053	18.6	1113							18.8	1040	NA	NA			18.5	1121	NA	NA	18.3	1000	NA	NA	18.9	1050			18.9	1050		
	M	19.2	1104	19.0	1117			19.5	1100			19.3	1044	NA	NA			19.2	1131	NA	NA	19	1007	NA	NA	19.8	1054			19.8	1054		
	ML	18.8	1115	18.6	1124	18.4	1112	17.2	1115	16.2	955	15.3	1050	NA	NA	13.1	840	11.3	1144	NA	NA	7	1016	NA	NA	5.6	1100			5.6	1100		
PMW-4	U	19.2	1130	19.1	1136							20.3	856	NA	NA			19.2	944	NA	NA	19.3	842	NA	NA	19.2	750			19.2	750		
	M	19.3	1138	19.3	1140			19.9	1100			20.1	902	NA	NA			19.2	956	NA	NA	19.1	846	NA	NA	19	756			19	756		
	ML	2.3	1142	2.1	1147							<1	910	NA	NA			<1	1011	NA	NA	<1	900	NA	NA	<1	809			<1	809		
PMW-5	U	19.4	1205	19.9	1115							19.2	1118	NA	NA			18.9	1229	NA	NA	18.9	1035	NA	NA	18.8	1030			18.8	1030		
	M	20.0	1213	20.3	1123			19.5	1142			19.9	1122	NA	NA			19.4	1234	NA	NA	19.3	1039	NA	NA	19.7	1038			19.7	1038		
	ML	9.4	1220	9.2	1137	9.3	1417	9.2	1150	9.2	1007	8.8	1127	NA	NA			7.5	1249	NA	NA	6.4	1045	NA	NA	6.2	1047			6.2	1047		
PMW-6	U	20.9	1120	20.3	1150							20.3	1100	NA	NA			20.1	1310	NA	NA	19.2	1055	NA	NA	19.5	1112			19.5	1112		
	M	20.9	1130	20.5	1158			20.1	1125			20.5	1104	NA	NA			20.4	1321	NA	NA	19.2	1059	NA	NA	19.5	1116			19.5	1116		
	ML	20.9	1147	20.3	1211	18.7	1446	18.7	1132	18.2	1016	18.3	1110	NA	NA			17	1334	NA	NA	15.3	1106	NA	NA	14.2	1122			14.2	1122		
PMW-7	U	20.2	1235	20.1	1223							19.8	1135	NA	NA			20.1	1350	NA	NA	18.8	1051	NA	NA	19.3	1132			19.3	1132		
	M	19.9	1240	19.9	1228			19.4	1200			19.9	1139	NA	NA			20.1	1400	NA	NA	19.1	1059	NA	NA	19.4	1136			19.4	1136		
	ML	20.1	1245	19.9	1240	18.7	1457	19.2	1210	18.9	1026	19.3	1145	NA	NA			19.4	1408	NA	NA	18.3	1107	NA	NA	18.8	1142			18.8	1142		
PMW-8	U	20.6	1050	20.8	1131							20.6	1035	NA	NA			19.2	912	NA	NA	19.2	918	NA	NA	20.4	810			20.4	810		
	M	20.6	1055	20.5	1135			20.6	1230			20.6	1041	NA	NA			19.3	921	NA	NA	19.7	925	NA	NA	20.9	817			20.9	817		
	ML	17.9	1102	17.8	1146	15.0	1512	14.2	1240	12.1	1047	10.1	1049	NA	NA	6.5	935	2.7	931	NA	NA	<1	933	NA	NA	<1	823			<1	823		
PMW-9	U	19.9	1136	19.6	1222							19	1130	NA	NA			19.3	1117	NA	NA	19.2	854	NA	NA	19.6	830			19.6	830		
	M	20.1	1121	19.7	1228			19.4	1318			18.7	1136	NA	NA			18.9	1127	NA	NA	18.1	901	NA	NA	18.3	837			18.3	837		
	ML	12.4	1128	12.8	1239	6.9	1527	5.9	1326	4.8	1101	3.3	1144	NA	NA			1	1138	NA	NA	<1	907	NA	NA	<1	845			<1	845		
PMW-10	U	18.9	1136	18.9	1247							17.7	1154	NA	NA			17.4	1011	NA	NA	17.6	830	NA	NA	17.6	900			17.6	900		
	M	15.4	1141	15.6	1253			13.6	1338			13.2	1200	NA	NA	14.3	959	13.3	1021	NA	NA	16	837	NA	NA	14	908			14	908		
	L	8.6	1150	8.1	1304	2.2	1532					0.9	1208	NA	NA			<1	1046	NA	NA	<1	844	NA	NA	<1	918			<1	918		
ASE-65A		20.3	1200	20.0	1450	15.2	1600	12.5	1358	12.5	1130	9.6	1228	NA	NA	7.5	1148	8.6	1205	NA	NA	4.3	738	NA	NA	3.5	959			3.5	959		

Notes:

NA = O₂ monitoring not scheduled

PMW = Process Monitoring Well

U = Upper

M = Middle

ML = Middle Low

Table 2

Average Respiration Rate in Lower Ports of Process Monitoring Wells

Honeywell 34th Street Facility, Phoenix, Arizona

	February	March	May
Maximum	5.00%	1.80%	5.30%
Minimum	0.00%	0.00%	0.10%
Average	2.20%	0.80%	1.40%

Table 3

Trend in Respiration Rate Frequency for Lower Ports of Process Monitoring Wells

Honeywell 34th Street Facility, Phoenix, Arizona

Estimated Decay Rate	Ports in February Event	Ports in March Event	Ports in May Event
below 1%	2	6	6
1-2%	3	3	2
>2%	4	0	2

Table 4

Calculation of Individual and Average Oxygen Respiration Rates

Honeywell 34th Street Facility, Phoenix, Arizona

Well	Port	Starting Measurement			Ending Measurement			Overall Rate		
		Date	Time	O ₂	Date	Time	O ₂	May	March	February
PMW-1	U	5/24/10	11:57	19.5	6/1/10	8:48	19.9	-0.1%	0.2%	NM
	M	5/24/10	12:02	19.7	6/1/10	9:03	20.1	-0.1%	0.2%	NM
	ML	5/24/10	12:10	17.4	6/7/10	7:40	16.3	0.1%	0.5%	0.9%
PMW-2	U	5/24/10	12:28	19.5	6/1/10	7:48	19.6	0.0%	0.1%	NM
	M	5/24/10	12:34	19.5	6/1/10	8:12	20	-0.1%	0.1%	NM
	ML	5/24/10	12:40	17	6/7/10	7:12	6.8	0.7%	0.8%	0.0%
PMW-3	U	5/24/10	11:13	18.6	6/4/10	10:00	18.3	0.0%	0.1%	NM
	M	5/24/10	11:17	19	6/4/10	10:07	19	0.0%	0.1%	NM
	ML	5/24/10	11:24	18.6	6/7/10	11:00	5.6	0.9%	1.0%	2.7%
PMW-4	U	5/24/10	11:36	19.1	6/1/10	9:44	19.2	0.0%	0.1%	NM
	M	5/24/10	11:40	19.3	6/7/10	7:56	19	0.0%	0.3%	NM
	ML	5/13/10	7:49	17.7	5/23/10	11:43	2.3	1.5%	1.8%	5.0%
PMW-5	U	5/24/10	11:15	19.9	6/1/10	12:29	18.9	0.1%	0.0%	NM
	M	5/24/10	11:23	20.3	6/4/10	10:39	19.3	0.1%	0.0%	NM
	ML	5/24/10	11:37	9.2	6/7/10	10:47	6.2	0.2%	0.4%	1.9%
PMW-6	U	5/24/10	11:50	20.3	6/4/10	10:55	19.2	0.1%	0.0%	NM
	M	5/24/10	11:58	20.5	6/4/10	10:59	19.2	0.1%	0.0%	NM
	ML	5/24/10	12:11	20.3	6/7/10	11:22	14.2	0.4%	0.6%	1.7%
PMW-7	U	5/24/10	12:23	20.1	6/4/10	10:51	18.8	0.1%	0.1%	NM
	M	5/24/10	12:28	19.9	6/4/10	10:59	19.1	0.1%	0.0%	NM
	ML	5/24/10	12:40	19.9	6/4/10	11:07	18.3	0.1%	0.0%	1.3%
PMW-8	U	5/24/10	11:31	20.8	6/1/10	9:12	19.2	0.2%	0.0%	NM
	M	5/24/10	11:35	20.5	6/1/10	9:21	19.3	0.2%	0.0%	NM
	ML	5/24/10	11:46	17.8	6/1/10	9:31	2.7	1.9%	1.1%	2.6%
PMW-9	U	5/24/10	12:22	19.6	5/28/10	11:30	19	0.2%	0.0%	NM
	M	5/24/10	12:28	19.7	6/4/10	9:01	18.1	0.1%	0.1%	NM
	ML	5/24/10	12:39	12.8	5/27/10	11:01	4.8	2.7%	0.7%	3.8%
PMW-10	U	5/24/10	12:47	18.9	6/1/10	10:11	17.4	0.2%	0.1%	NM
	M	5/24/10	12:53	15.6	5/28/10	12:00	13.2	0.6%	0.0%	NM
	L	5/24/10	13:04	8.1	5/25/10	15:36	2.2	5.3%	NM	NM
ASE-65A		5/24/10	14:50	20	6/7/10	9:59	3.5	1.2%	NM	NM
Average rate, all PMWs								0.53%	0.30%	

Notes:

PMW = Process Monitoring Well

U = Upper

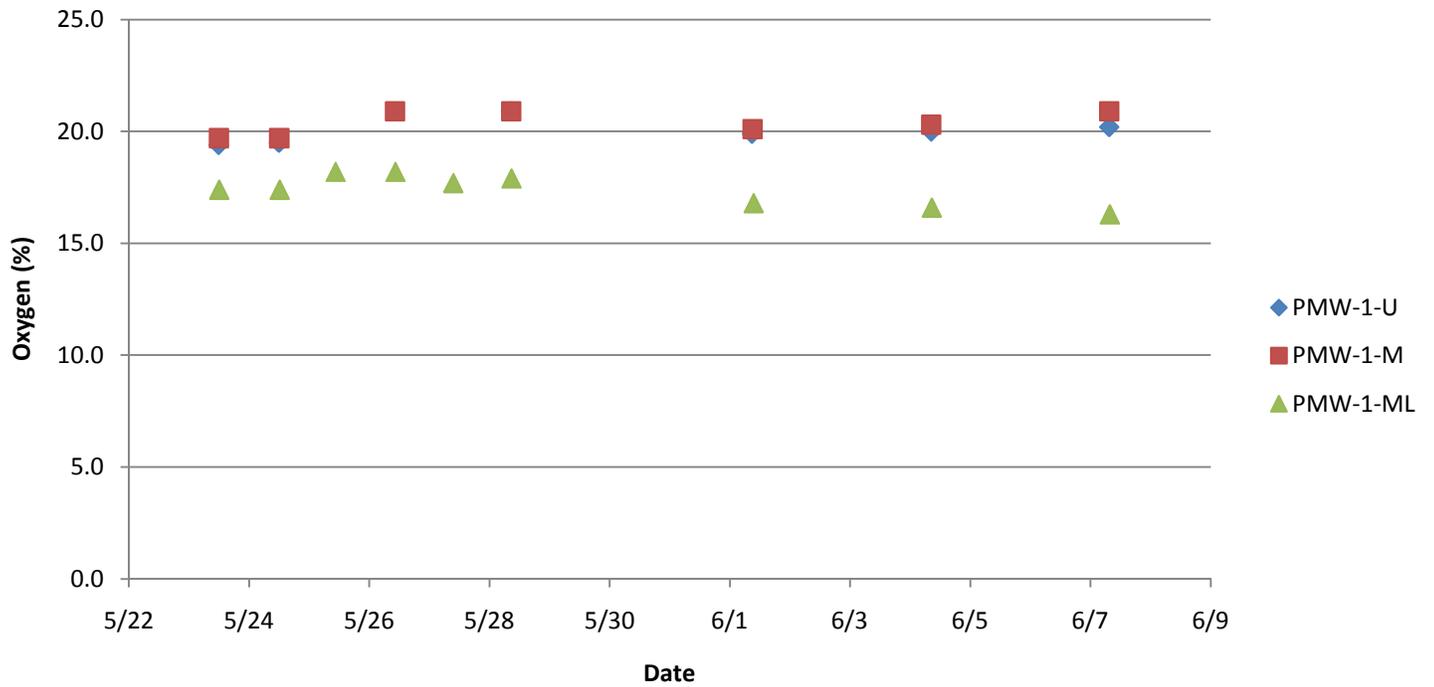
M = Middle

ML = Middle Low

NM = Not Measured

Figures

PMW-1



PMW-2

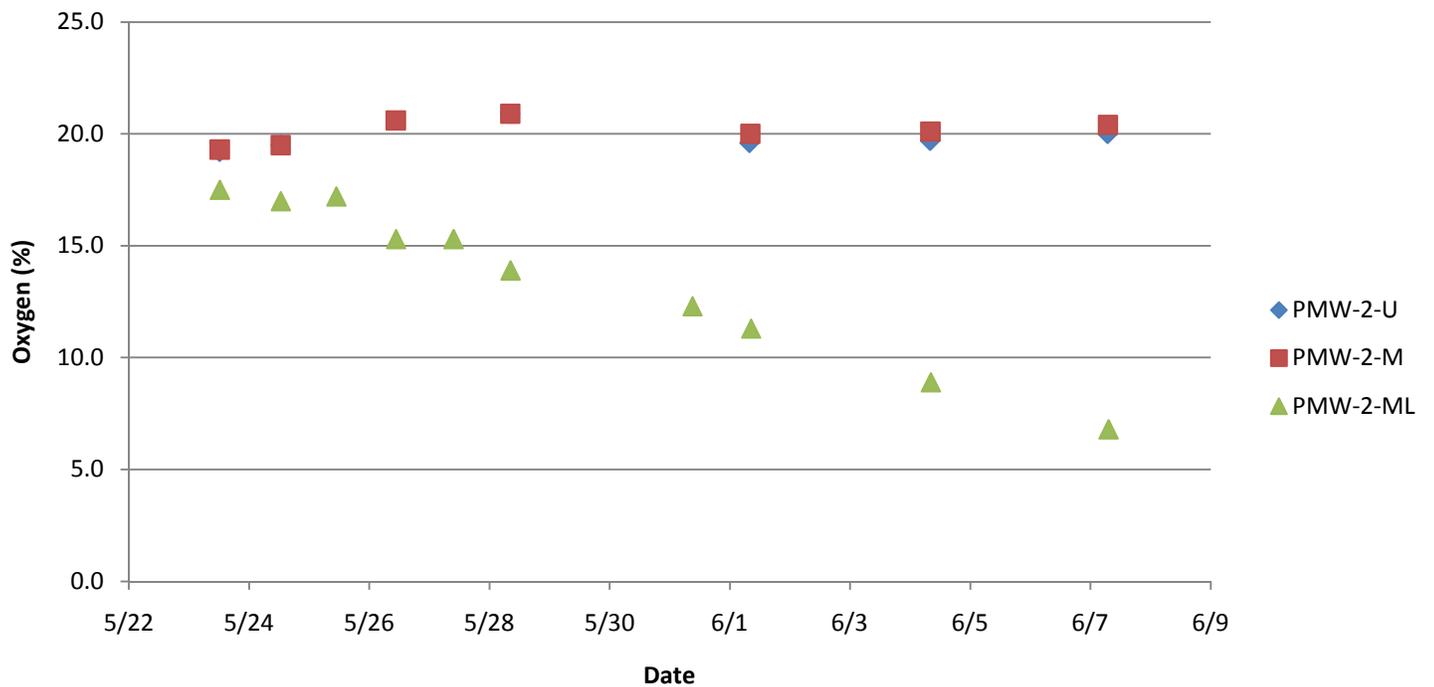
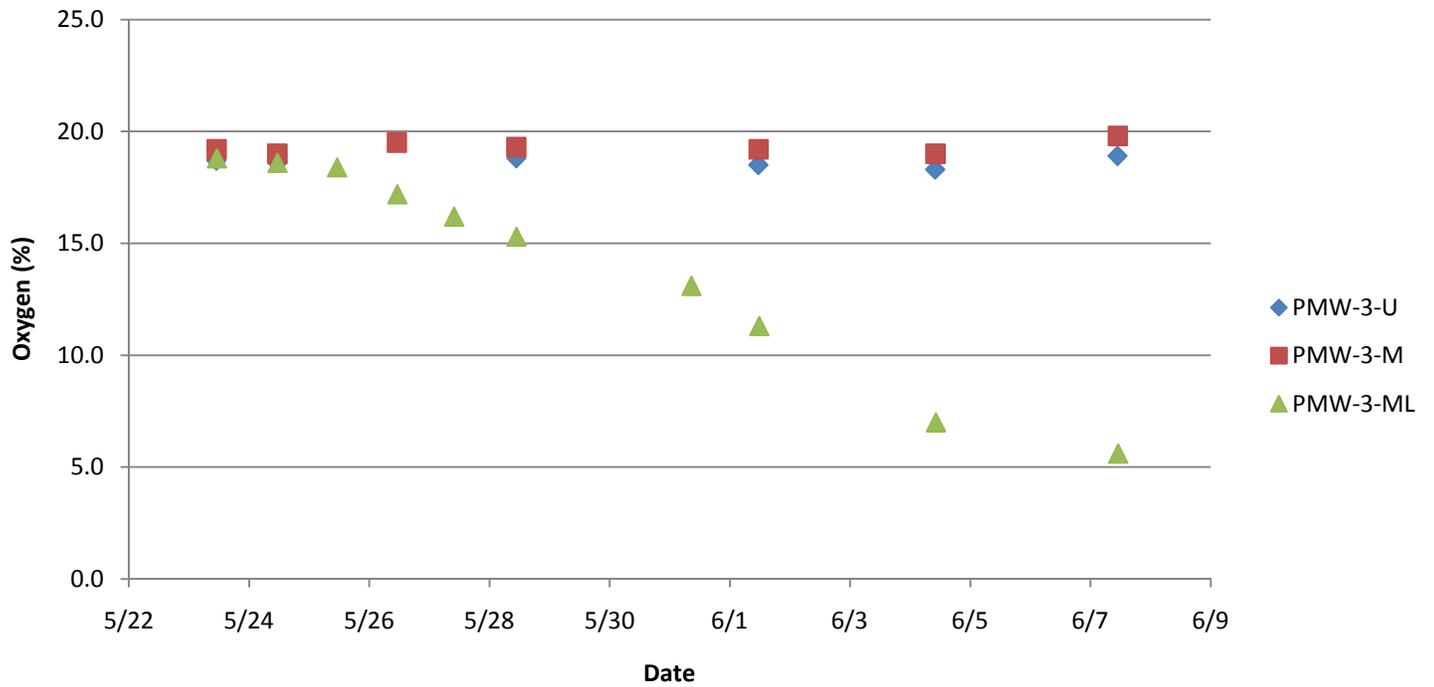


FIGURE 1
OXYGEN UPTAKE IN PMW-1 AND PMW-2

Honeywell 34th Street Facility
Phoenix, Arizona



PMW-3



PMW-4

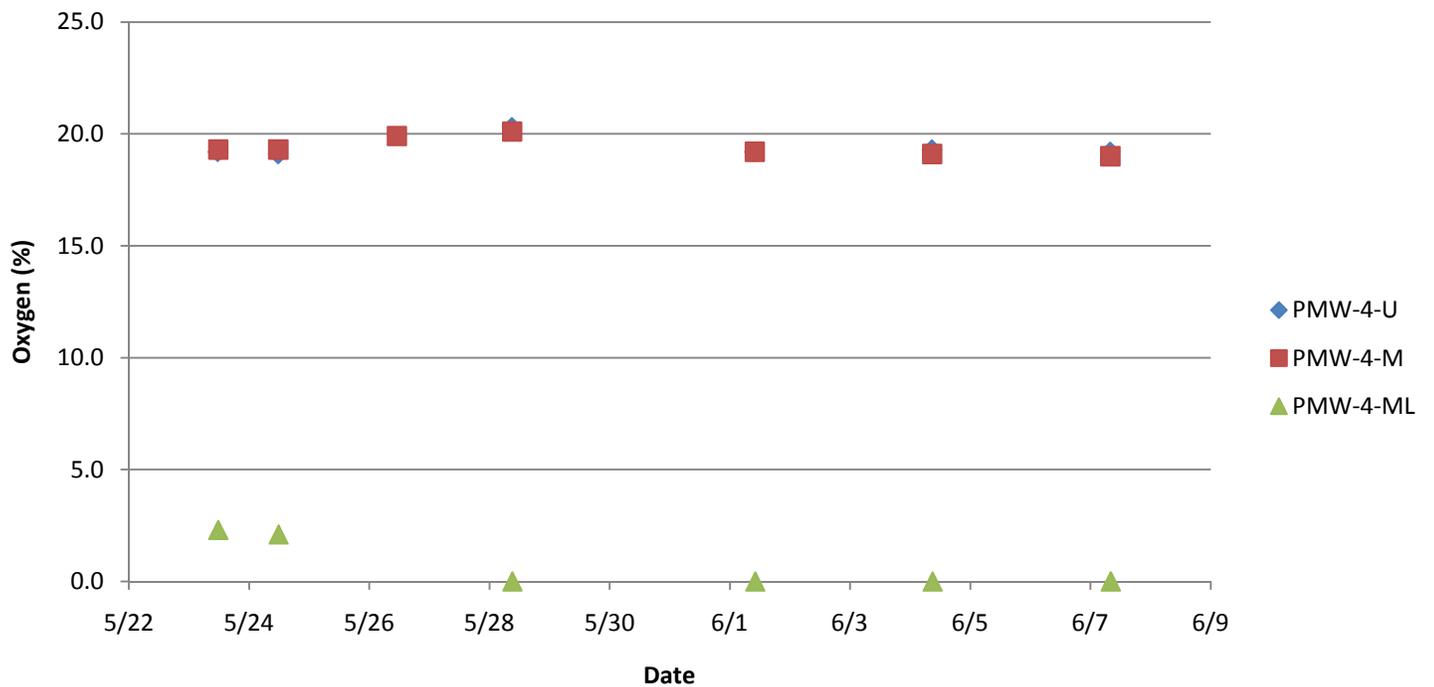
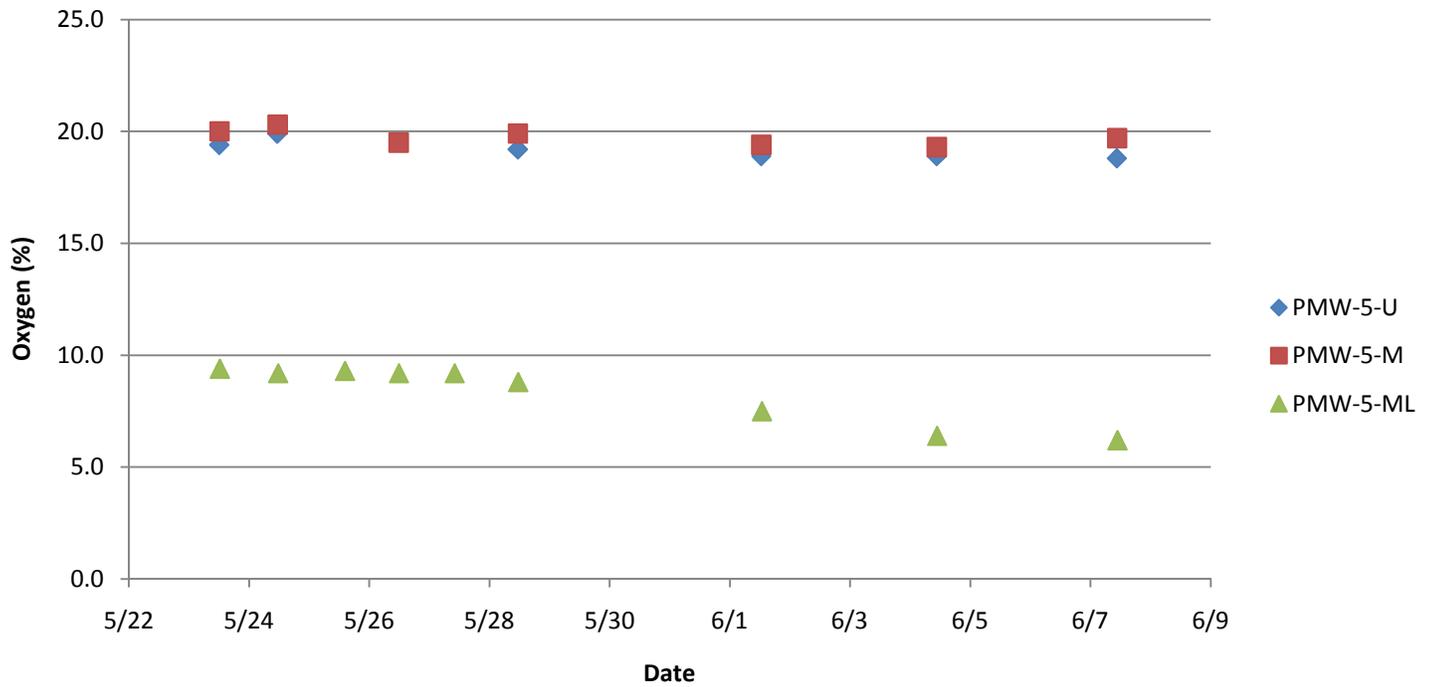


FIGURE 2
OXYGEN UPTAKE IN PMW-3 AND PMW-4

Honeywell 34th Street Facility
Phoenix, Arizona



PMW-5



PMW-6

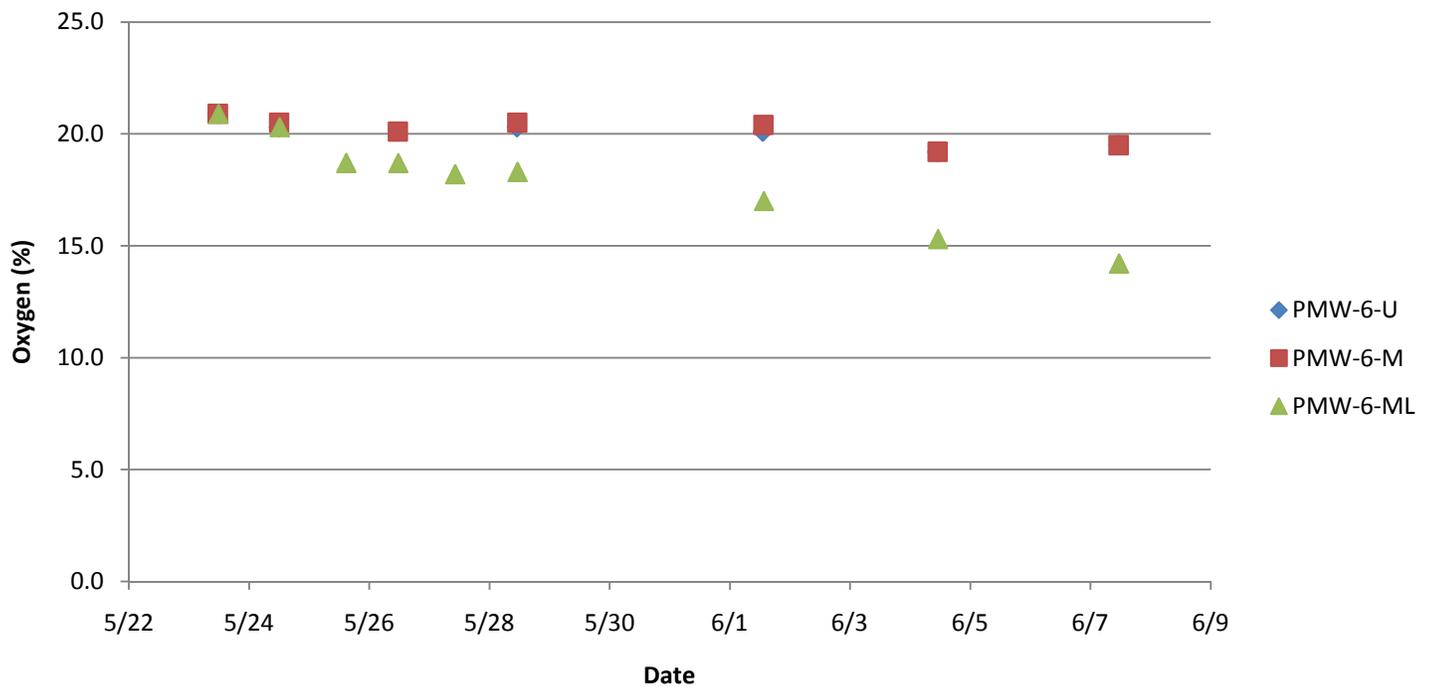
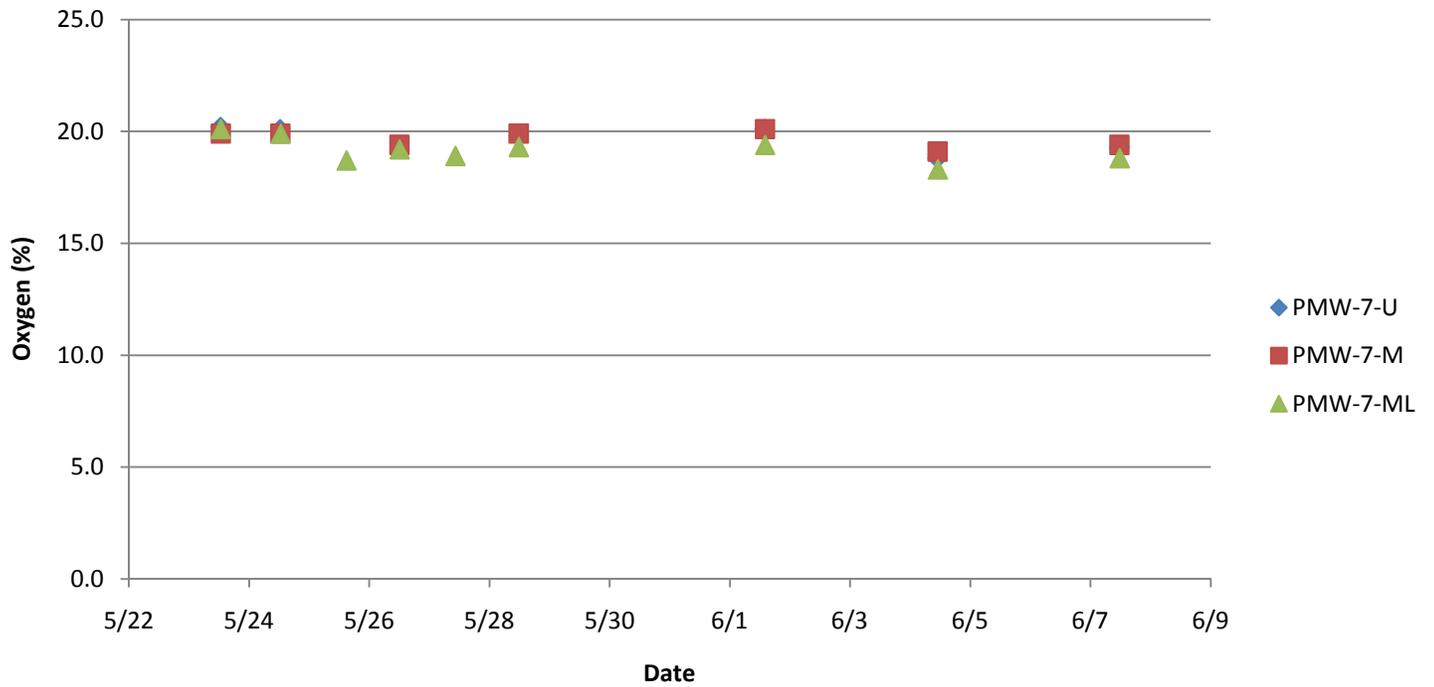


FIGURE 3
OXYGEN UPTAKE IN PMW-5 AND PMW-6

Honeywell 34th Street Facility
Phoenix, Arizona



PMW-7



PMW-8

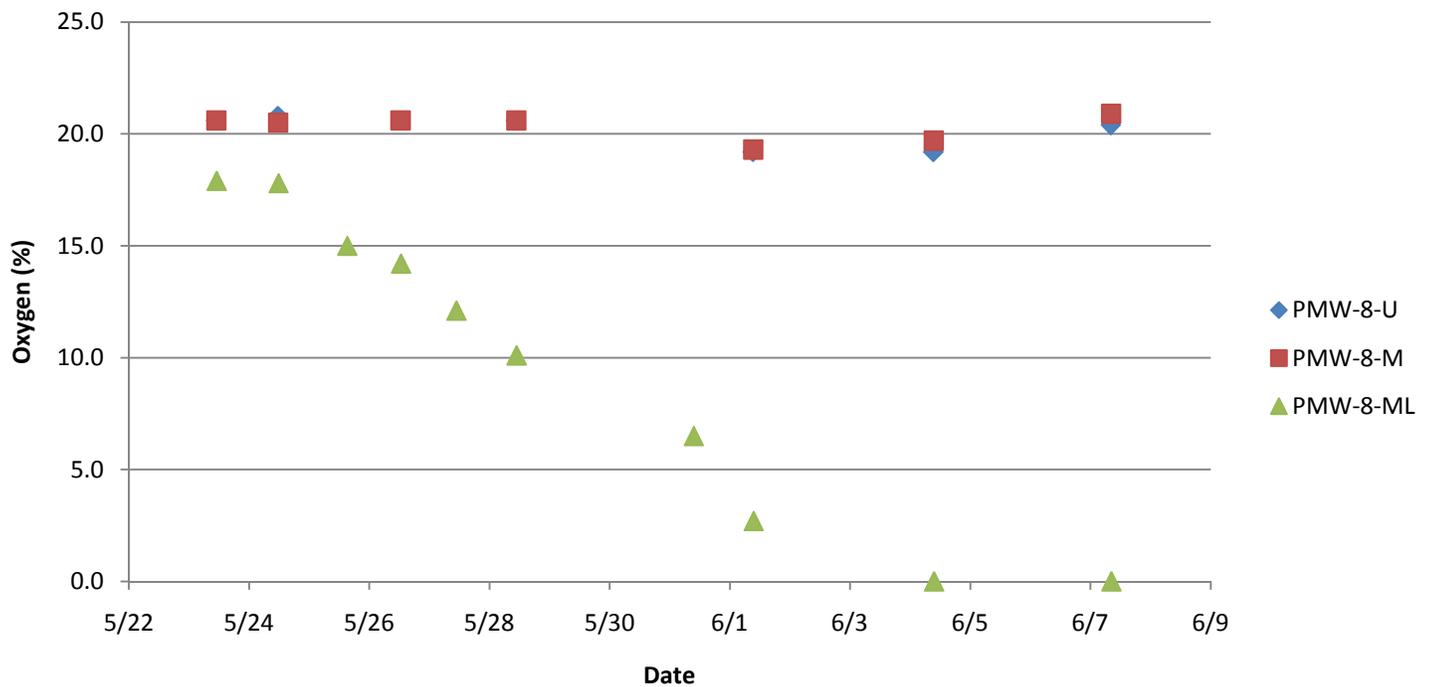
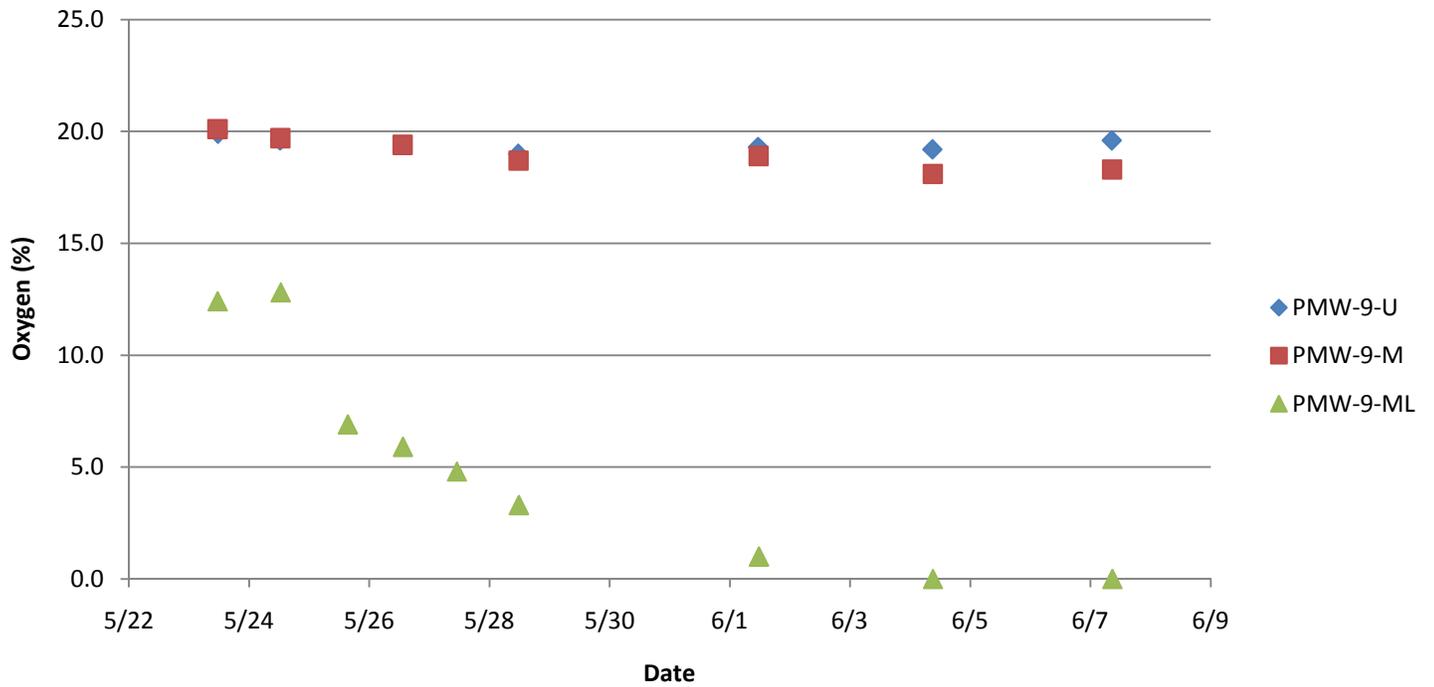


FIGURE 4
OXYGEN UPTAKE IN PMW-7 AND PMW-8

Honeywell 34th Street Facility
Phoenix, Arizona



PMW-9



PMW-10

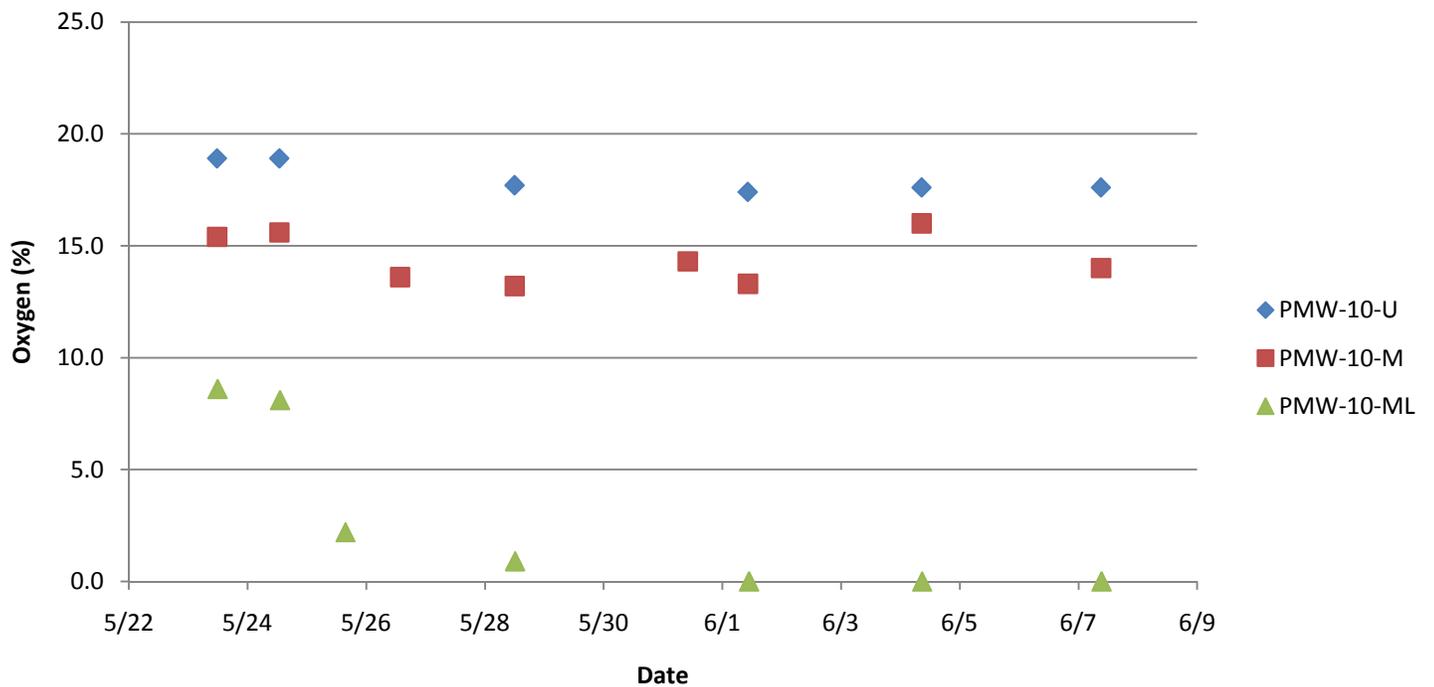


FIGURE 5
OXYGEN UPTAKE IN PMW-9 AND PMW-10

Honeywell 34th Street Facility
Phoenix, Arizona



ASE-65A

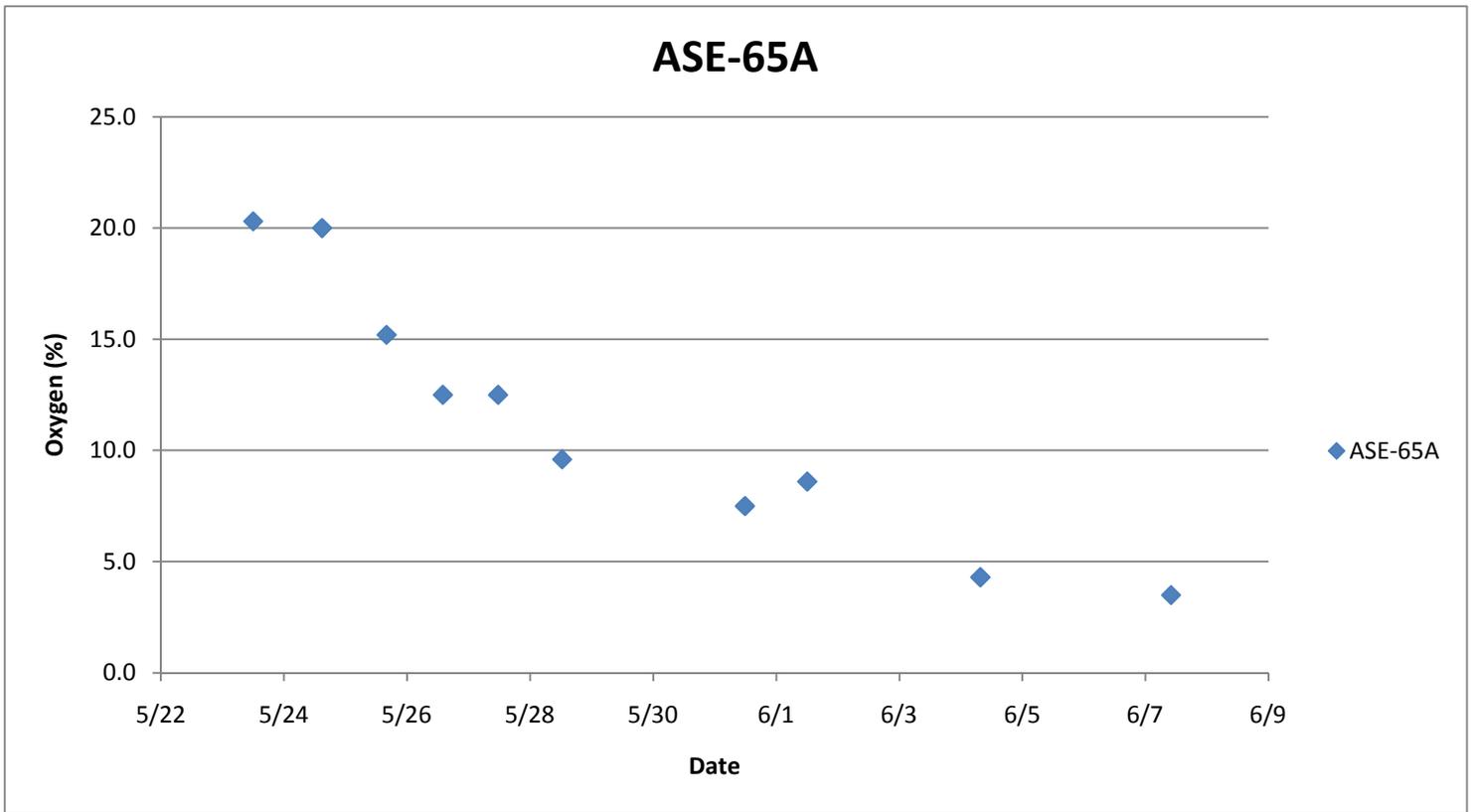


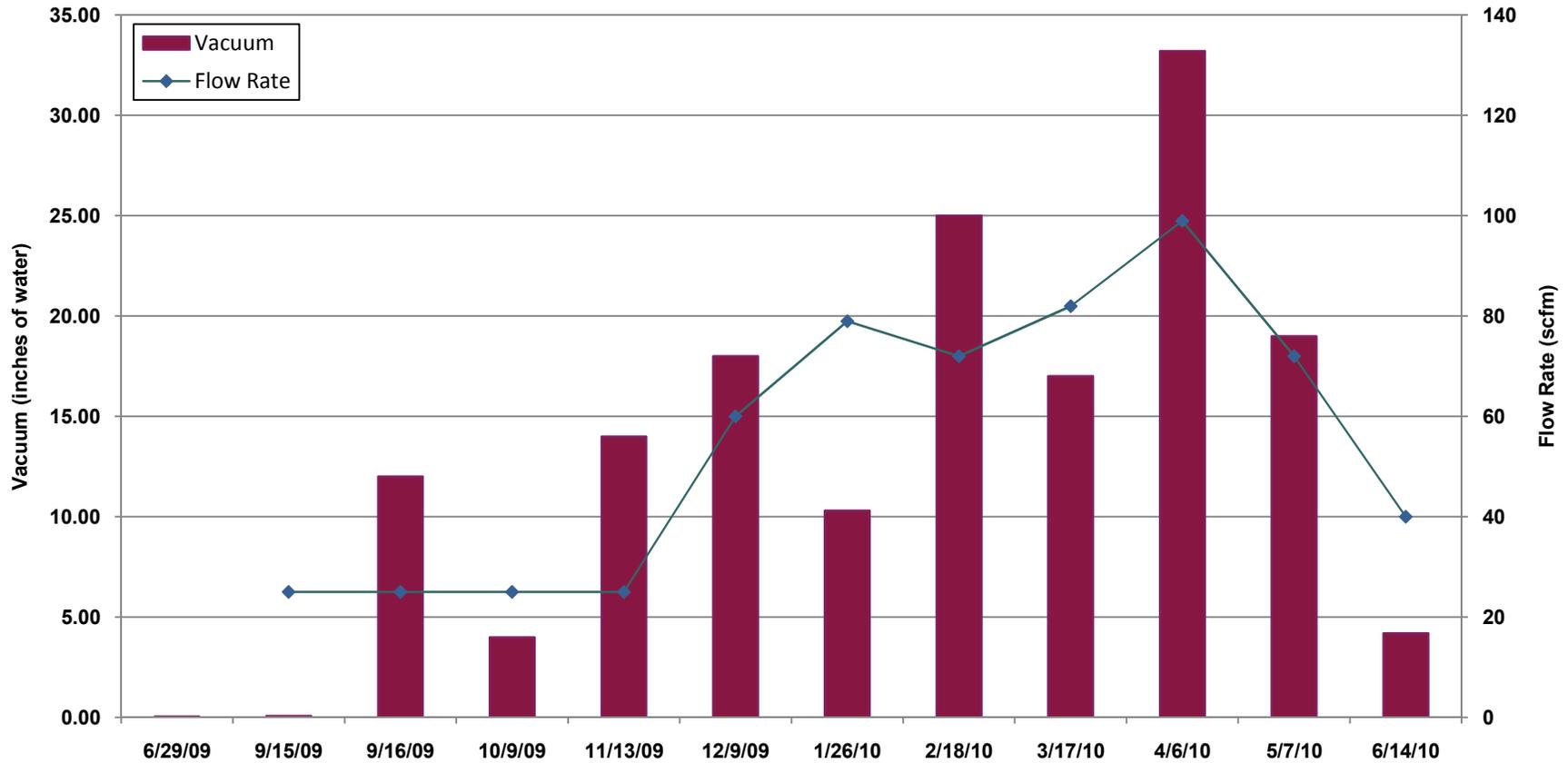
FIGURE 6
OXYGEN UPTAKE IN ASE-65A

Honeywell 34th Street Facility
Phoenix, Arizona

CH2MHILL

Appendix C
Flow Rates and Vacuums for
Injection/Extraction Wells

ASE-20A

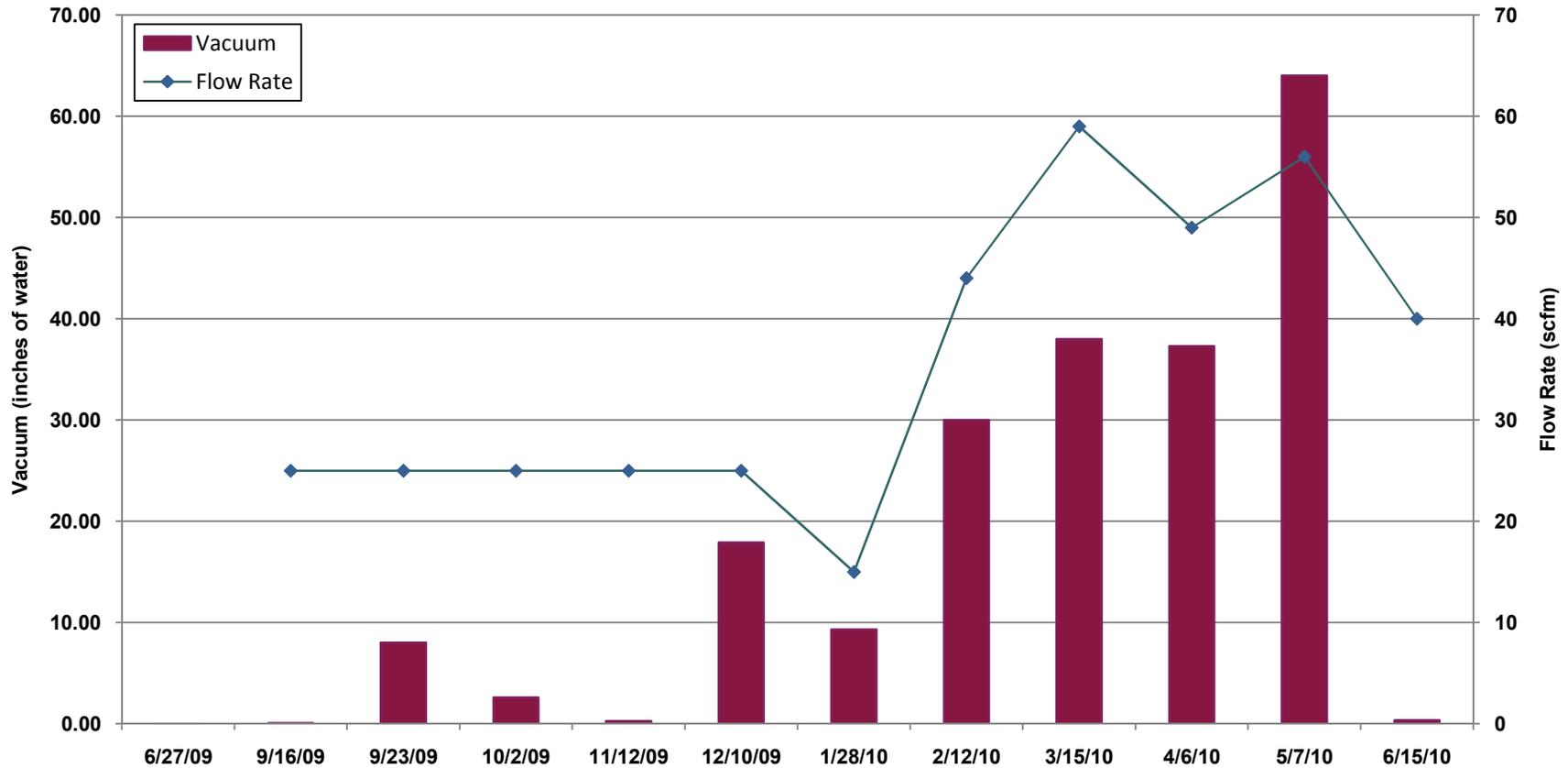


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-1
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-20A
Honeywell 34th Street Facility
Phoenix, Arizona

ASE-39A

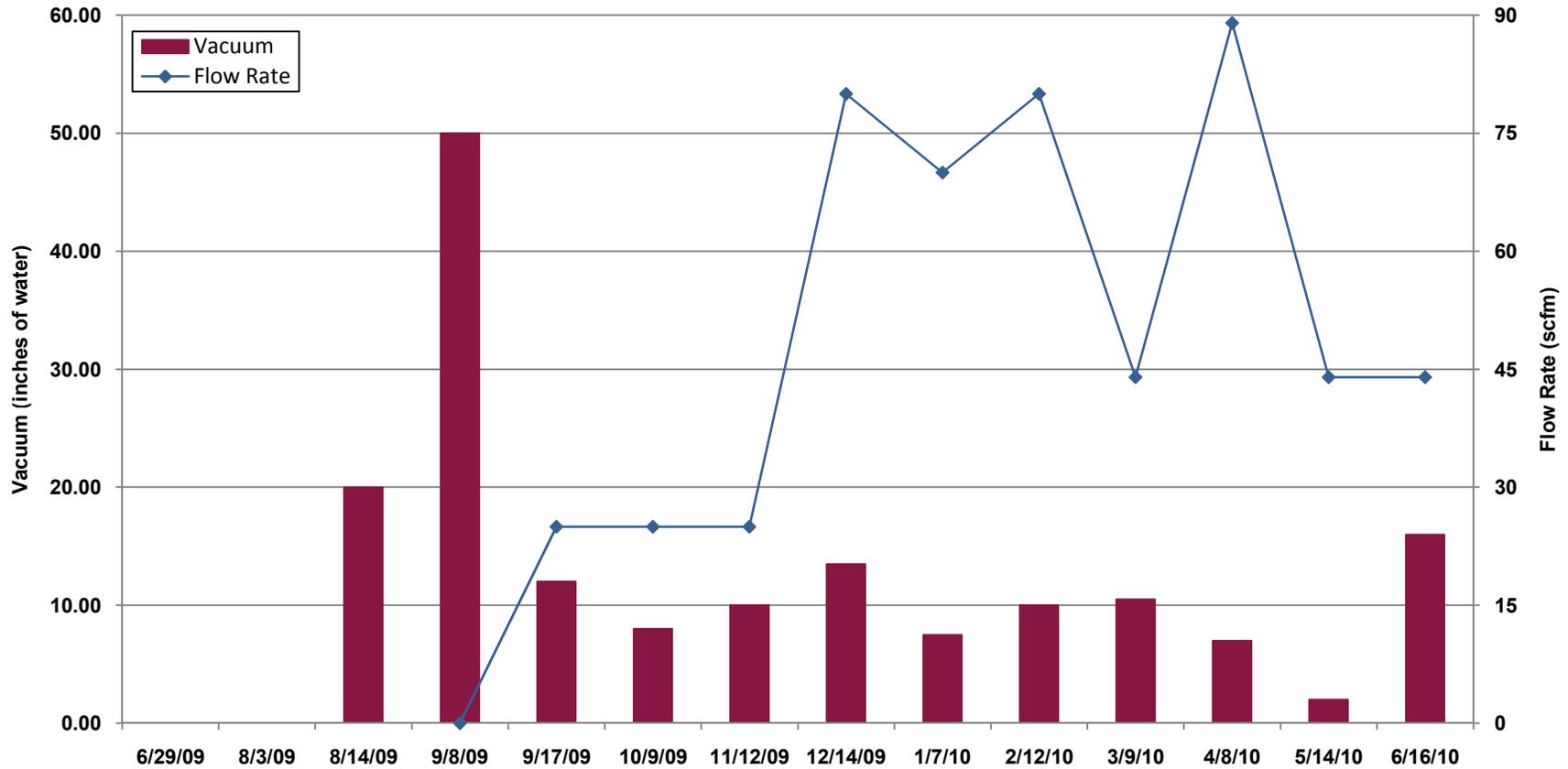


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-2
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-39A
Honeywell 34th Street Facility
Phoenix, Arizona

ASE-41A



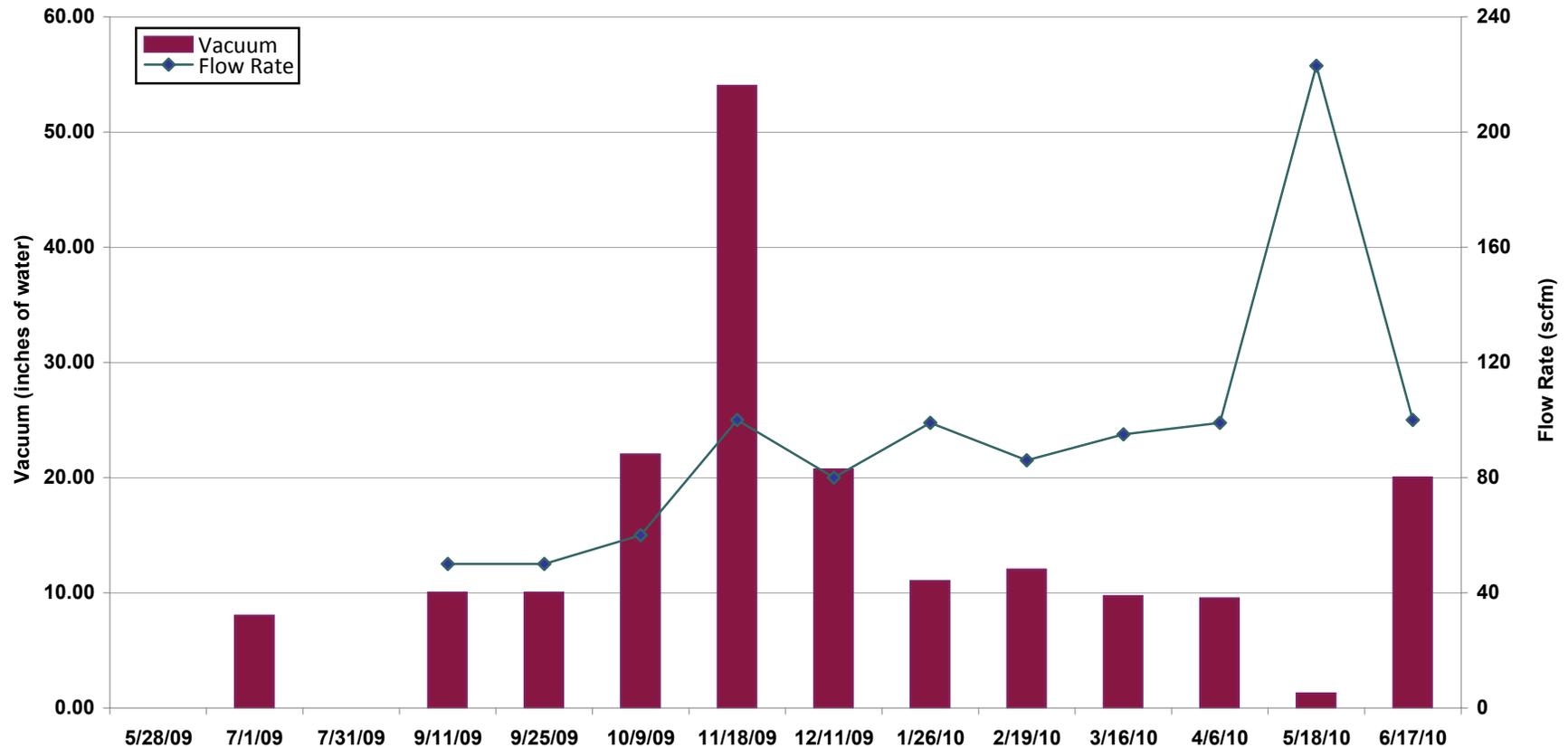
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
- Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-3
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-41A**

*Honeywell 34th Street Facility
Phoenix, Arizona*

ASE-46A



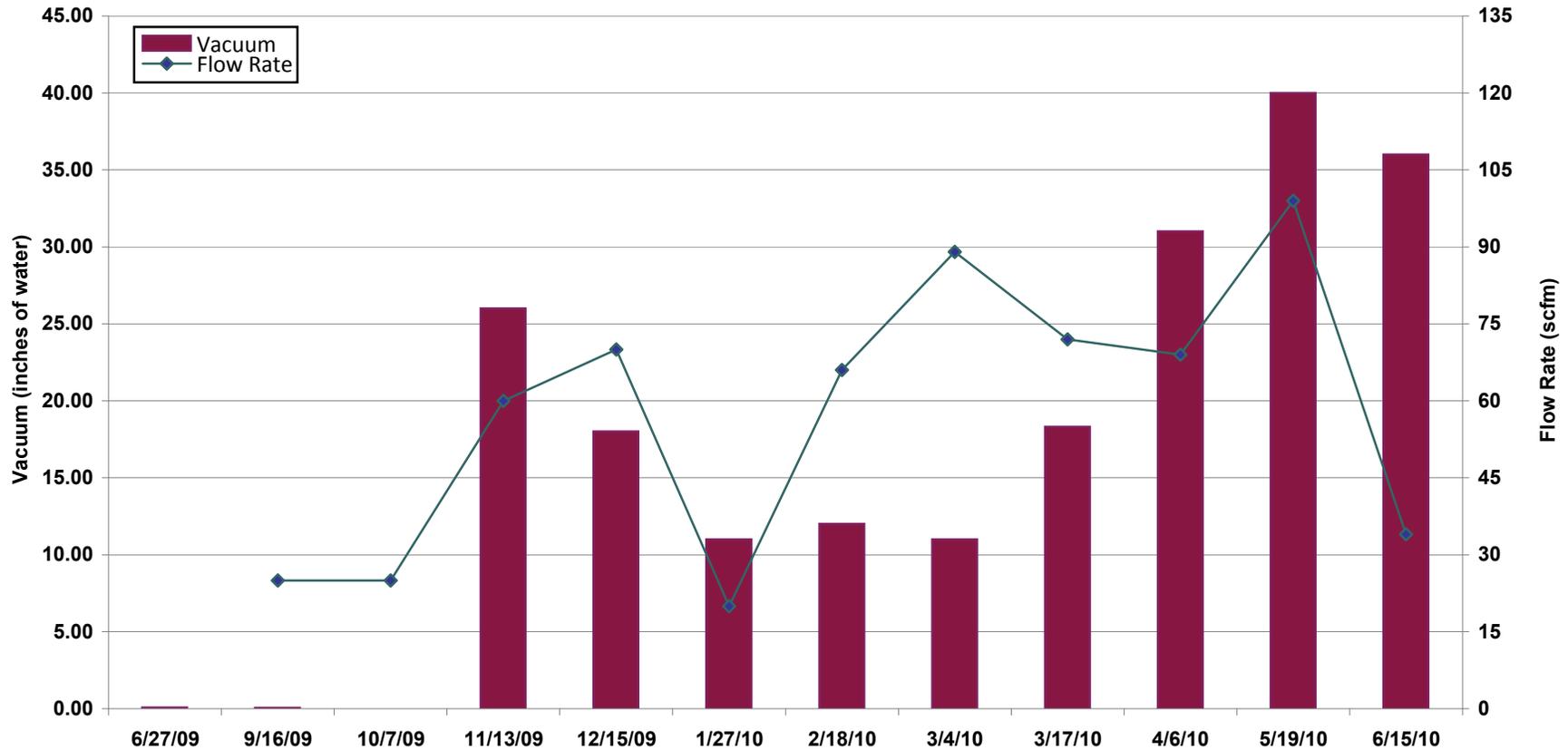
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-4
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-46A**

Honeywell 34th Street Facility

ASE-51A

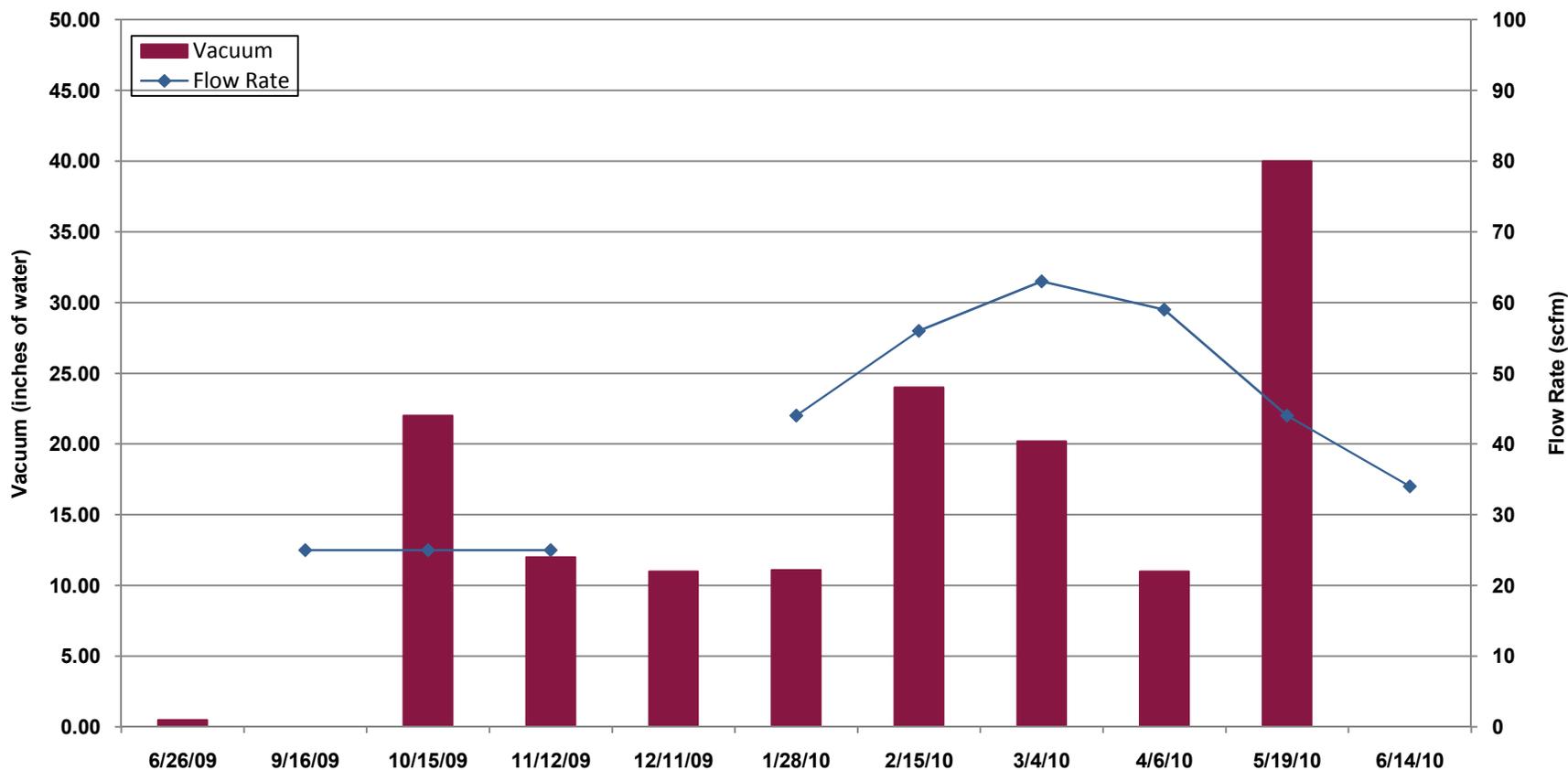


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-5
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-51A
Honeywell 34th Street Facility**

ASE-53A

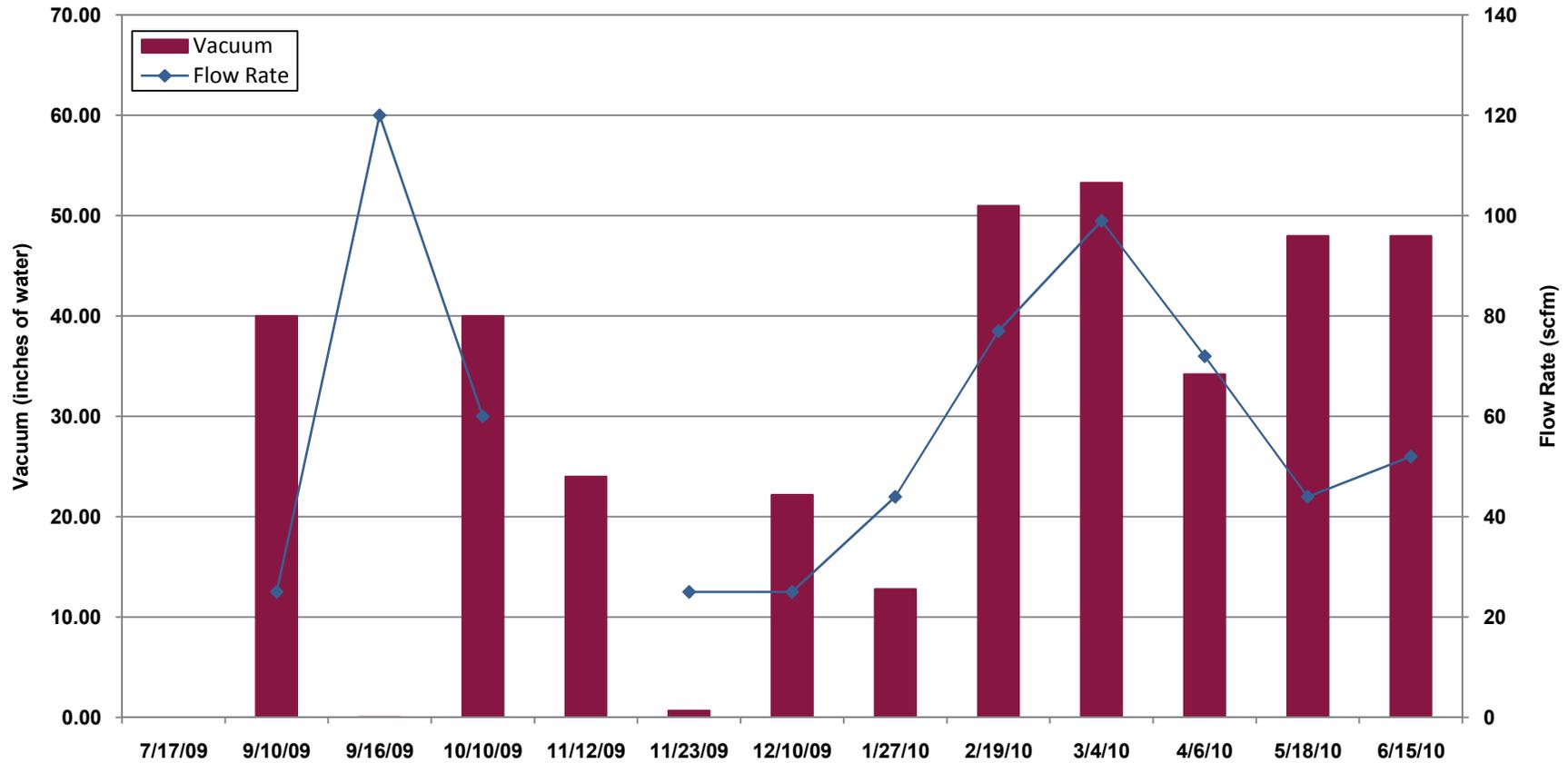


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-6
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-53A
Honeywell 34th Street Facility
Phoenix, Arizona

ASE-56A

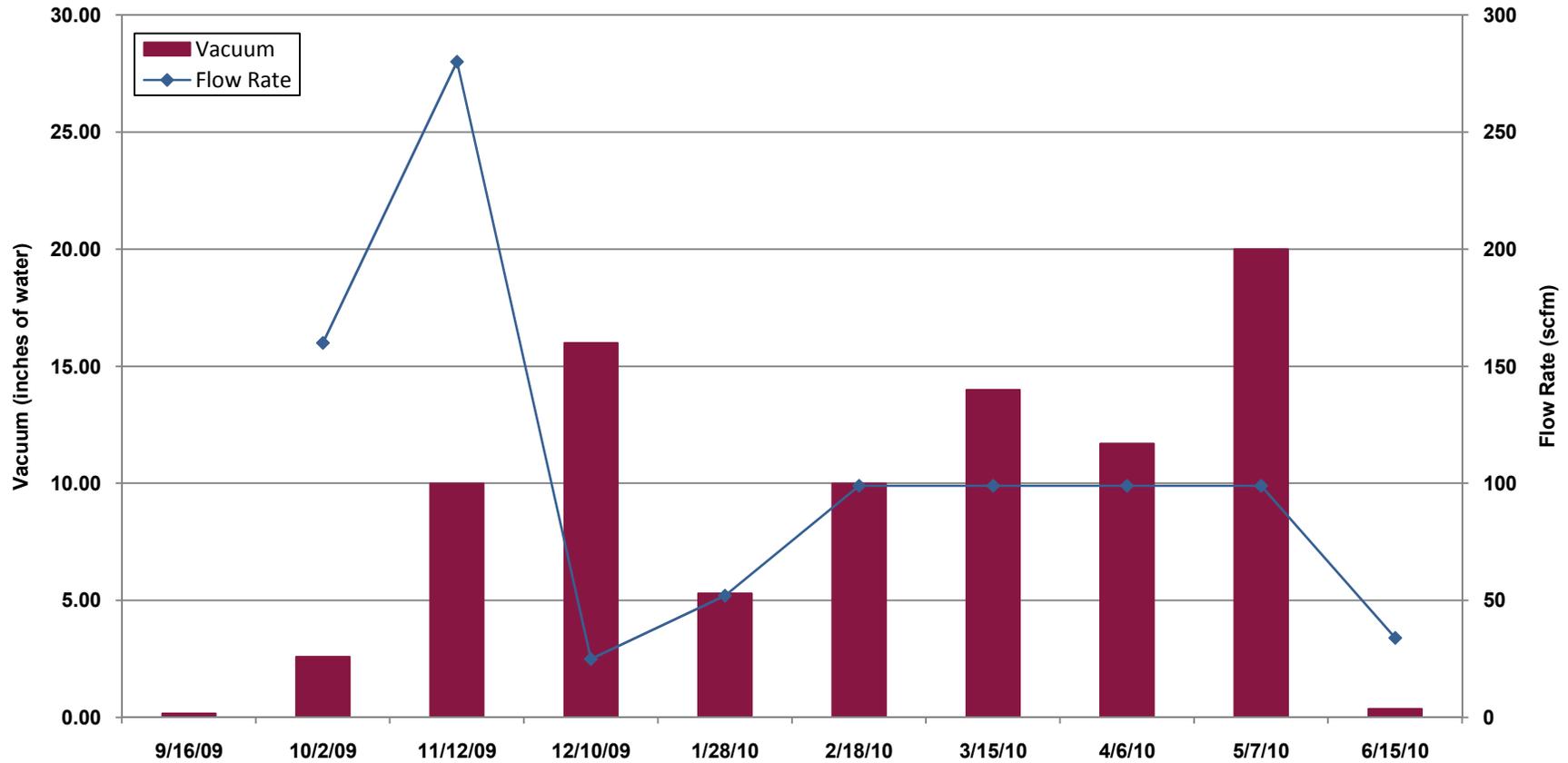


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 31, 2010.
- Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-7
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-56A
Honeywell 34th Street Facility
Phoenix, Arizona

ASE-57A

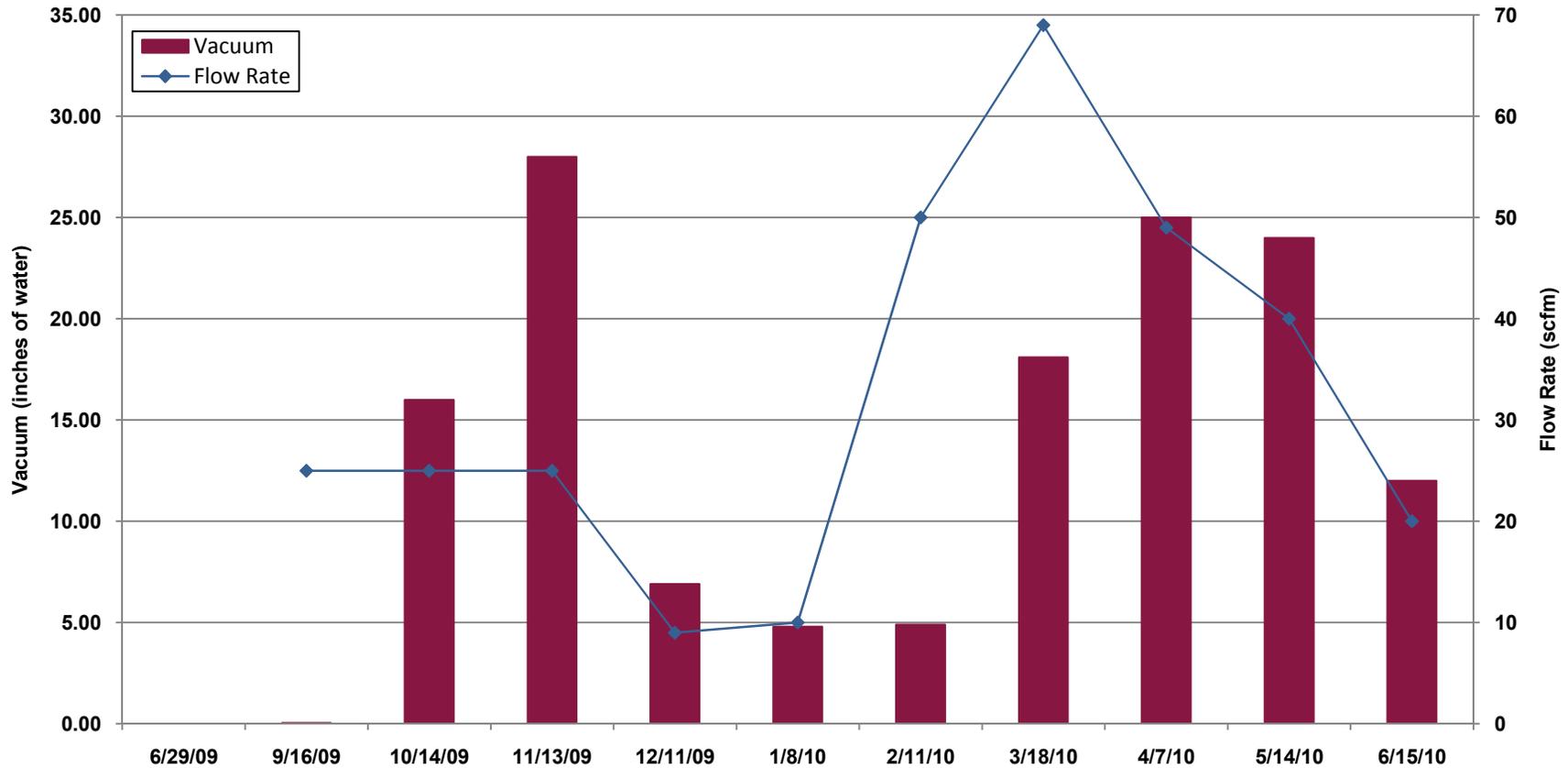


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
- Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-8
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-57A
Honeywell 34th Street Facility
Phoenix, Arizona

ASE-59A



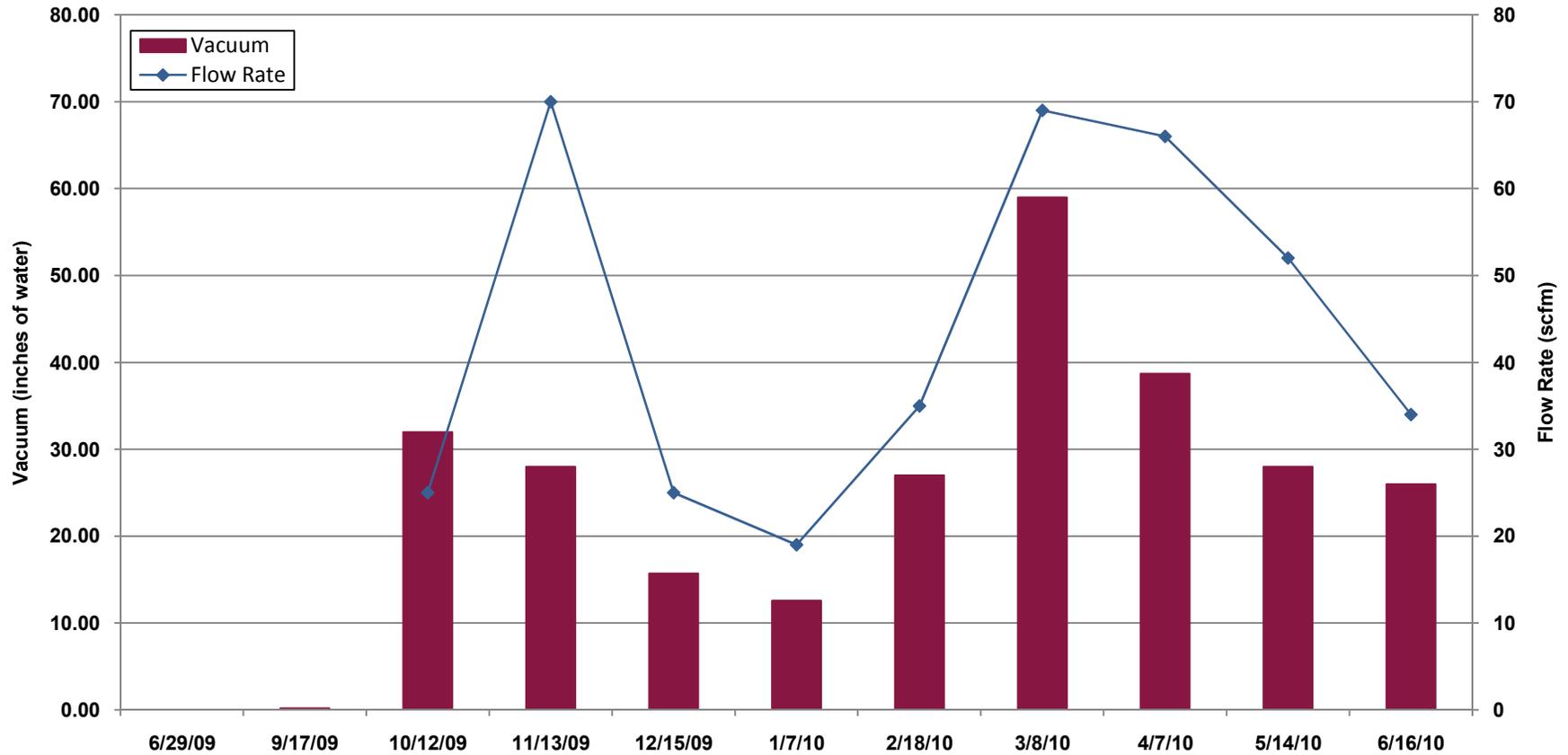
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 31, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-9
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-59A**

*Honeywell 34th Street Facility
Phoenix, Arizona*

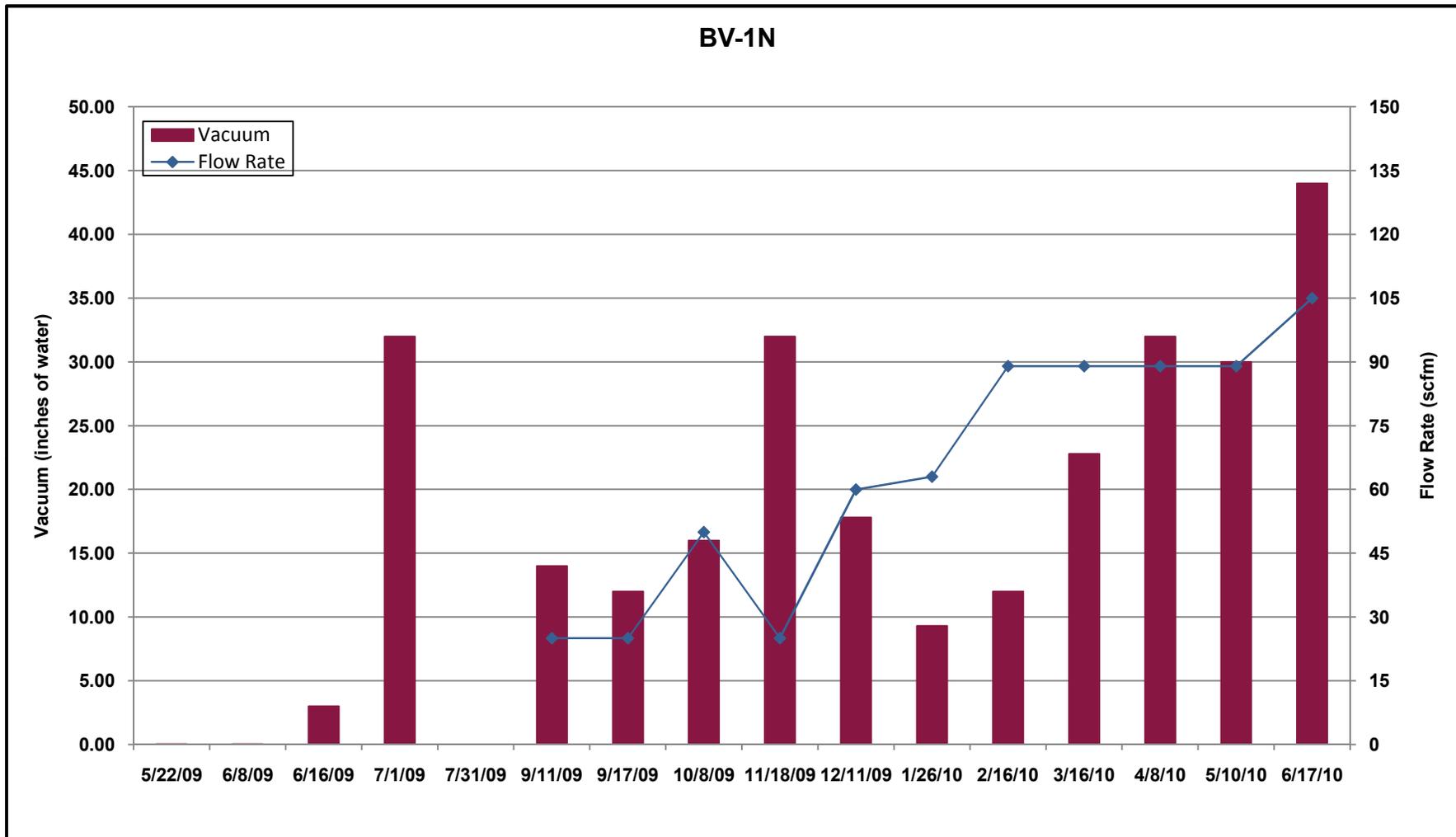
ASE-66A



Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

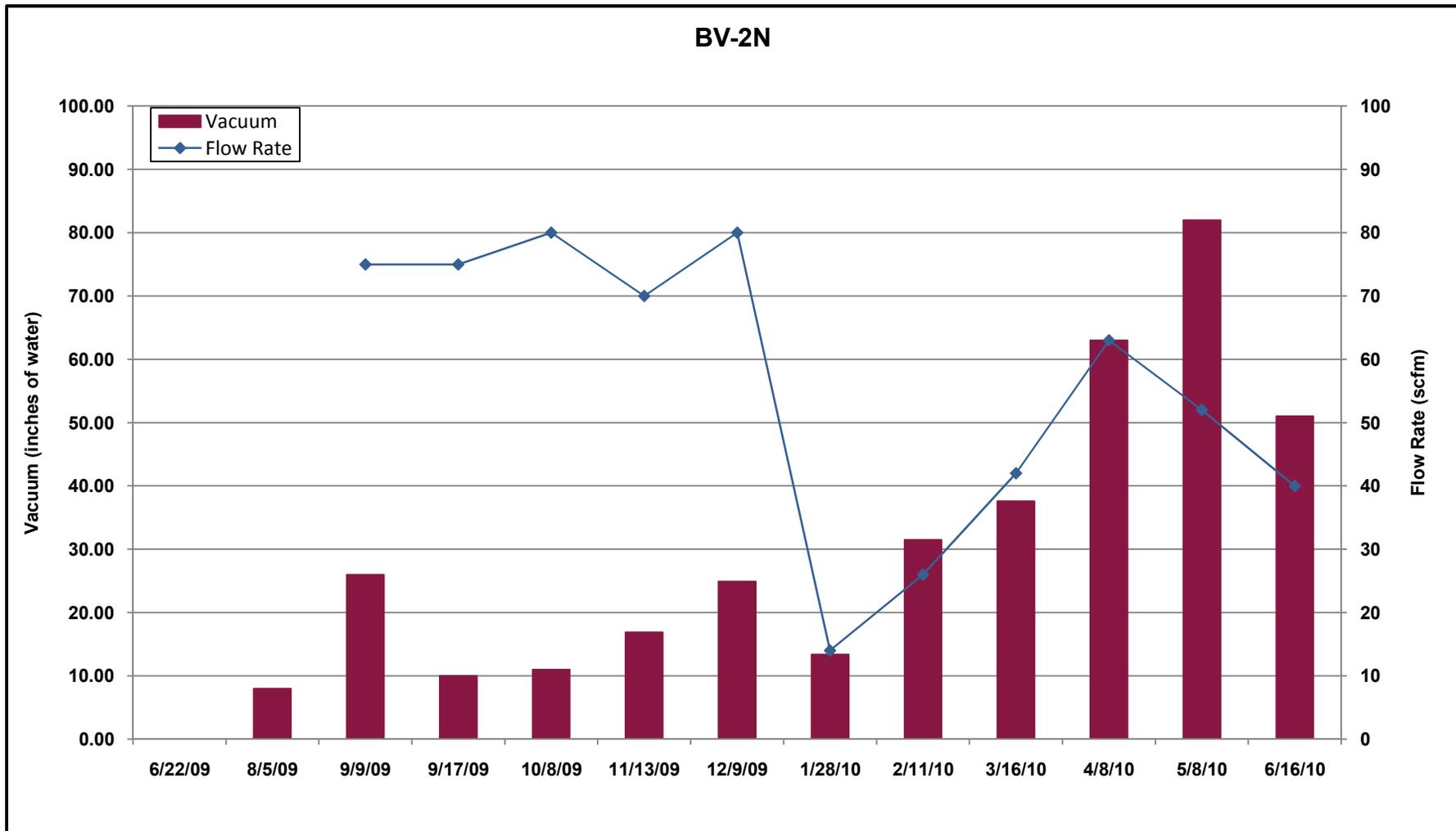
FIGURE C-10
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
ASE-66A
Honeywell 34th Street Facility
Phoenix, Arizona



Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

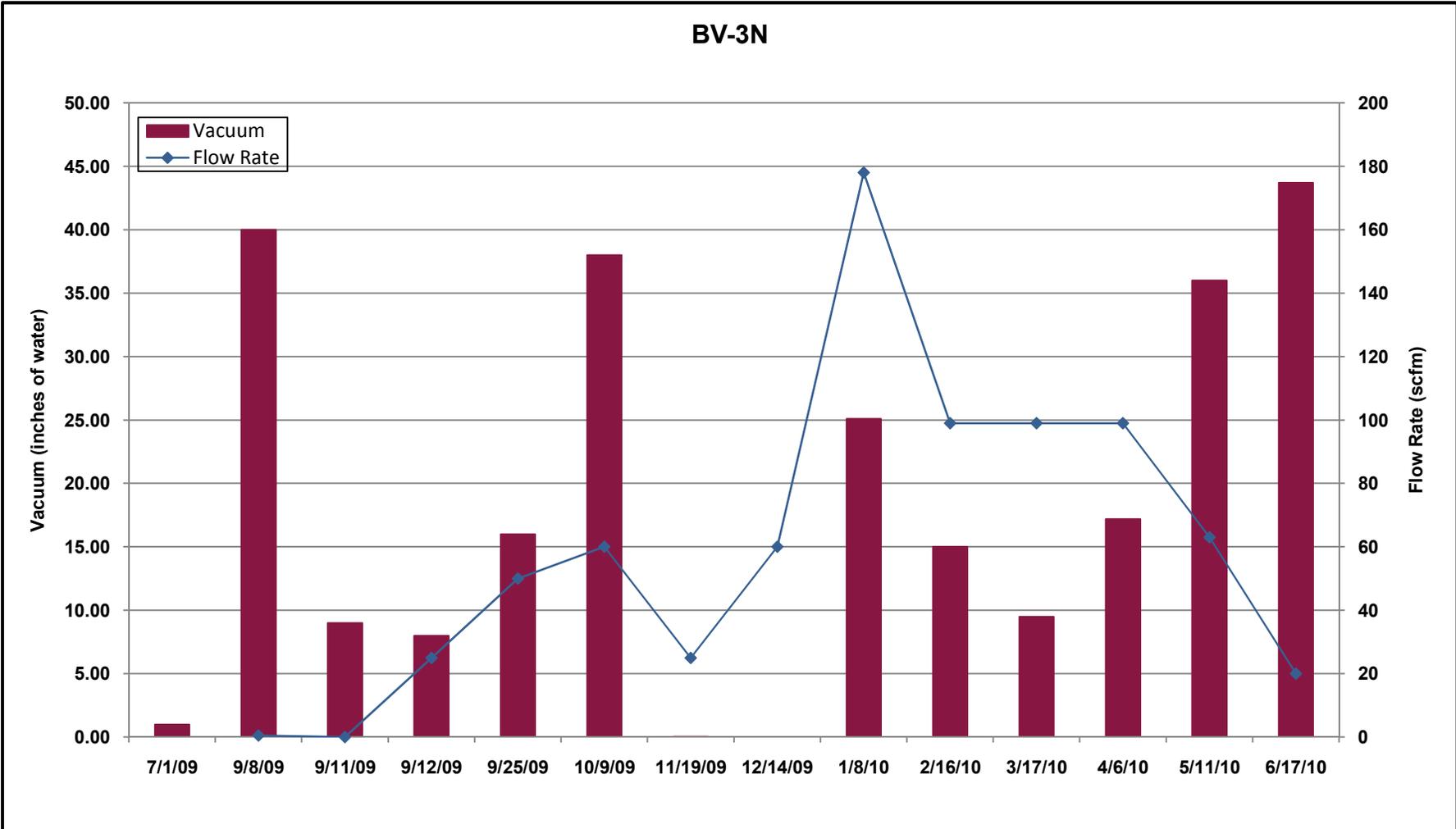
FIGURE C-11
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-1N
Honeywell 34th Street Facility
Phoenix, Arizona



Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

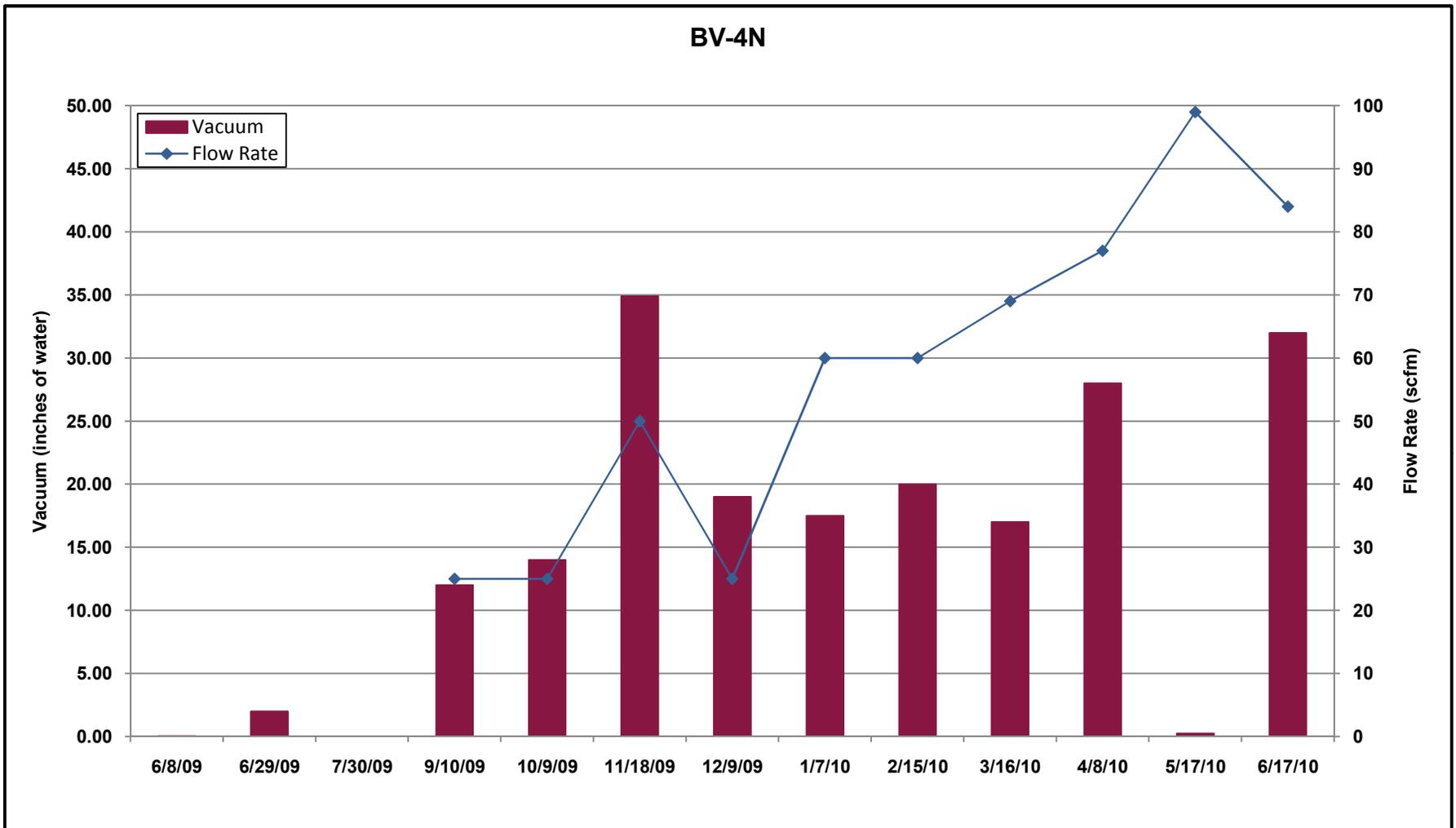
FIGURE C-12
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-2N
Honeywell 34th Street Facility
Phoenix, Arizona



Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
- Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-13
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-3N
Honeywell 34th Street Facility
Phoenix, Arizona

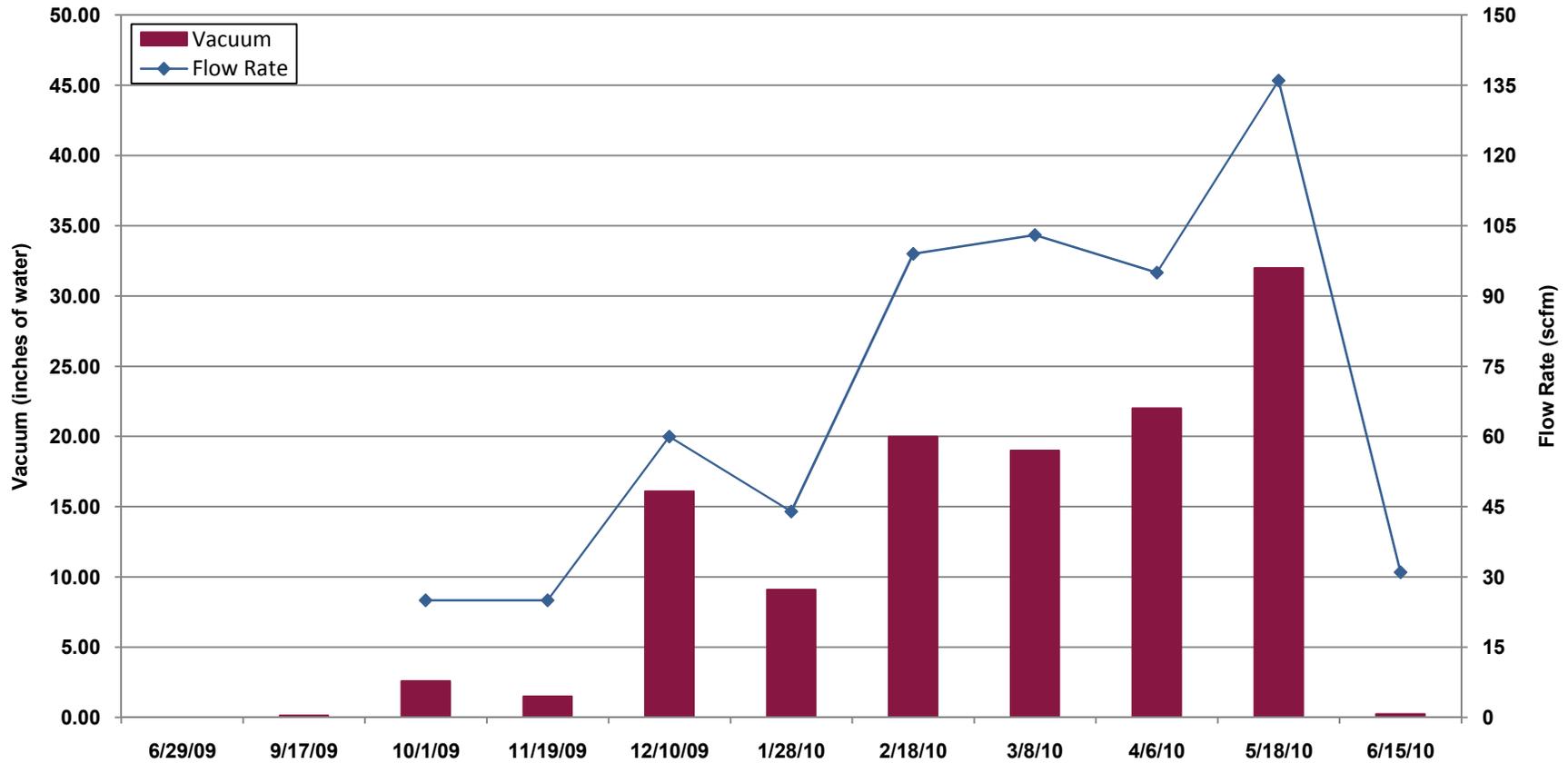


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-14
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-4N
Honeywell 34th Street Facility
Phoenix, Arizona

BV-5N



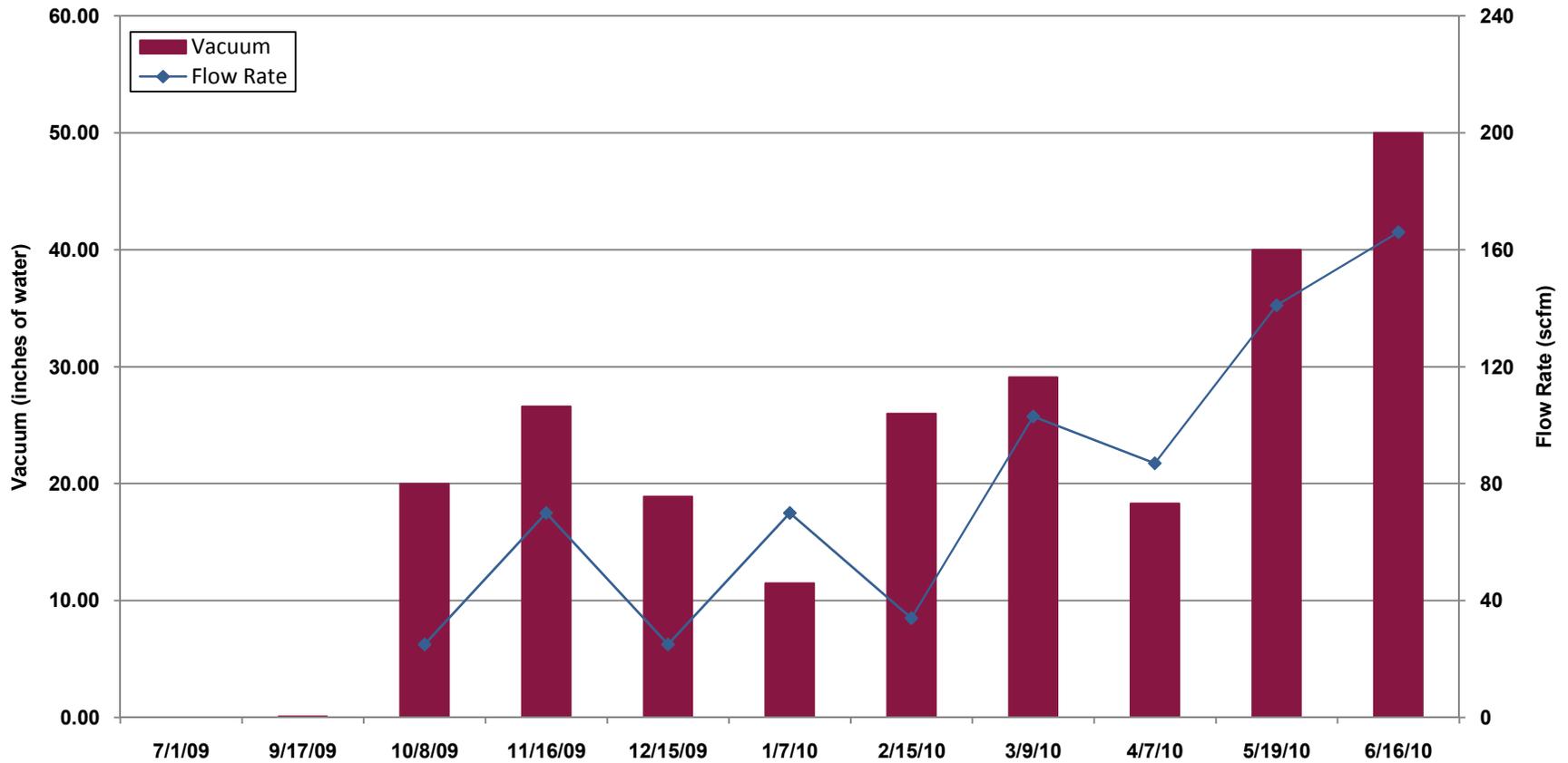
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-15
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-5N**

*Honeywell 34th Street Facility
Phoenix, Arizona*

BV-6N



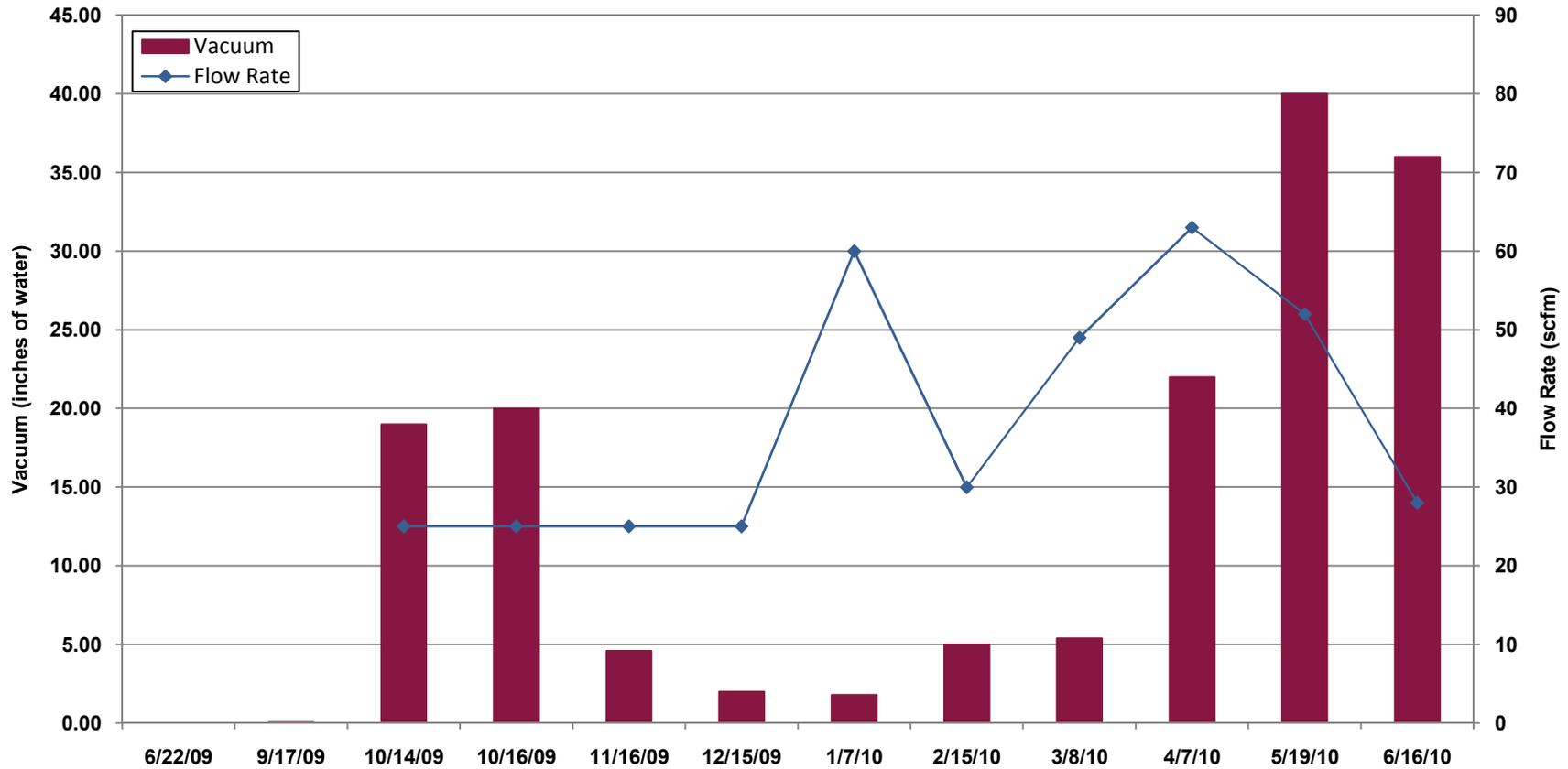
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-16
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-6N

Honeywell 34th Street Facility
Phoenix, Arizona

BV-7N

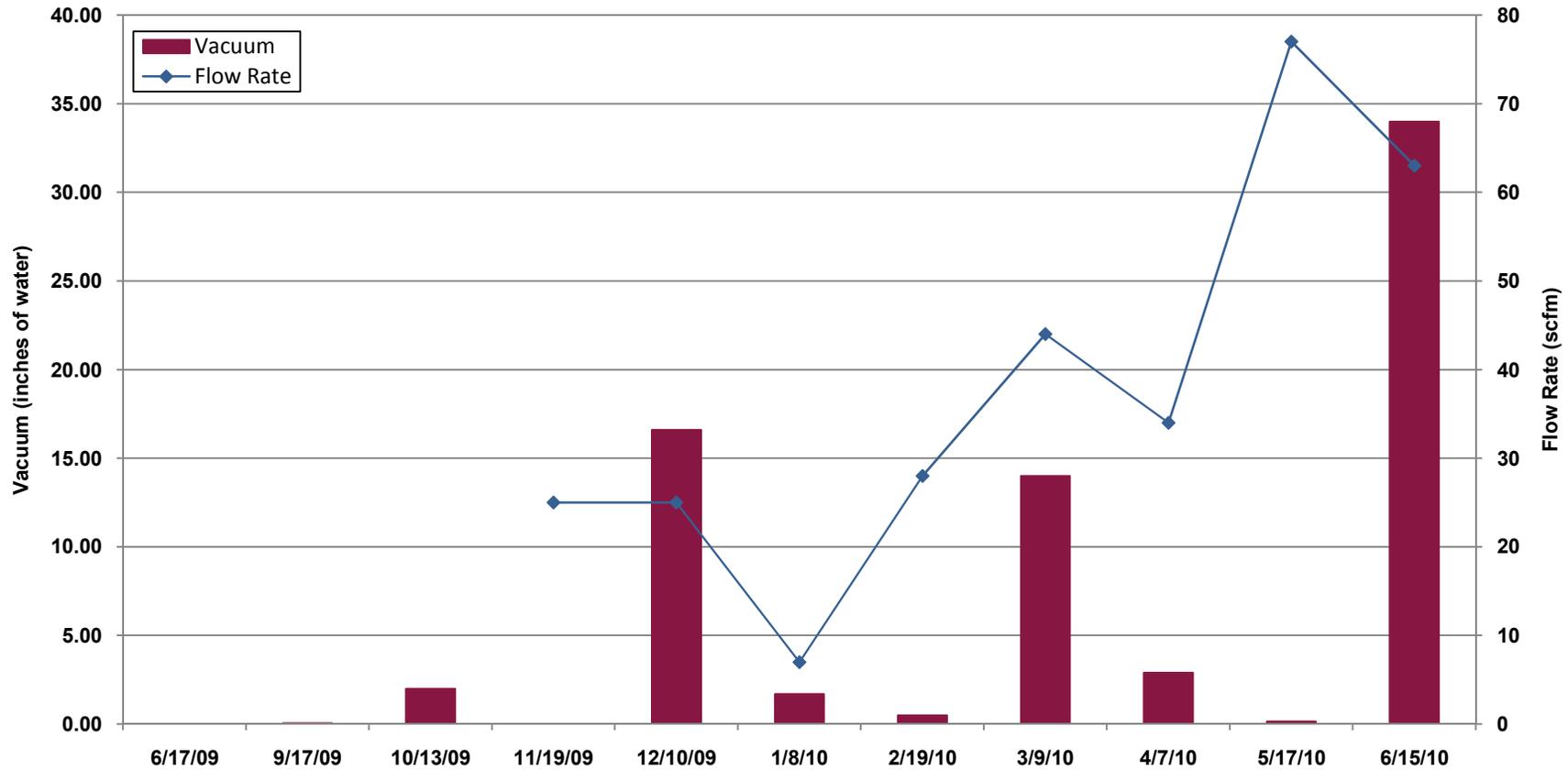


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
- Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-17
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-7N
Honeywell 34th Street Facility
Phoenix, Arizona

BV-8N



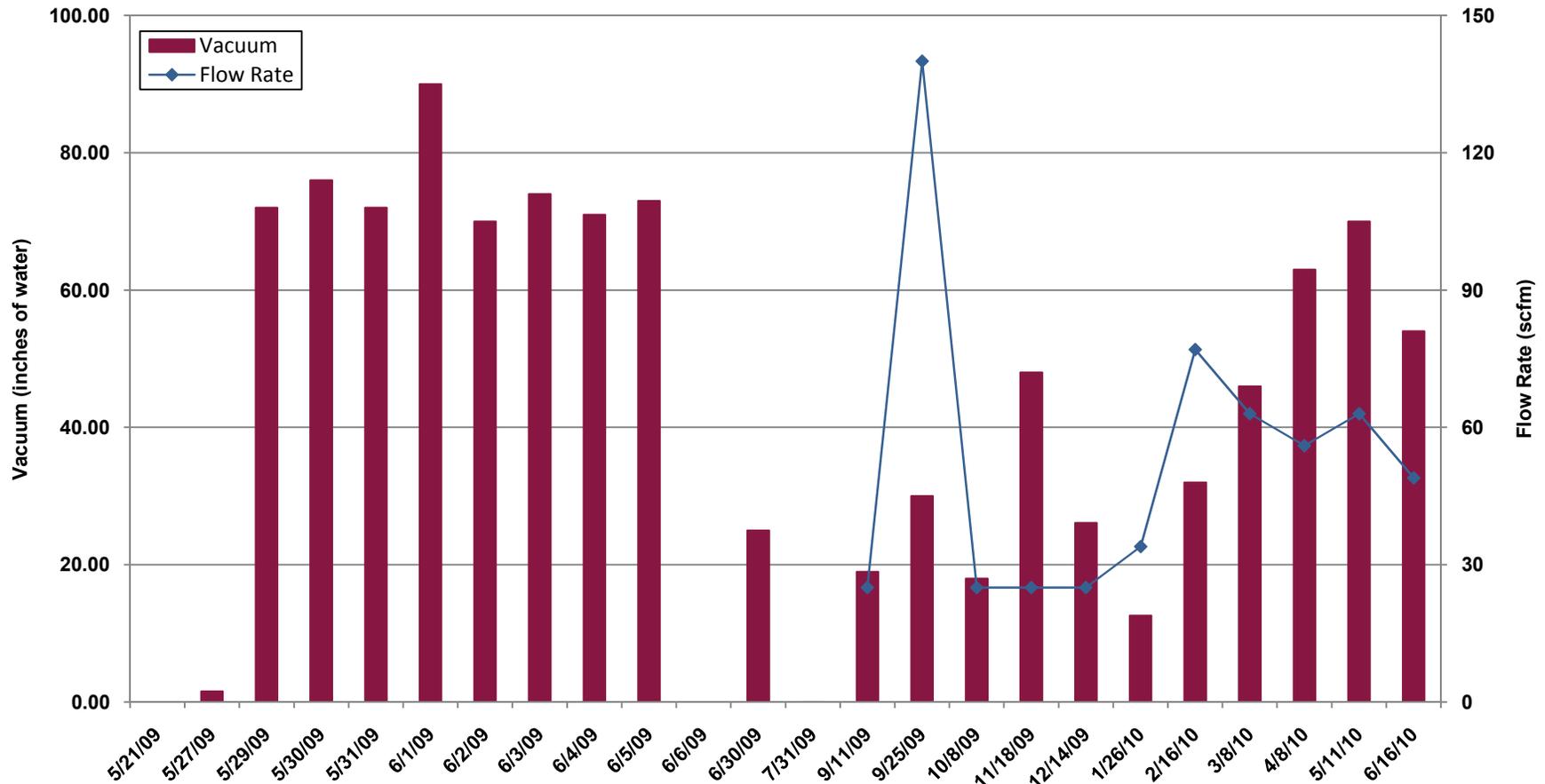
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
- Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-18
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-8N**

*Honeywell 34th Street Facility
Phoenix, Arizona*

BV-9N



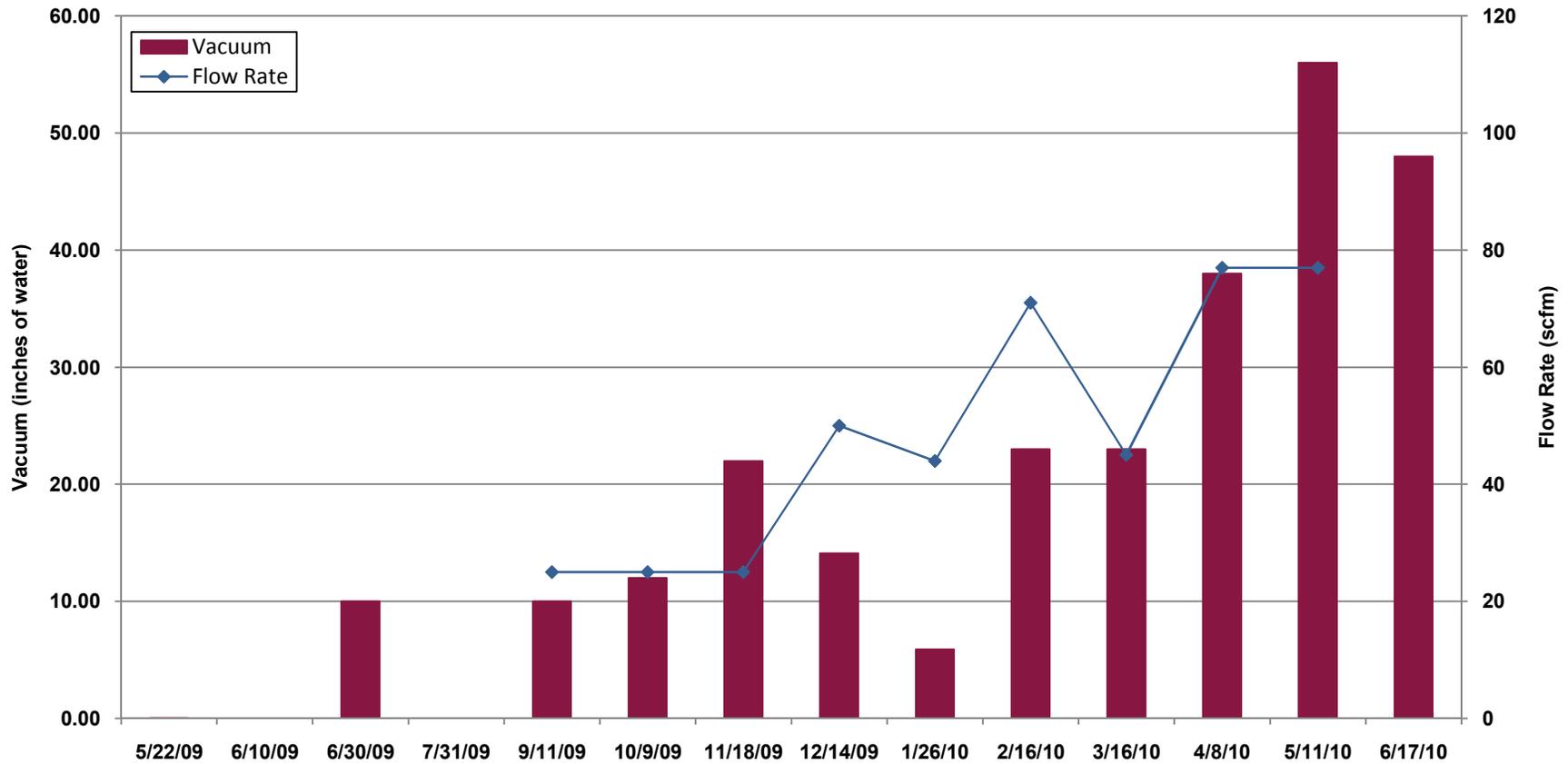
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-19
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-9N**

*Honeywell 34th Street Facility
Phoenix, Arizona*

BV-10N



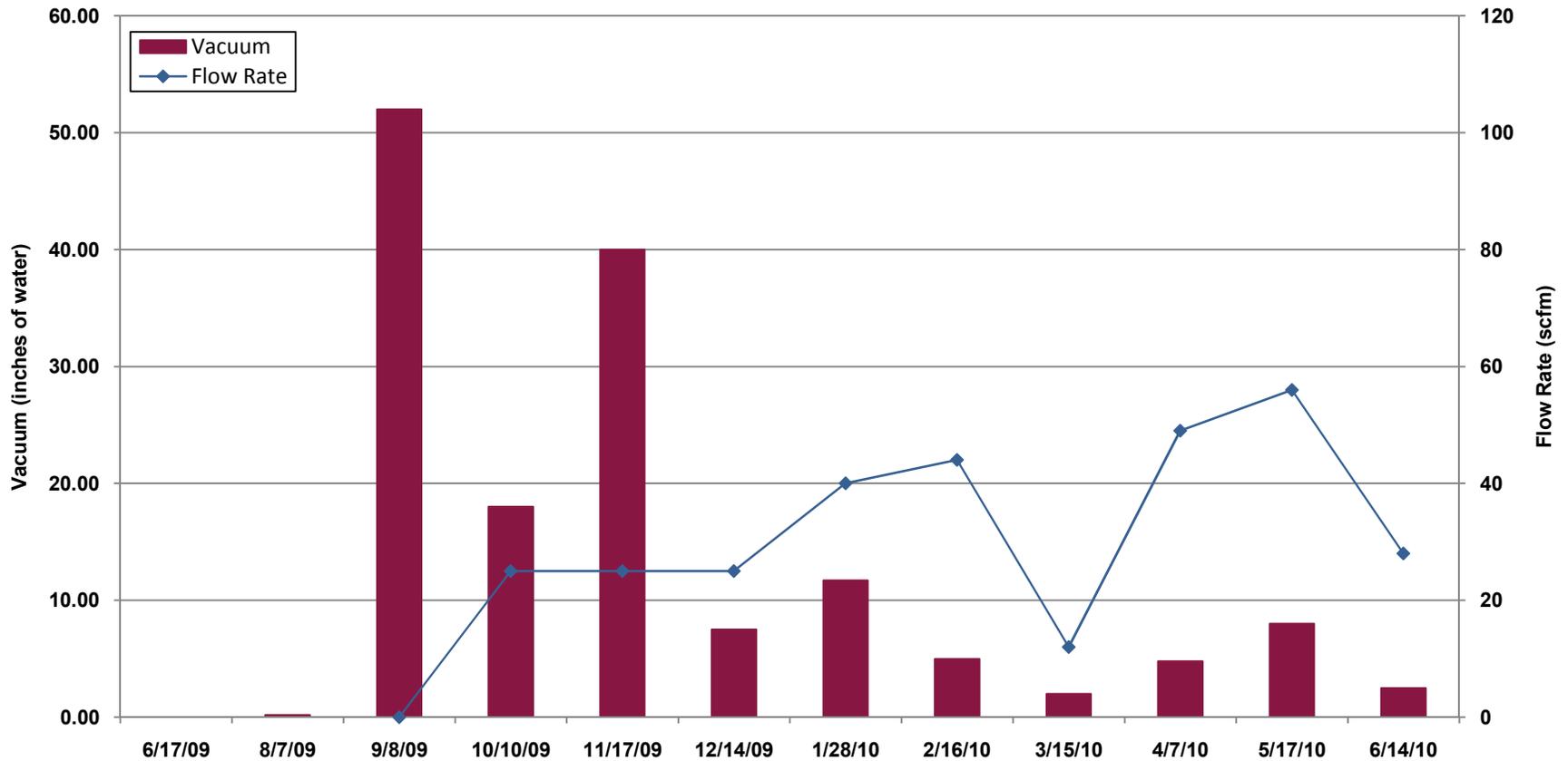
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-20
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-10N**

*Honeywell 34th Street Facility
Phoenix, Arizona*

BV-11N



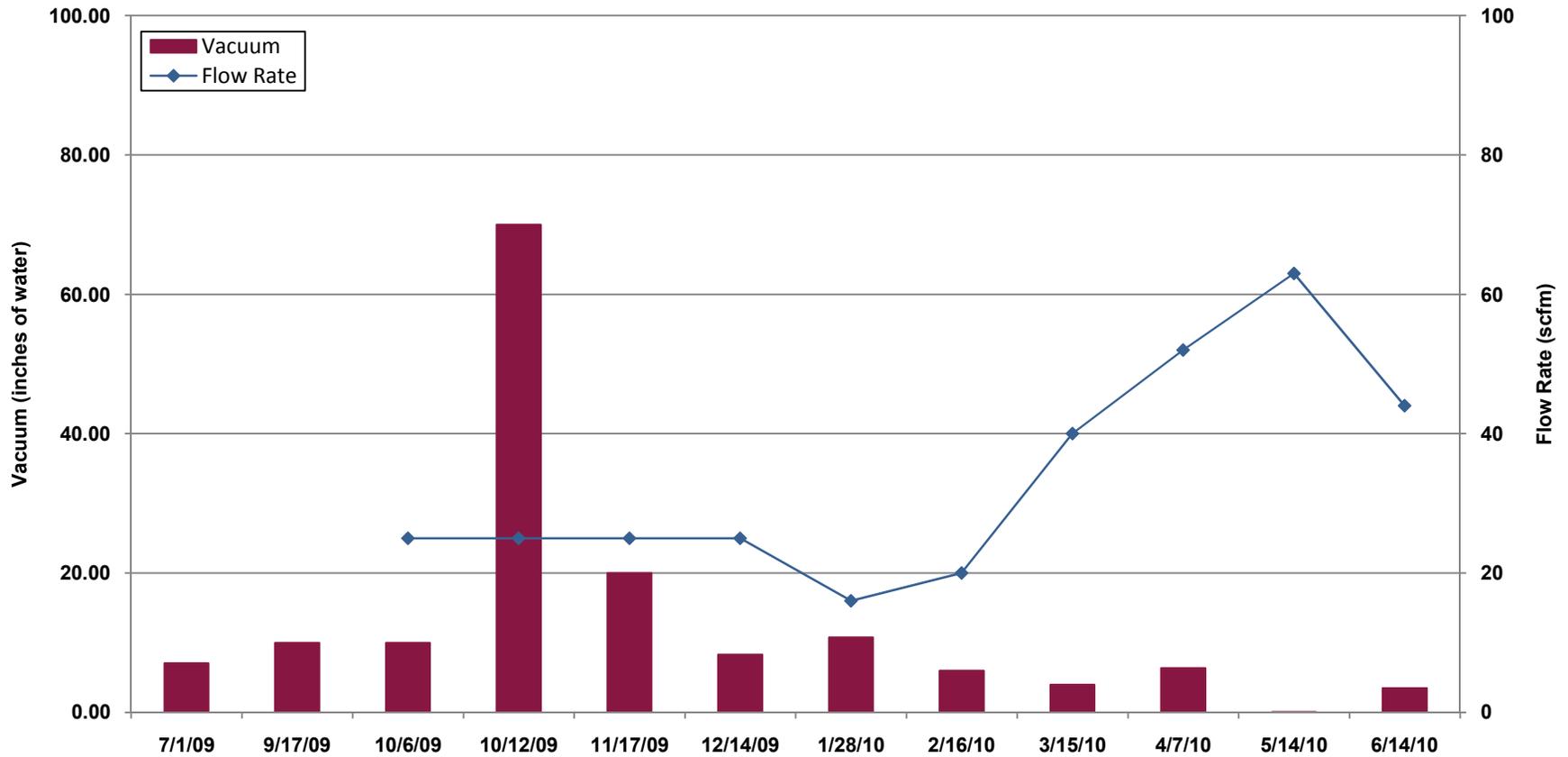
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-21
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-11N**

*Honeywell 34th Street Facility
Phoenix, Arizona*

BV-12N

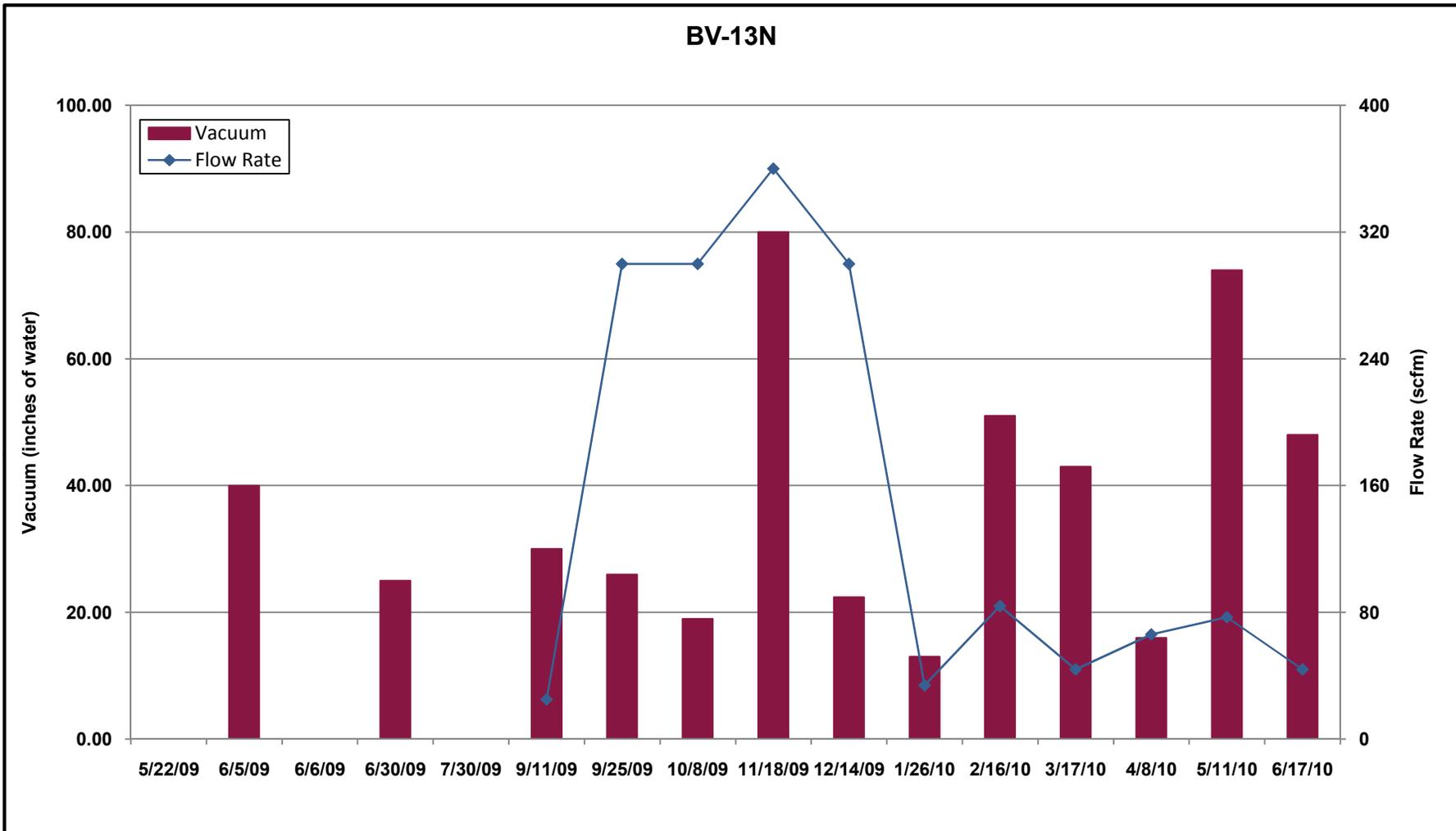


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-22
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-12N**

*Honeywell 34th Street Facility
Phoenix, Arizona*



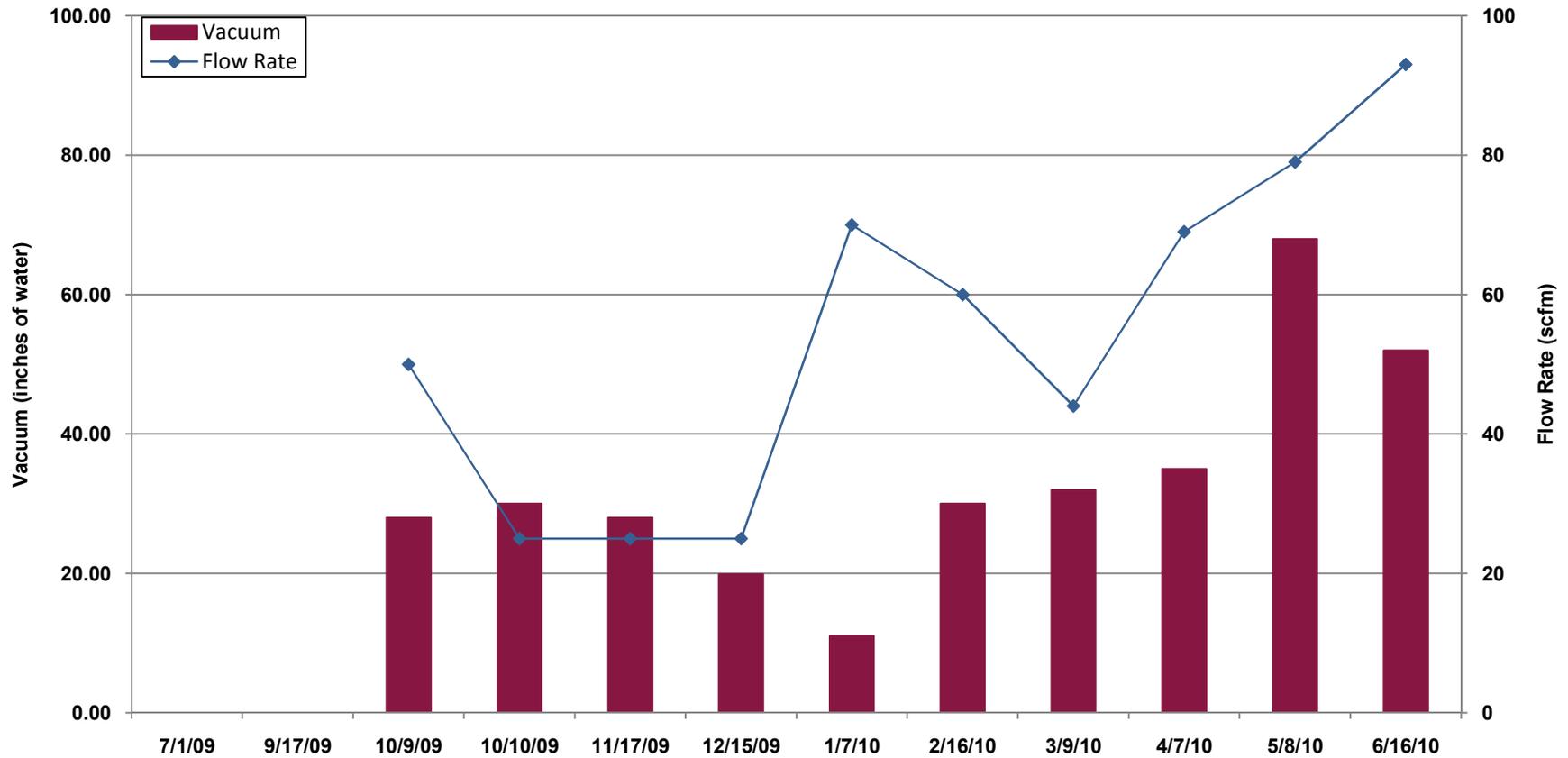
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
- Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-23
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-13N

Honeywell 34th Street Facility
Phoenix, Arizona

BV-14N



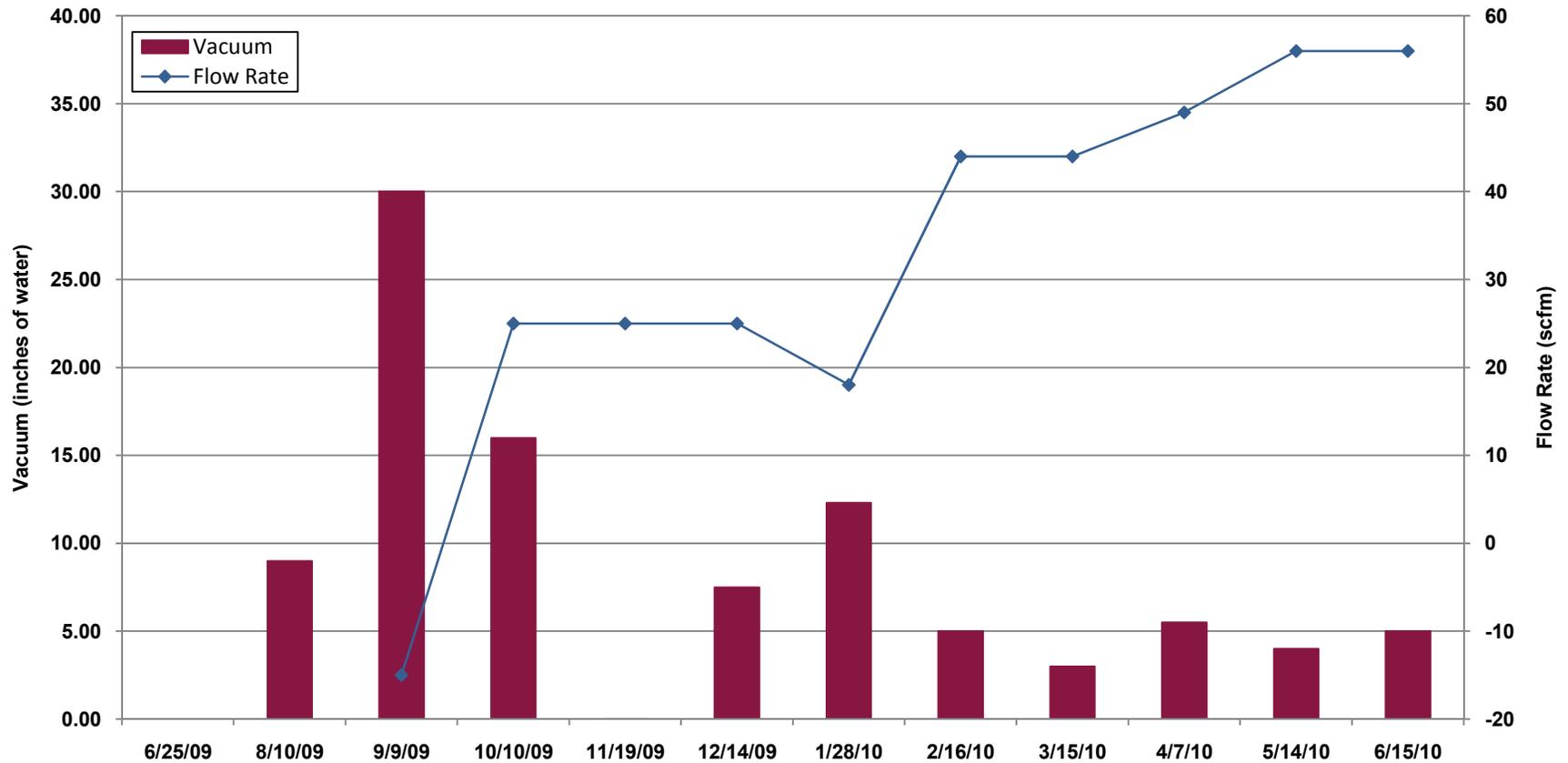
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
- Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-24
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-14N

Honeywell 34th Street Facility
Phoenix, Arizona

BV-15N



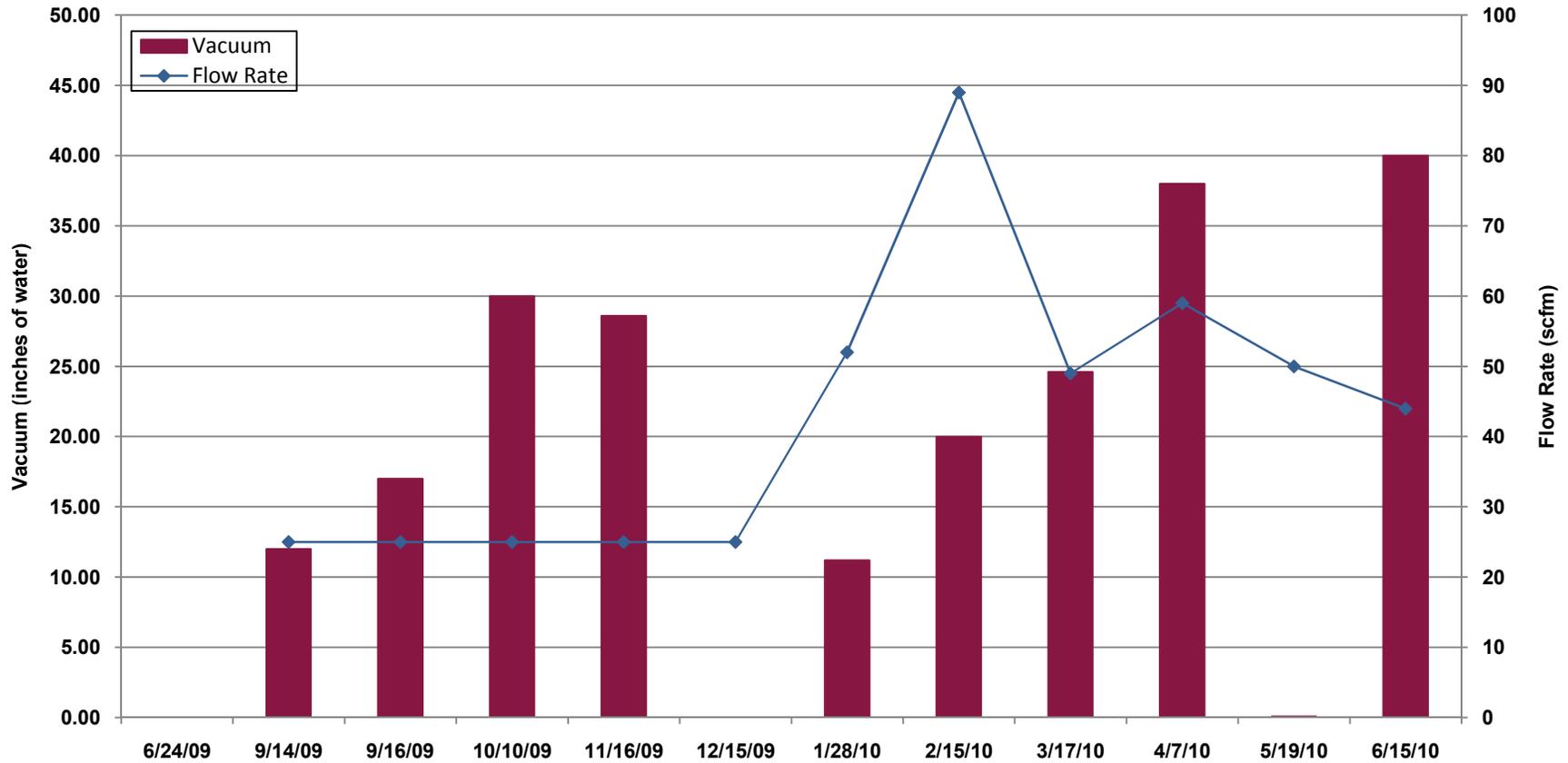
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-25
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-15N**

*Honeywell 34th Street Facility
Phoenix, Arizona*

BV-16N

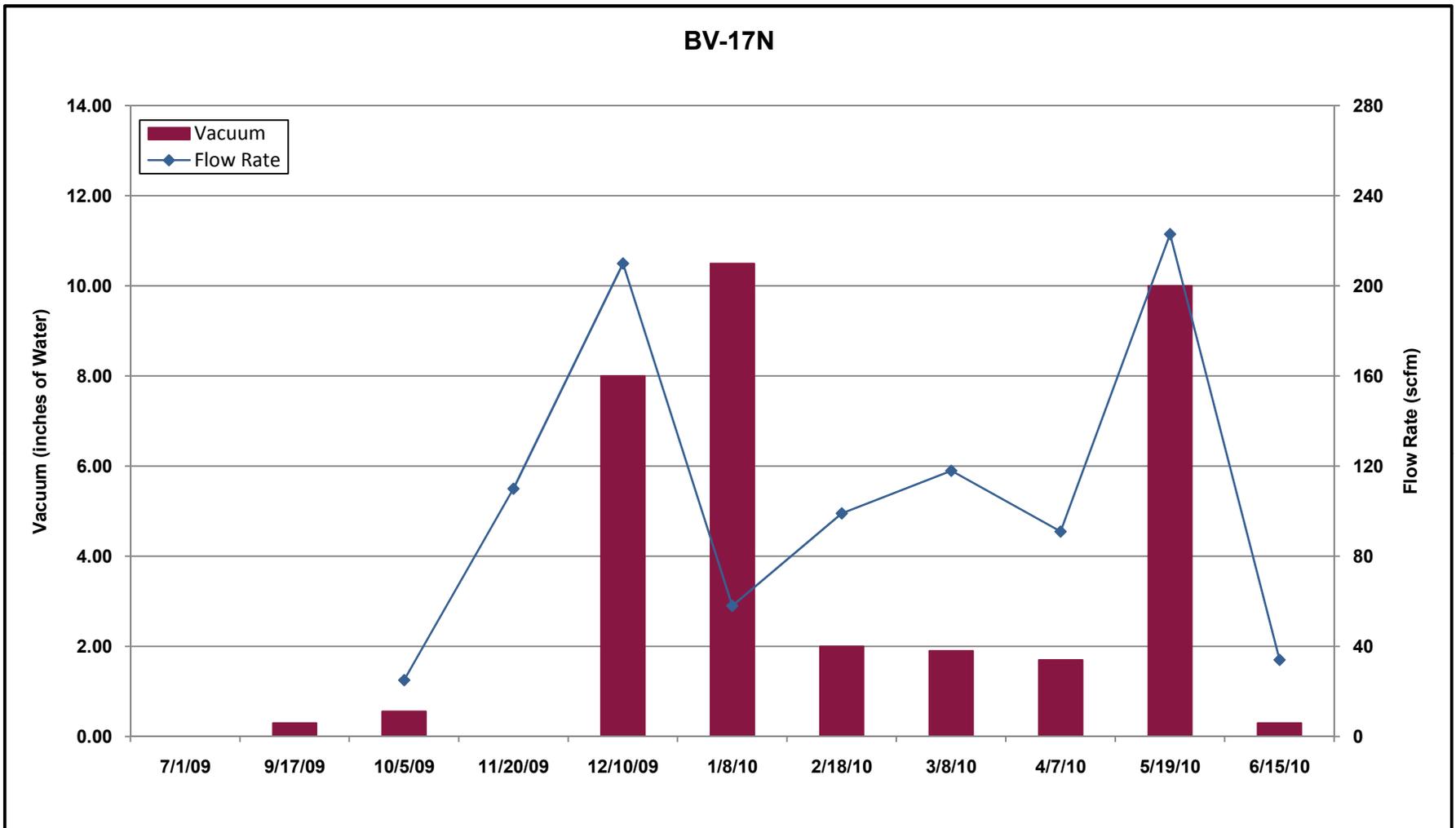


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010.
- Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-26
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-16N

Honeywell 34th Street Facility
Phoenix, Arizona

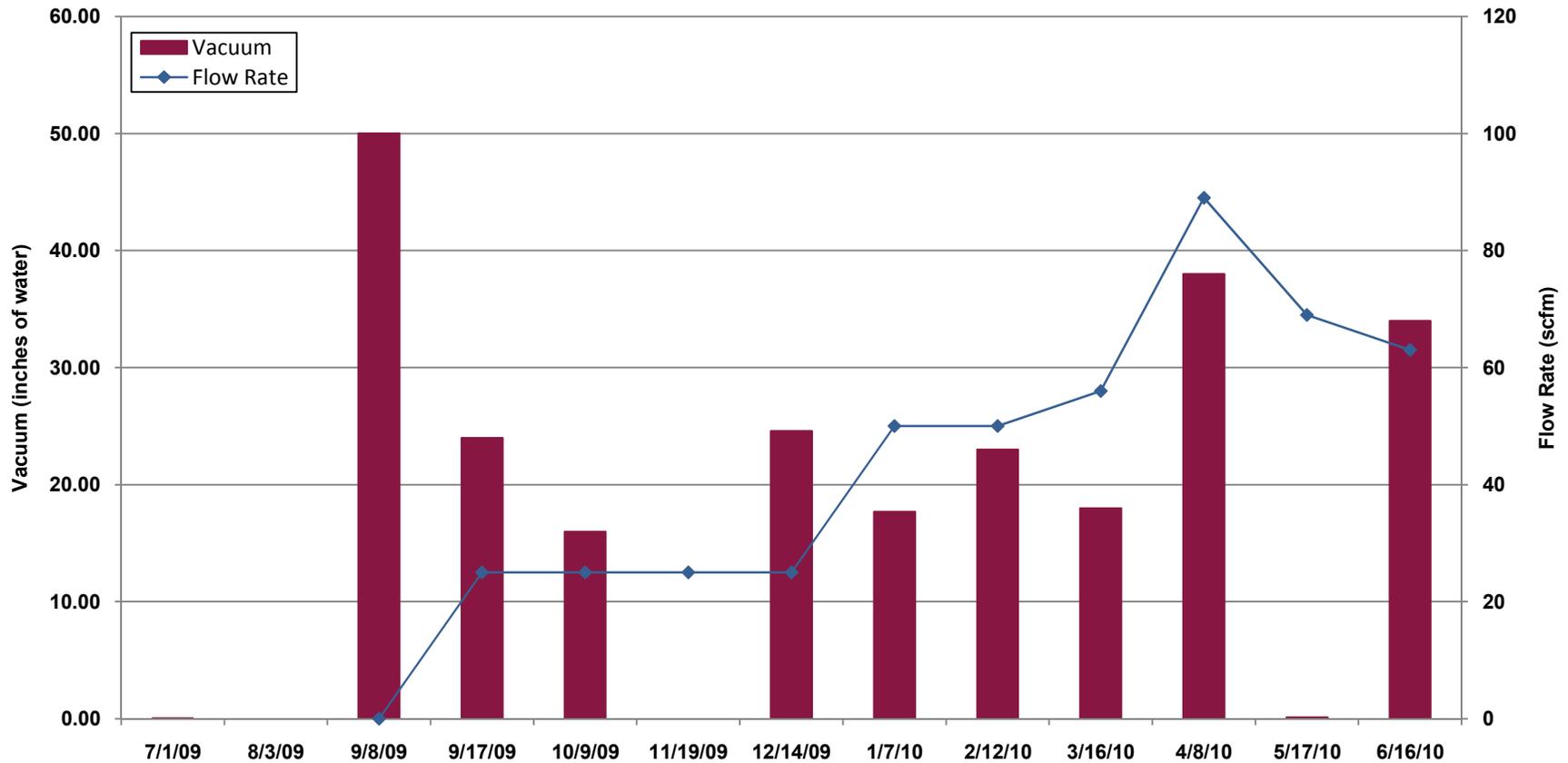


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-27
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-17N
Honeywell 34th Street Facility
Phoenix, Arizona

BV-18N



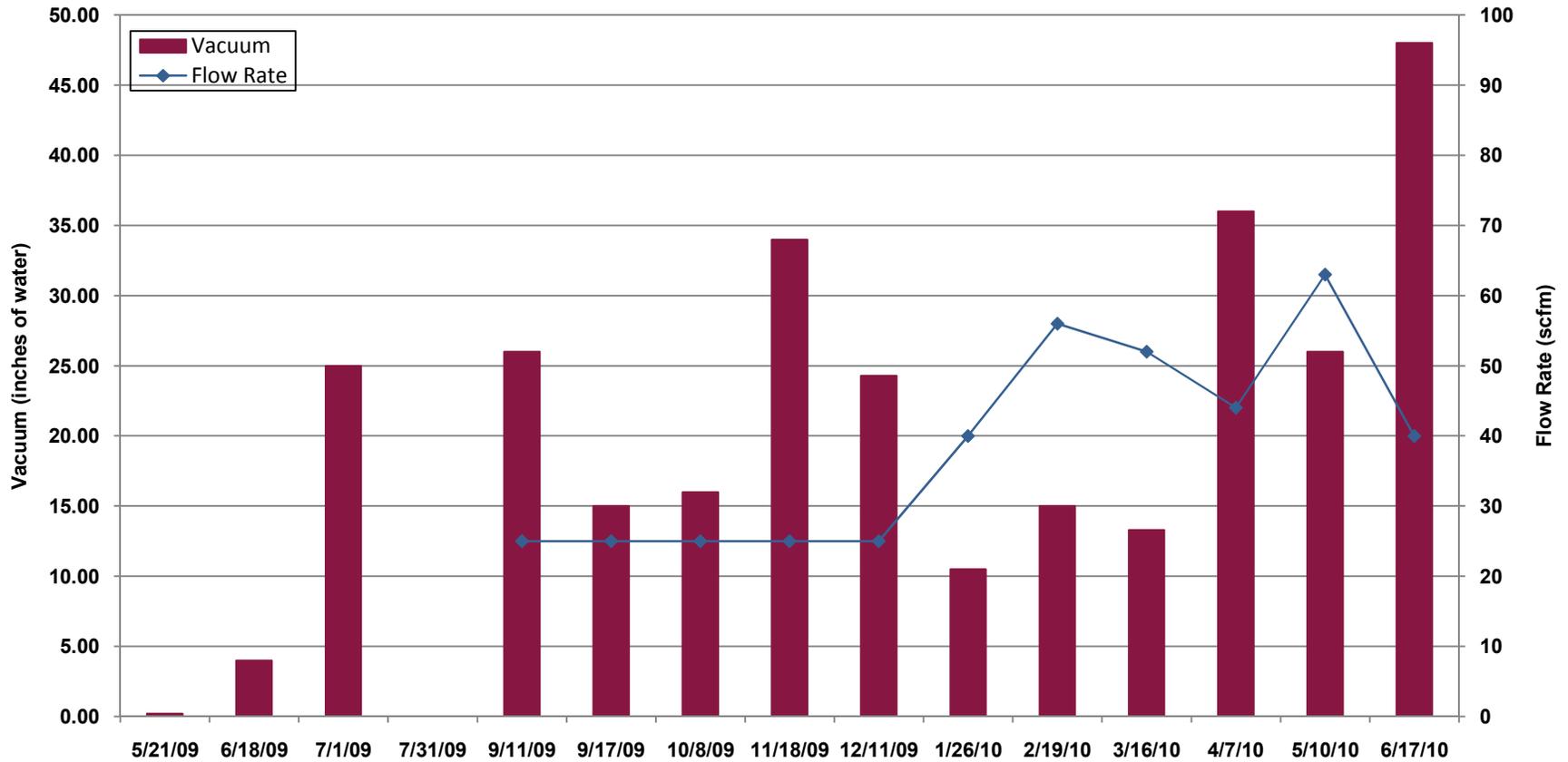
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-28
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-18N

Honeywell 34th Street Facility
Phoenix, Arizona

BV-19N



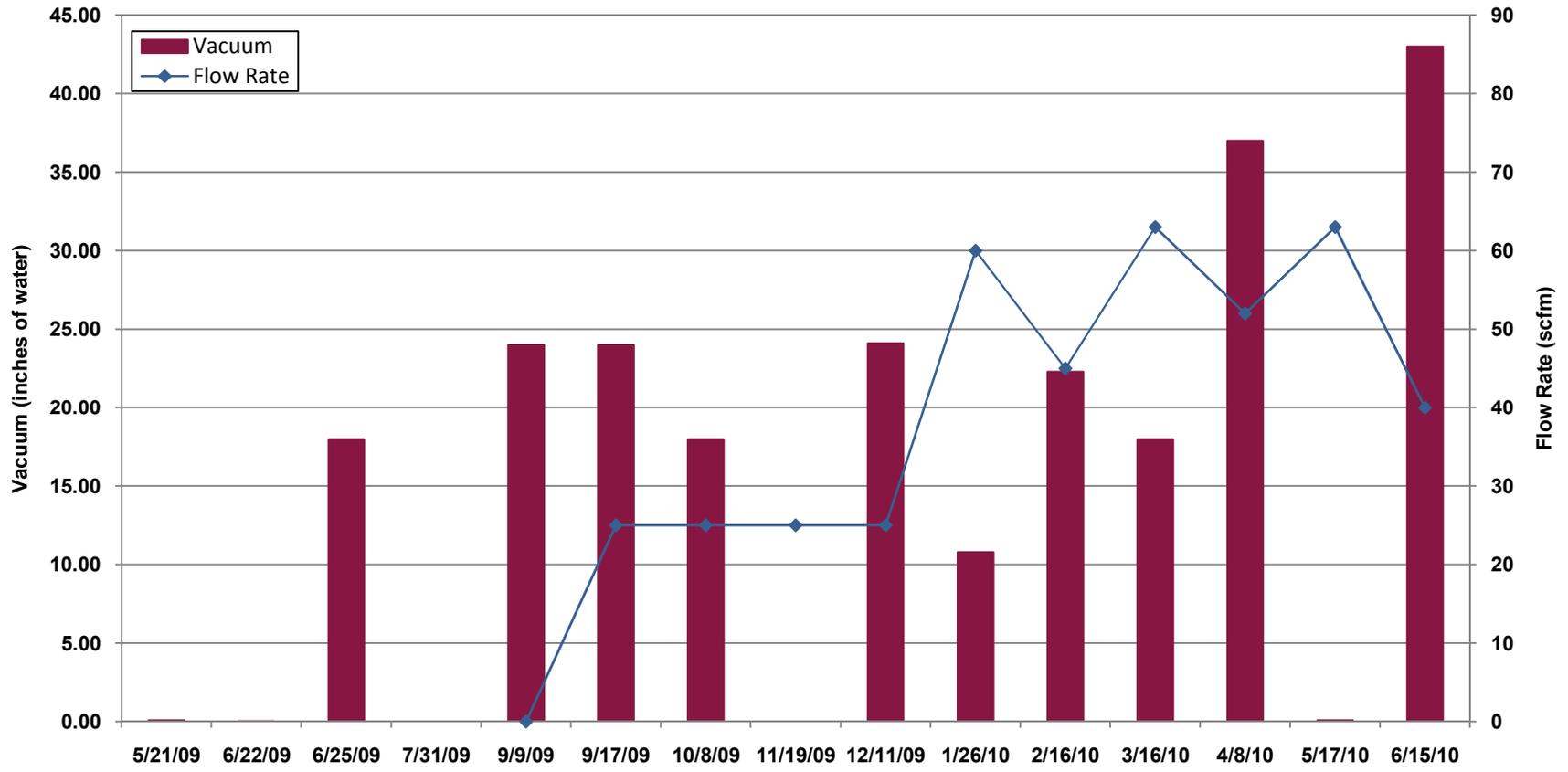
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-29
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-19N**

*Honeywell 34th Street Facility
Phoenix, Arizona*

BV-20N



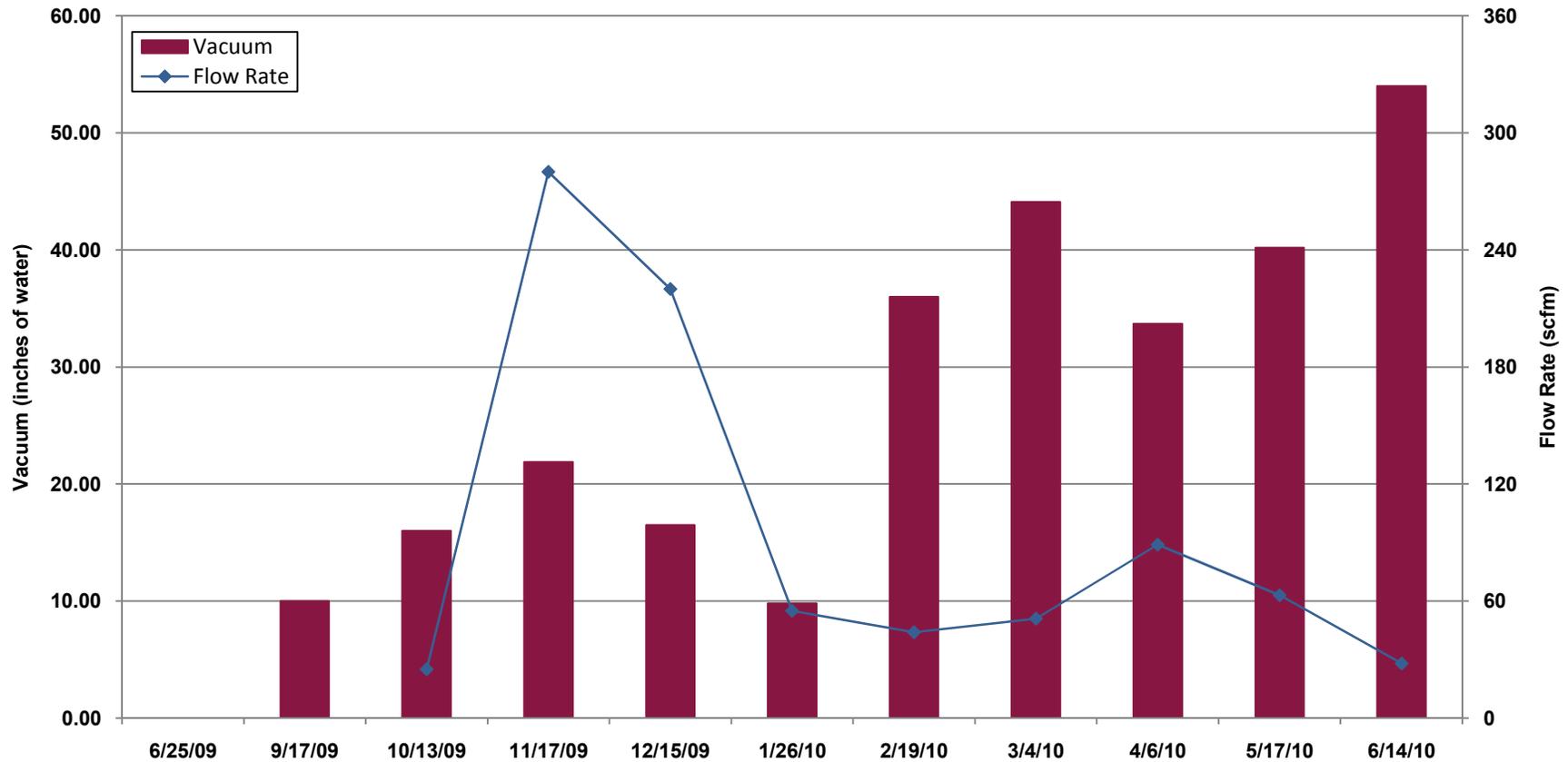
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-30
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-20N

Honeywell 34th Street Facility
Phoenix, Arizona

BV-21N

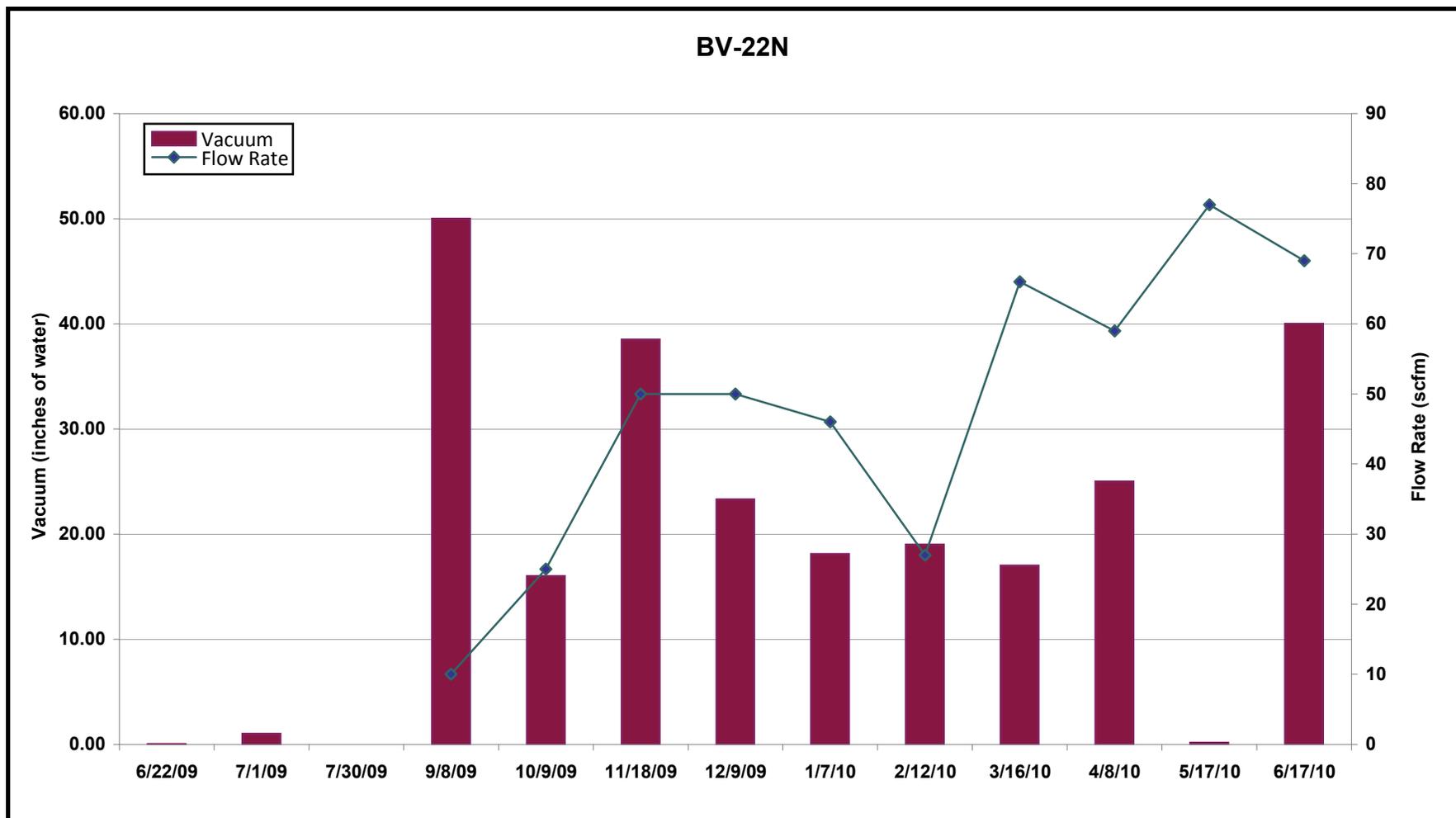


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-31
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-21N**

*Honeywell 34th Street Facility
Phoenix, Arizona*

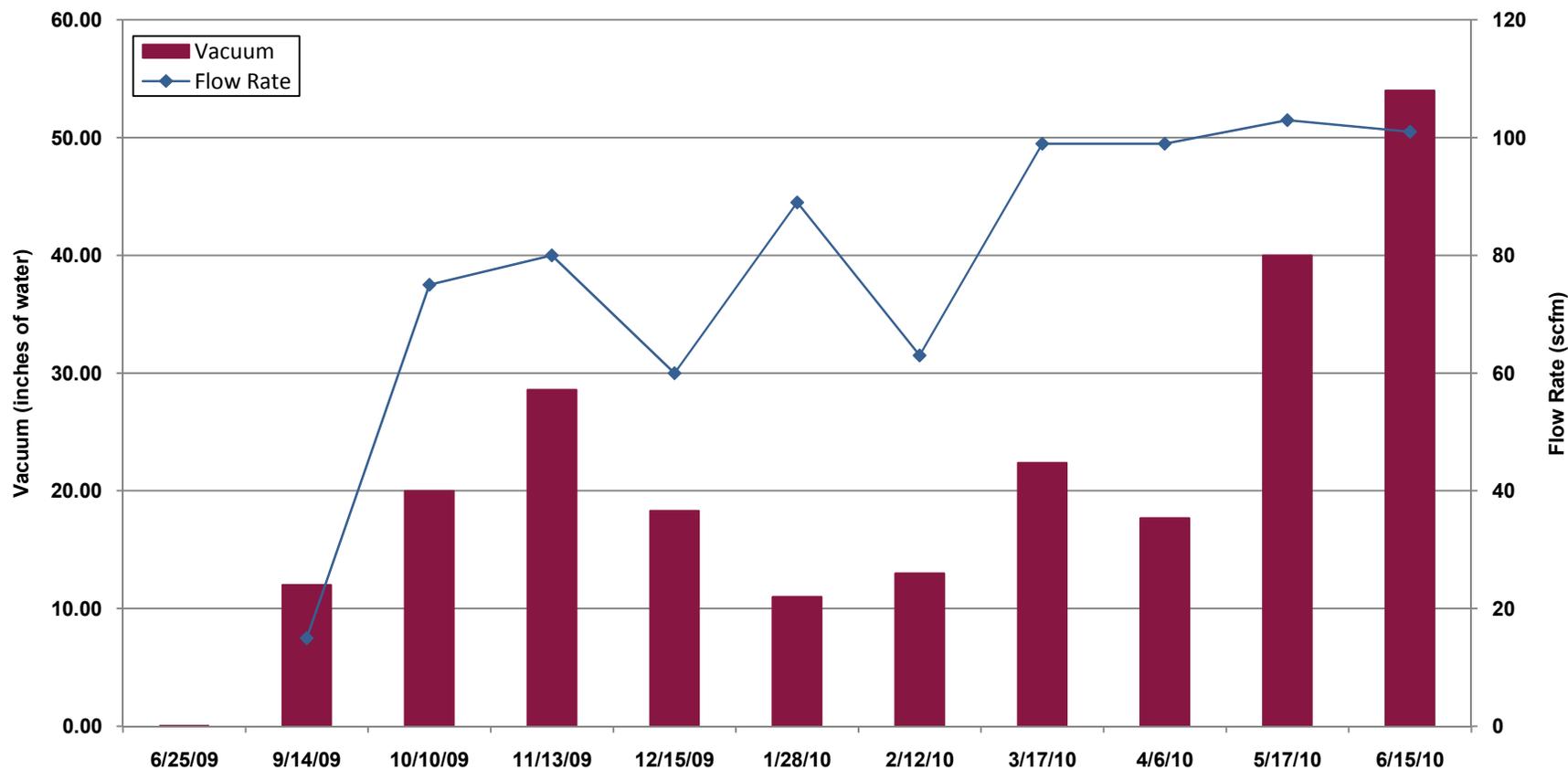


Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-32
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-22N
Honeywell 34th Street Facility

BV-23N



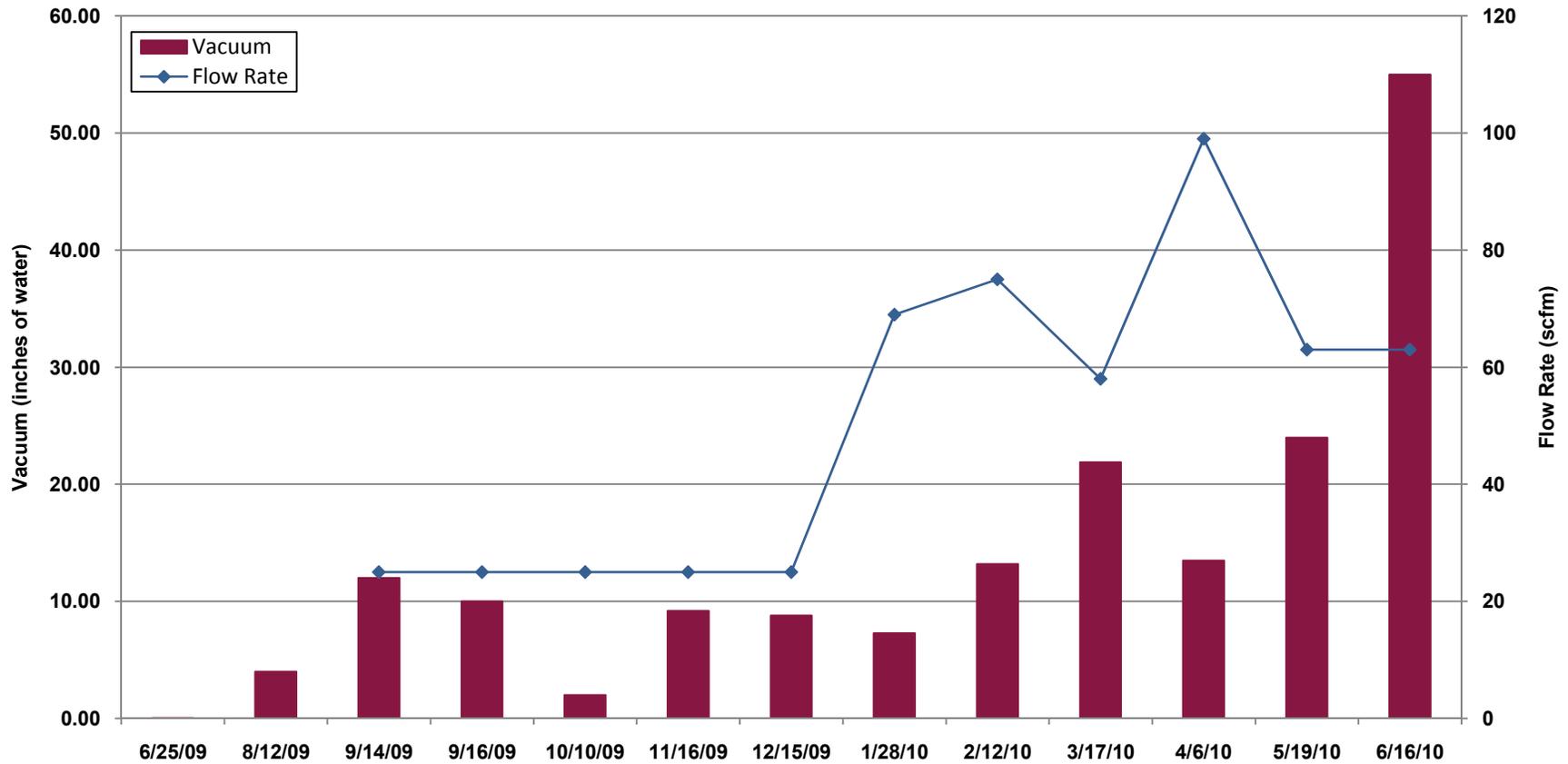
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-33
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-23N

Honeywell 34th Street Facility
Phoenix, Arizona

BV-24N



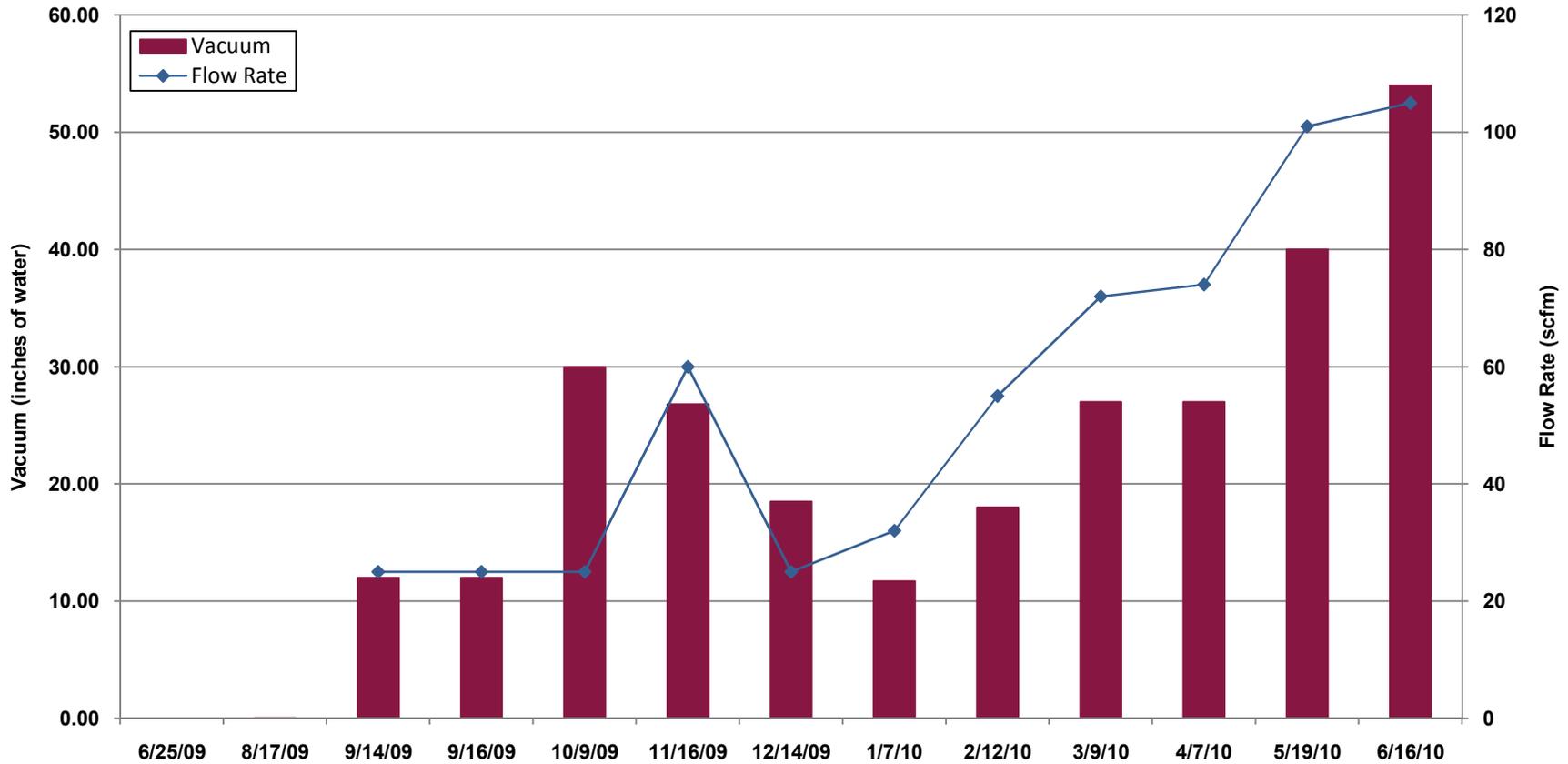
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-34
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-24N

Honeywell 34th Street Facility
Phoenix, Arizona

BV-25N



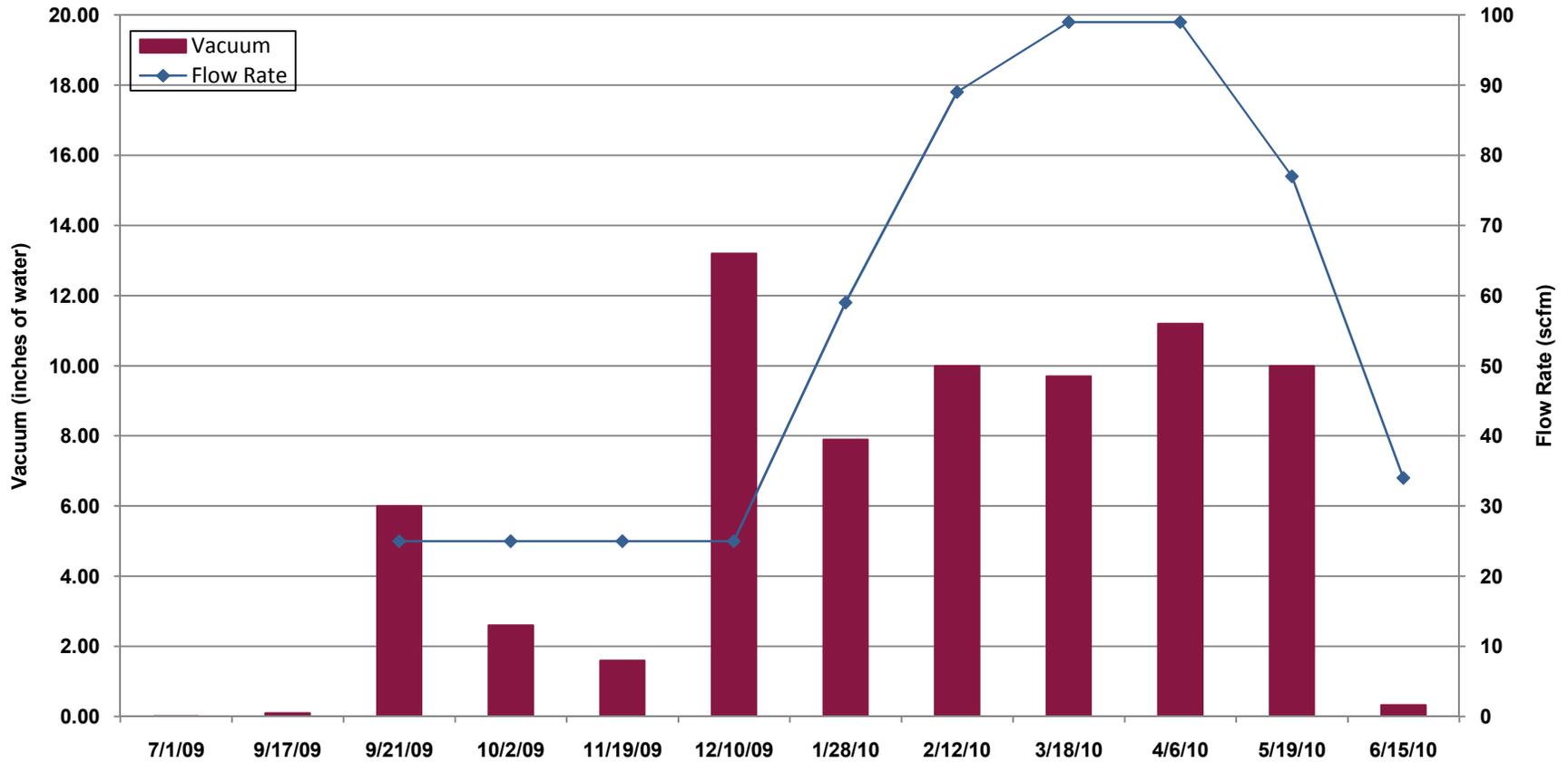
Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

**FIGURE C-35
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
BV-25N**

*Honeywell 34th Street Facility
Phoenix, Arizona*

PL-101A



Notes:

1. Graph includes available data for the time period May 1, 2009 through Jun 30, 2010. Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.
2. Negative vacuums, if any, indicate positive pressure.
3. Atmospheric pressure exists at zero inches of water.
4. If the flow rate is a less than value, half the given value is plotted (e.g. <50 plots at 25)
5. scfm = standard cubic feet per minute.

FIGURE C-36
FLOW RATES AND VACUUMS
FOR INJECTION/EXTRACTION WELL
PL-101A

Honeywell 34th Street Facility
Phoenix, Arizona

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
ASE-20A	06/29/09	0.04	NM
	09/15/09	0.07	<50
	09/16/09	-12	<50
	10/09/09	-4	<50
	11/13/09	-14	<50
	12/09/09	-18	60
	01/26/10	-10.3	79
	02/18/10	-25	72
	03/17/10	-17	82
	04/06/10	-33.2	99
	05/07/10	-19	72
	06/14/10	-4.2	40
	ASE-39A	06/27/09	0.01
09/16/09		-0.05	<50
09/23/09		-8	<50
10/02/09		-2.6	<50
11/12/09		-0.25	<50
12/10/09		-17.9	<50
01/28/10		-9.3	15
02/12/10		-30	44
03/15/10		-38	59
04/06/10		-37.3	49
05/07/10		-64	56
06/15/10		-0.34	40
ASE-41A		06/29/09	0
	08/03/09	0	NM
	08/14/09	-20	NM
	09/08/09	-50	0
	09/17/09	-12	<50
	10/09/09	-8	<50
	11/12/09	-10	<50
	12/14/09	-13.5	80
	01/07/10	-7.5	70
	02/12/10	-10	80
	03/09/10	-10.5	44
	04/08/10	-7	89
	05/14/10	-2	44
06/16/10	-16	44	
ASE-46A	05/28/09	0	NM
	07/01/09	-8	NM
	07/31/09	0	NM
	09/11/09	-10	50
	09/25/09	-10	50
	10/09/09	-22	60

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
ASE-46A	11/18/09	-54	100
	12/11/09	-20.7	80
	01/26/10	-11	99
	02/19/10	-12	86
	03/16/10	-9.7	95
	04/06/10	-9.5	99
	05/18/10	-1.25	223
	06/17/10	-20	100
ASE-51A	06/27/09	0.08	NM
	09/16/09	0.06	<50
	10/07/09	0	<50
	11/13/09	-26	60
	12/15/09	-18	70
	01/27/10	-11	20
	02/18/10	-12	66
	03/04/10	-11	89
	03/17/10	-18.3	72
	04/06/10	-31	69
	05/19/10	-40	99
	06/15/10	-36	34
ASE-53A	06/26/09	-0.5	NM
	09/16/09	0.01	<50
	10/15/09	-22	<50
	11/12/09	-12	<50
	12/11/09	-11	NM
	01/28/10	-11.1	44
	02/15/10	-24	56
	03/04/10	-20.2	63
	04/06/10	-11	59
	05/19/10	-40	44
06/14/10	-0.03	34	
ASE-56A	07/17/09	0	NM
	09/10/09	-40	25
	09/16/09	0.07	120
	10/10/09	-40	60
	11/12/09	-24	NM
	11/23/09	-0.7	<50
	12/10/09	-22.2	<50
	01/27/10	-12.8	44
	02/19/10	-51	77
	03/04/10	-53.3	99
	04/06/10	-34.2	72
	05/18/10	-48	44
	06/15/10	-48	52

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
ASE-57A	07/01/09	0.07	NM
	09/16/09	-0.17	NM
	10/02/09	-2.6	160
	11/12/09	-10	280
	12/10/09	-16	<50
	01/28/10	-5.3	52
	02/18/10	-10	99
	03/15/10	-14	99
	04/06/10	-11.7	99
	05/07/10	-20	99
	06/15/10	-0.37	34
ASE-59A	06/29/09	0	NM
	09/16/09	-0.04	<50
	10/14/09	-16	<50
	11/13/09	-28	<50
	12/11/09	-6.9	9
	01/08/10	-4.8	10
	02/11/10	-4.9	50
	03/18/10	-18.1	69
	04/07/10	-25	49
	05/14/10	-24	40
	06/15/10	-12	20
ASE-66A	06/29/09	0.02	NM
	09/17/09	-0.19	NM
	10/12/09	-32	<50
	11/13/09	-28	70
	12/15/09	-15.7	<50
	01/07/10	-12.6	19
	02/18/10	-27	35
	03/08/10	-59	69
	04/07/10	-38.7	66
	05/14/10	-28	52
06/16/10	-26	34	
ASE-97A	09/11/09	NM	3.8
	12/10/09	NM	3.5
	02/10/10	-0.03	NM
	03/11/10	NM	3.8
	05/18/10	NM	NM
BC-8B	06/01/09	0	NM
	09/11/09	NM	3.2
	11/05/09	0	NM
	12/10/09	NM	2.8
	02/10/10	-0.28	NM
	03/11/10	NM	3.2

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
BC-8B	05/19/10	NM	NM
BV-1N	05/22/09	0.05	NM
	06/08/09	-0.05	NM
	06/16/09	3	NM
	07/01/09	-32	NM
	07/31/09	0	NM
	09/11/09	-14	<50
	09/17/09	-12	<50
	10/08/09	-16	50
	11/18/09	-32	<50
	12/11/09	-17.8	60
	01/26/10	-9.3	63
	02/16/10	-12	89
	03/16/10	-22.8	89
	04/08/10	-32	89
	05/10/10	-30	89
	06/17/10	-44	105
BV-2N	06/22/09	0	NM
	08/05/09	-8	NM
	09/09/09	-26	75
	09/17/09	-10	75
	10/08/09	-11	80
	11/13/09	-16.9	70
	12/09/09	-24.9	80
	01/28/10	-13.4	40
	02/11/10	-31.5	26
	03/16/10	-37.6	42
	04/08/10	-63	63
	05/08/10	-82	52
	06/16/10	-51	40
BV-3N	07/01/09	-1	NM
	09/08/09	-40	0.5
	09/11/09	-9	0
	09/12/09	-8	<50
	09/25/09	-16	50
	10/09/09	-38	60
	11/19/09	-0.05	<50
	12/14/09	NM	60
	01/08/10	-25.1	178
	02/16/10	-15	99
	03/17/10	-9.5	99
	04/06/10	-17.2	99
	05/11/10	-36	63
	06/17/10	-43.7	20

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
BV-4N	06/08/09	-0.05	NM
	06/29/09	-2	NM
	07/30/09	0	NM
	09/10/09	-12	<50
	10/09/09	-14	<50
	11/18/09	-34.9	50
	12/09/09	-19	<50
	01/07/10	-17.5	60
	02/15/10	-20	60
	03/16/10	-17	69
	04/08/10	-28	77
	05/17/10	-0.25	99
	06/17/10	-32	84
	BV-5	06/29/09	0
09/17/09		-0.15	NM
10/01/09		-2.6	<50
11/19/09		-1.5	<50
12/10/09		-16.1	60
01/28/10		-9.1	44
02/18/10		-20	99
03/08/10		-19	103
04/06/10		-22	95
05/18/10		-32	136
06/15/10		-0.25	31
BV-6N	07/01/09	-0.025	NM
	09/17/09	-0.11	NM
	10/08/09	-20	<50
	11/16/09	-26.6	70
	12/15/09	-18.9	<50
	01/07/10	-11.5	70
	02/15/10	-26	34
	03/09/10	-29.1	103
	04/07/10	-18.3	87
	05/19/10	-40	141
06/16/10	-50	166	
BV-7N	06/22/09	0	NM
	09/17/09	0.05	NM
	10/14/09	-19	<50
	10/16/09	-20	<50
	11/16/09	-4.6	<50
	12/15/09	-2	<50
	01/07/10	-1.8	60
	02/15/10	-5	30
03/08/10	-5.4	49	

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
BV-7N	04/07/10	-22	63
	05/19/10	-40	52
	06/16/10	-36	28
BV-8N	06/17/09	0	NM
	09/17/09	-0.05	NM
	10/13/09	-2	NM
	11/19/09	0	<50
	12/10/09	-16.6	<50
	01/08/10	-1.7	7
	02/19/10	-0.5	28
	03/09/10	-14	44
	04/07/10	-2.9	34
	05/17/10	-0.15	77
	06/15/10	-34	63
BV-9N	05/21/09	0	NM
	05/27/09	1.55	NM
	05/29/09	-72	NM
	05/30/09	-76	NM
	05/31/09	-72	NM
	06/01/09	-90	NM
	06/02/09	-70	NM
	06/03/09	-74	NM
	06/04/09	-71	NM
	06/05/09	-73	NM
	06/06/09	NM	NM
	06/30/09	-25	NM
	07/31/09	-0.05	NM
	09/11/09	-19	<50
	09/25/09	-30	140
	10/08/09	-18	<50
	11/18/09	-48	<50
	12/14/09	-26.1	<50
	01/26/10	-12.6	34
	02/16/10	-32	77
03/08/10	-46	63	
04/08/10	-63	56	
05/11/10	-70	63	
06/16/10	-54	49	
BV-10N	05/22/09	0.05	NM
	06/10/09	0	NM
	06/30/09	-10	NM
	07/31/09	0	NM
	09/11/09	-10	<50
	10/09/09	-12	<50

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
BV-10N	11/18/09	-22	<50
	12/14/09	-14.1	50
	01/26/10	-5.9	44
	02/16/10	-23	71
	03/16/10	-23	45
	04/08/10	-38	77
	05/11/10	-56	77
	06/17/10	-48	NM
BV-11N	06/17/09	0	NM
	08/07/09	-0.2	NM
	09/08/09	-52	0
	10/10/09	-18	<50
	11/17/09	-40	<50
	12/14/09	-7.5	<50
	01/28/10	-11.7	40
	02/16/10	-5	44
	03/15/10	-2	12
	04/07/10	-4.8	49
	05/17/10	-8	56
	06/14/10	-2.5	28
	BV-12N	07/01/09	7.1
09/17/09		-10	NM
10/06/09		-10	<50
10/12/09		-70	<50
11/17/09		-20	<50
12/14/09		-8.3	<50
01/28/10		-10.8	16
02/16/10		-6	20
03/15/10		-4	40
04/07/10		-6.4	52
05/14/10		-0.1	63
06/14/10		-3.5	44
BV-13N	05/22/09	0	NM
	06/05/09	-40	NM
	06/06/09	NM	NM
	06/30/09	-25	NM
	07/30/09	0	NM
	09/11/09	-30	<50
	09/25/09	-26	>300
	10/08/09	-19	>300
	11/18/09	-80	>360
	12/14/09	-22.4	>300
	01/26/10	-13	34
	02/16/10	-51	84

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
BV-13N	03/17/10	-43	44
	04/08/10	-16	66
	05/11/10	-74	77
	06/17/10	-48	44
BV-14N	07/01/09	0	NM
	09/17/09	0.01	NM
	10/09/09	-28	50
	10/10/09	-30	<50
	11/17/09	-28	<50
	12/15/09	-19.9	<50
	01/07/10	-11.1	70
	02/16/10	-30	60
	03/09/10	-32	44
	04/07/10	-35	69
	05/08/10	-68	79
	06/16/10	-52	93
BV-15N	06/25/09	0	NM
	08/10/09	-9	NM
	09/09/09	-30	-15
	10/10/09	-16	<50
	11/19/09	-0.01	<50
	12/14/09	-7.5	<50
	01/28/10	-12.3	18
	02/16/10	-5	44
	03/15/10	-3	44
	04/07/10	-5.5	49
	05/14/10	-4	56
	06/15/10	-5	56
BV-16N	06/24/09	0.01	NM
	09/14/09	-12	<50
	09/16/09	-17	<50
	10/10/09	-30	<50
	11/16/09	-28.6	<50
	12/15/09	NM	<50
	01/28/10	-11.2	52
	02/15/10	-20	89
	03/17/10	-24.6	49
	04/07/10	-38	59
	05/19/10	-0.09	50
	06/15/10	-40	44
BV-17N	07/01/09	0	NM
	09/17/09	-0.3	NM
	10/05/09	-0.56	<50
	11/20/09	NM	110

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
BV-17N	12/10/09	-8	210
	01/08/10	-10.5	58
	02/18/10	-2	99
	03/08/10	-1.9	118
	04/07/10	-1.7	91
	05/19/10	-10	223
	06/15/10	-0.3	34
BV-18N	07/01/09	0.04	NM
	08/03/09	0	NM
	09/08/09	-50	0
	09/17/09	-24	<50
	10/09/09	-16	<50
	11/19/09	0	<50
	12/14/09	-24.6	<50
	01/07/10	-17.7	50
	02/12/10	-23	50
	03/16/10	-18	56
	04/08/10	-38	89
	05/17/10	-0.12	69
	06/16/10	-34	63
BV-19N	05/21/09	0.2	NM
	06/18/09	-4	NM
	07/01/09	-25	NM
	07/31/09	0	NM
	09/11/09	-26	<50
	09/17/09	-15	<50
	10/08/09	-16	<50
	11/18/09	-34	<50
	12/11/09	-24.3	<50
	01/26/10	-10.5	40
	02/19/10	-15	56
	03/16/10	-13.3	52
	04/07/10	-36	44
	05/10/10	-26	63
06/17/10	-48	40	
BV-20N	05/21/09	0.1	NM
	06/22/09	0.03	NM
	06/25/09	-18	NM
	07/31/09	0	NM
	09/09/09	-36	0
	09/17/09	-24	<50
	10/08/09	-18	<50
	11/19/09	0	<50
	12/11/09	-24.1	<50

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
BV-20N	01/26/10	-10.8	60
	02/16/10	-22.3	45
	03/16/10	-18	63
	04/08/10	-37	52
	05/17/10	-0.1	63
	06/15/10	-43	40
BV-21N	06/25/09	0	NM
	09/17/09	-10	NM
	10/13/09	-16	<50
	11/17/09	-21.9	280
	12/15/09	-16.5	220
	01/26/10	-9.8	55
	02/19/10	-36	44
	03/04/10	-44.1	51
	04/06/10	-33.7	89
	05/17/10	-40.2	63
	06/14/10	-54	28
	BV-22N	06/22/09	0.03
07/01/09		-1	NM
07/30/09		0	NM
09/08/09		-50	10
10/09/09		-16	<50
11/18/09		-38.5	50
12/09/09		-23.3	50
01/07/10		-18.1	46
02/12/10		-19	27
03/16/10		-17	66
04/08/10		-25	59
05/17/10		-0.15	77
06/17/10		-40	69
BV-23N		06/25/09	0.02
	09/14/09	-12	<30
	10/10/09	-20	75
	11/13/09	-28.6	80
	12/15/09	-18.3	60
	01/28/10	-11	89
	02/12/10	-13	63
	03/17/10	-22.4	99
	04/06/10	-17.7	99
	05/17/10	-40	103
	06/15/10	-54	101
BV-24N	06/25/09	-0.04	NM
	08/12/09	-4	NM
	09/14/09	-12	<50

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
BV-24N	09/16/09	-10	<50
	10/10/09	-2	<50
	11/16/09	-9.2	<50
	12/15/09	-8.8	<50
	01/28/10	-7.3	69
	02/12/10	-13.2	75
	03/17/10	-21.9	58
	04/06/10	-13.5	99
	05/19/10	-24	63
	06/16/10	-55	63
BV-25N	06/25/09	0	NM
	08/17/09	0.05	NM
	09/14/09	-12	<50
	09/16/09	-12	<50
	10/09/09	-30	<50
	11/16/09	-26.8	60
	12/14/09	-18.5	<50
	01/07/10	-11.7	32
	02/12/10	-18	55
	03/09/10	-27	72
	04/07/10	-27	74
	05/19/10	-40	101
	06/16/10	-54	105
	BV-26N	02/10/10	-0.07
05/13/10		NM	NM
BV-27N	02/10/10	-0.1	NM
	05/13/10	NM	NM
BV-28N	02/10/10	-0.05	NM
	05/14/10	NM	NM
BV-29N	02/09/10	-0.02	NM
	05/14/10	NM	NM
BV-30N	02/11/10	-0.29	NM
	05/19/10	NM	NM
BV-31N	02/11/10	-0.28	NM
	02/19/10	-0.7	NM
	05/19/10	NM	NM
BV-32N	02/11/10	-0.25	NM
	05/18/10	NM	NM
BV-33N	02/11/10	-0.42	NM
	05/19/10	NM	NM
PL-101A	07/01/09	0.02	NM
	09/17/09	-0.1	NM
	09/21/09	-6	<50

TABLE C-1

Summary of Flow Rates and Pressures for Injection/Extraction Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	Pressure (inches of water)	Flow rate (scfm)
PL-101A	10/02/09	-2.6	<50
	11/19/09	-1.6	<50
	12/10/09	-13.2	<50
	01/28/10	-7.9	59
	02/12/10	-10	89
	03/18/10	-9.7	99
	04/06/10	-11.2	99
	05/19/10	-10	77
	06/15/10	-0.33	34

Notes:

Field improvements conducted in the First and Second Quarter 2010 resulted in improved pressure versus flow data. Data collected prior to these improvements is presented for completeness.

scfm = standard cubic feet per minute

NM = not measured

Appendix D
Data Quality Evaluation and
Laboratory Analytical Reports - Soil vapor

Data Quality Evaluation Report – Second Quarter 2010 Soil Vapor Monitoring

Introduction

The objective of this data quality evaluation (DQE) report is to assess the data quality of analytical results for soil vapor samples collected at the Honeywell International Inc. 34th Street Aerospace Engines Product Center. Samples were collected and analyzed to support performance evaluation of the biologically enhanced soil vapor extraction system. The data may also be used to support future activities such as feasibility studies, risk assessments, fate and transport modeling, and remedial actions. The basis for this assessment includes: individual method requirements, guidelines from the United States Environmental Protection Agency (USEPA) *Contract Laboratory National Functional Guidelines for Organic Data Review* (USEPA, 1999), and the *Master Quality Assurance Project Plan, Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona (QAPP)* (CH2M HILL, 2007). This DQE report is intended as a general data quality assessment designed to summarize data issues.

The Second Quarter 2010 soil vapor sampling event was conducted in compliance with the updated QAPP entitled *Master Quality Assurance Project Plan, Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona* (CH2M HILL, 2007) and the QAPP addendum entitled *Quality Assurance Project Plan, Addendum 1, Honeywell 34th Street Facility, Phoenix, Arizona* (CH2M HILL, 2009), both approved by the Arizona Department of Environmental Quality on December 1, 2009. The QAPP addendum addresses the methods presented in this DQE.

Analytical Data

This DQE report covers 82 normal samples and nine field duplicates. A list of samples and collection dates is included in Attachment D-1 at the end of this DQE report. Samples were collected between May 7 and May 20, 2010. These sample results were reported as 12 sample delivery groups (SDG) listed in Table D-1. The analyses were performed by Curtis & Tompkins Laboratory (CTBERK) in Berkeley, California.

TABLE D-1
Sample Delivery Groups (SDGs)

220069
 220070
 220071
 220207
 220208
 220209
 220210
 220211
 220380
 220424
 220426
 220428

Three methods were used to analyze the environmental samples. Samples were collected and shipped by overnight carrier to CTBERK for analysis. Samples were analyzed for one or more of the analytes/methods shown in Table D-2.

TABLE D-2
Analytical Parameters by Laboratory

Parameter	Method	Lab
Volatile Organic Compounds	TO-15	CTBERK
Total Petroleum Hydrocarbon Speciation and Methane	TO-3M	CTBERK
Carbon Dioxide and Oxygen	ASTM D1946	CTBERK

Data validation was performed in accordance with the *Contract Laboratory National Functional Guidelines for Organic Data Review* (USEPA, 1999), substituting the calibration and quality control requirements specified in the QAPP (CH2M HILL, 2007) and QAPP Addendum (CH2M HILL, 2009) for those specified in the National Functional Guidelines.

The assessment of data included a review of: (1) the chain-of-custody documentation; (2) holding-time compliance; (3) the required field and laboratory quality control samples; (4) flagging for method blanks; (5) laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries; (6) surrogate spike recoveries, (7) internal standard recoveries; and (8) initial and continuing calibrations.

Field samples were also reviewed to ascertain field compliance and data quality issues. This included a review of field duplicates.

Data flags are assigned according to the QAPP (CH2M HILL, 2007) and QAPP Addendum (CH2M HILL, 2009). These flags, as well as the reason for each flag, are entered into the electronic database. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there will be only one final flag. A final flag is applied to the data

and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.

The data flags are defined below:

- J = Analyte was present but reported value may not be accurate or precise.
- R = The result was rejected.
- U = Analyte was analyzed for but not detected at the specified detection limit.
- UJ = Analyte was not detected above the detection limit objective. However, the reported detection limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Findings

The overall summaries of the data validation findings are contained in the following sections below and summarized in Attachment D-2 at the end of this DQE report. Both the text section and Attachment D-2 contain only the instances where criteria exceedances impact data qualification (resulting in a validation flag being added to the data).

Holding Times

All holding-time criteria were met.

Sample Quantitation

Data were reported to the reporting limit (RL). Several samples required dilution due to high analyte concentrations and/or matrix interference. The RLs for non-detected analytes in the diluted samples were raised accordingly. Table D-3 lists the methods and the samples that were analyzed at a dilution.

Dilution factors less than four are the result of canister or bag pressure and are not related to analyte concentrations or matrix interference and therefore are not listed in Table D-3.

TABLE D-3
 Samples Analyzed Diluted

Method	Sample ID	Dilution Factor(s)	Method	Sample ID	Dilution Factor(s)
TO-15	BSVE-SVM-10Q2-002	6.09	TO-15	PMW-5-U-10Q2	12
TO-15	BSVE-SVM-10Q2-003	6.33	TO-15	PMW-6-M-10Q2	5.91
TO-15	BSVE-SVM-10Q2-004	12.54	TO-15	PMW-6-U-10Q2	6.3
TO-15	P-33-10Q2	4.46	TO-15	PMW-7-M-10Q2	4.08
TO-15	P-35-10Q2	11.34	TO-15	PMW-9-M-10Q2	12.84
TO-15	P-36-10Q2	4.64	TO-15	PMW-9-U-10Q2	6.42
TO-15	P-37-10Q2	4.1	TO-15	SMW-12-M-10Q2	4.36
TO-15	P-39-10Q2	13.5	TO-15	SMW-12-U-10Q2	6.39
TO-15	P-47-10Q2	12.78	TO-15	SMW-13-U-10Q2	4.14
TO-15	PL-2102-10Q2	168.8	TO-15	SMW-1-L-10Q2	109.2
TO-15	PMW-10-M-10Q2	6.27	TO-15	SMW-1-M-10Q2	5.82
TO-15	PMW-10-U-10Q2	12.18	TO-15	SMW-1-U-10Q2	23.88
TO-15	PMW-1-M-10Q2	13.08	TO-15	SMW-2-M-10Q2	10.98
TO-15	PMW-1-U-10Q2	13.14	TO-15	SMW-3-L-10Q2	4.24
TO-15	PMW-2-M-10Q2	6.03	TO-15	SMW-3-M-10Q2	4.12
TO-15	PMW-2-U-10Q2	12.18	TO-15	SMW-3-U-10Q2	5.94
TO-15	PMW-3-M-10Q2	4.26	TO-15	SMW-4-L-10Q2	7.59, 15.18
TO-15	PMW-3-U-10Q2	12.3	TO-15	SMW-6-L-10Q2	7.83
TO-15	PMW-4-M-10Q2	6.15	TO-15	SMW-7-L-10Q2	6.06
TO-15	PMW-4-ML-10Q2	243.6	TO-15	SMW-7-M-10Q2	6.75
TO-15	PMW-4-U-10Q2	6.09	TO-15	SMW-7-U-10Q2	6.03
TO-15	PMW-5-M-10Q2	6.21	TO-15	SVV-1-10Q2	6.84
TO-15	PMW-5-ML-10Q2	523.2			

Calibration

All initial and continuing calibration criteria were met.

Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination.

Field Blanks

Field blanks were not collected with this event.

Field Duplicates

Nine field duplicate sets were collected and analyzed with this event. A list of field duplicates and associated parent sample identifications (ID) is included in Table D-4.

TABLE D-4
List of Field Duplicates

Field Duplicate Sample ID	Associated Parent Sample ID
BSVE-SVM-10Q2-001	BSVE-SVM-10Q2-001
BSVE-SVM-10Q2-002	PMW-3-U-10Q2
BSVE-SVM-10Q2-003	PMW-6-M-10Q2
BSVE-SVM-10Q2-004	PMW-9-U-10Q2
BSVE-SVM-10Q2-005	BC-18-10Q2
BSVE-SVM-10Q2-006	SMW-8-M-10Q2
BSVE-SVM-10Q2-007	SMW-11-U-10Q2
BSVE-SVM-10Q2-008	SMW-4-M-10Q2
BSVE-SVM-10Q2-009	P-41-10Q2

All relative percent difference (RPD) criteria were met with the following exceptions:

The RPDs of six analytes were above the acceptance criteria for one or more of four field duplicate sets for Method TO-15. Thirty-six detected results for the normal samples and field duplicates were qualified as estimated and flagged “J.”

These qualified results are presented in more detail in Attachment D-2.

Laboratory Duplicates

All laboratory duplicate precision criteria were met.

Surrogates

All surrogates recovery criteria were met with the following exceptions:

A surrogate was recovered greater than the upper control limit in 16 samples for Method TO-15, indicating associated sample results are possibly biased high. One hundred sixteen associated detected results were qualified as estimated and flagged “J.”

Laboratory Control Samples

LCS/LCSDs were analyzed as required. Precision and accuracy criteria were met.

Internal Standards

All internal standard criteria were met.

Tentatively Identified Compounds

Tentatively identified compounds were not reported by the laboratory.

Chain of Custody

Each sample was documented in a completed chain-of-custody and received at the laboratory in good condition.

Overall Assessment

The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decision-making process. The procedures for assessing the precision, accuracy, representativeness, completeness, and comparability parameters were based on the QAPP and QAPP Addendum. The following summary highlights the precision, accuracy, representativeness, completeness, and comparability findings for the above-defined events:

1. No data were rejected and completeness was 100 percent for all method/analyte combinations.
2. No data were qualified due to low-level blank contamination.
3. Samples were analyzed diluted resulting in raised RLs for non-detected analytes.
4. Field duplicate RPD exceedances were observed for Method TO-15; 36 results were qualified as estimated.
5. Surrogate recovery exceedances were observed for Method TO-15; 116 results were qualified as estimated.
6. Overall, the precision and accuracy of the data, as measured by field and laboratory quality control indicators, indicates that the data are usable for project objectives.

References

CH2M HILL 2007. *Master Quality Assurance Project Plan, Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona*. September 20.

_____. 2009. *Quality Assurance Project Plan, Addendum 1, Honeywell 34th Street Facility Phoenix, Arizona*. April 30.

United States Environmental Protection Agency (USEPA). 1999. *Contract Laboratory National Functional Guidelines for Organic Data Review*. October.

ATTACHMENT D-1

Samples Associated with DQE

 SAMPLES ASSOCIATED WITH DQE

Field Sample ID	Sample Date	Sample Type
BSVE-SVM-10Q2-004	05/10/2010	FD
BSVE-SVM-10Q2-002	05/11/2010	FD
BSVE-SVM-10Q2-003	05/11/2010	FD
BSVE-SVM-10Q2-008	05/11/2010	FD
BSVE-SVM-10Q2-005	05/15/2010	FD
BSVE-SVM-10Q2-006	05/15/2010	FD
BSVE-SVM-10Q2-007	05/15/2010	FD
BSVE-SVM-10Q2-001	05/20/2010	FD
BSVE-SVM-10Q2-009	05/20/2010	FD
SMW-1-L-10Q2	05/07/2010	REG
SMW-1-M-10Q2	05/07/2010	REG
SMW-1-U-10Q2	05/07/2010	REG
SMW-2-M-10Q2	05/07/2010	REG
SMW-3-L-10Q2	05/07/2010	REG
SMW-3-M-10Q2	05/07/2010	REG
SMW-3-U-10Q2	05/07/2010	REG
BV-19N-10Q2	05/10/2010	REG
BV-1N-10Q2	05/10/2010	REG
PMW-1-M-10Q2	05/10/2010	REG
PMW-1-U-10Q2	05/10/2010	REG
PMW-9-M-10Q2	05/10/2010	REG
PMW-9-U-10Q2	05/10/2010	REG
BV-13N-10Q2	05/11/2010	REG
BV-3N-10Q2	05/11/2010	REG
BV-9N-10Q2	05/11/2010	REG
PMW-10-M-10Q2	05/11/2010	REG
PMW-10-U-10Q2	05/11/2010	REG
PMW-2-M-10Q2	05/11/2010	REG
PMW-2-U-10Q2	05/11/2010	REG
PMW-3-M-10Q2	05/11/2010	REG
PMW-3-U-10Q2	05/11/2010	REG
PMW-5-M-10Q2	05/11/2010	REG
PMW-5-ML-10Q2	05/11/2010	REG
PMW-5-U-10Q2	05/11/2010	REG

SAMPLES ASSOCIATED WITH DQE

Field Sample ID	Sample Date	Sample Type
PMW-6-M-10Q2	05/11/2010	REG
PMW-6-U-10Q2	05/11/2010	REG
SMW-4-L-10Q2	05/11/2010	REG
SMW-4-M-10Q2	05/11/2010	REG
SMW-4-U-10Q2	05/11/2010	REG
SMW-5-M-10Q2	05/11/2010	REG
SMW-5-U-10Q2	05/11/2010	REG
SMW-6-L-10Q2	05/11/2010	REG
SMW-6-M-10Q2	05/11/2010	REG
SMW-6-U-10Q2	05/11/2010	REG
SMW-7-L-10Q2	05/11/2010	REG
SMW-7-M-10Q2	05/11/2010	REG
SMW-7-U-10Q2	05/11/2010	REG
P-47-10Q2	05/13/2010	REG
PL-2102-10Q2	05/13/2010	REG
PMW-4-M-10Q2	05/13/2010	REG
PMW-4-ML-10Q2	05/13/2010	REG
PMW-4-U-10Q2	05/13/2010	REG
SMW-12-M-10Q2	05/14/2010	REG
SMW-12-U-10Q2	05/14/2010	REG
SMW-13-L-10Q2	05/14/2010	REG
SMW-13-M-10Q2	05/14/2010	REG
SMW-13-U-10Q2	05/14/2010	REG
BC-18-10Q2	05/15/2010	REG
SMW-10-L-10Q2	05/15/2010	REG
SMW-10-M-10Q2	05/15/2010	REG
SMW-10-U-10Q2	05/15/2010	REG
SMW-11-L-10Q2	05/15/2010	REG
SMW-11-M-10Q2	05/15/2010	REG
SMW-11-U-10Q2	05/15/2010	REG
SMW-14-L-10Q2	05/15/2010	REG
SMW-14-M-10Q2	05/15/2010	REG
SMW-14-U-10Q2	05/15/2010	REG
SMW-8-M-10Q2	05/15/2010	REG
SMW-8-U-10Q2	05/15/2010	REG
SMW-9-L-10Q2	05/15/2010	REG
SMW-9-M-10Q2	05/15/2010	REG
SMW-9-U-10Q2	05/15/2010	REG
PMW-7-M-10Q2	05/17/2010	REG

SAMPLES ASSOCIATED WITH DQE

Field Sample ID	Sample Date	Sample Type
PMW-7-U-10Q2	05/17/2010	REG
PMW-8-M-10Q2	05/17/2010	REG
PMW-8-U-10Q2	05/17/2010	REG
ASE-46A-10Q2	05/18/2010	REG
P-33-10Q2	05/19/2010	REG
P-37-10Q2	05/19/2010	REG
P-38-10Q2	05/19/2010	REG
BSVE-INLET-10Q2	05/20/2010	REG
P-31-10Q2	05/20/2010	REG
P-32-10Q2	05/20/2010	REG
P-35-10Q2	05/20/2010	REG
P-36-10Q2	05/20/2010	REG
P-39-10Q2	05/20/2010	REG
P-41-10Q2	05/20/2010	REG
SVV-1-10Q2	05/20/2010	REG
SVV-2-10Q2	05/20/2010	REG
SVV-3-10Q2	05/20/2010	REG
SVV-4-10Q2	05/20/2010	REG

Notes:

FD = Field duplicate

REG = Regular sample

Validation Findings

VALIDATION FINDINGS

Method	NativeID	Analyte	Final Result	Units	Final Flag	Validation Reason
TO-15	BC-18-10Q2	1,1-Dichloroethane	650	ug/m ³	J	SSH
TO-15	BC-18-10Q2	1,1-Dichloroethene	39	ug/m ³	J	SSH
TO-15	BC-18-10Q2	1,2,4-Trimethylbenzene	36	ug/m ³	J	SSH
TO-15	BC-18-10Q2	Chloroform	62	ug/m ³	J	SSH
TO-15	BC-18-10Q2	cis-1,2-Dichloroethene	30	ug/m ³	J	SSH
TO-15	BC-18-10Q2	Ethylbenzene	11	ug/m ³	J	SSH
TO-15	BC-18-10Q2	m,p-Xylenes	28	ug/m ³	J	SSH
TO-15	BC-18-10Q2	o-Xylene	9.4	ug/m ³	J	SSH
TO-15	BC-18-10Q2	Tetrachloroethene	76	ug/m ³	J	SSH
TO-15	BC-18-10Q2	Toluene	20	ug/m ³	J	SSH
TO-15	BC-18-10Q2	Trichloroethene	410	ug/m ³	J	SSH
TO-15	BC-18-10Q2	Xylene (total)	37	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-002	1,2,4-Trimethylbenzene	180	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-002	1,3,5-Trimethylbenzene	39	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-002	Ethylbenzene	16	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-002	m,p-Xylenes	48	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-002	o-Xylene	14	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-002	Trichloroethene	43	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-002	Xylene (total)	62	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-003	1,2,4-Trimethylbenzene	100	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-003	1,3,5-Trimethylbenzene	23	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-003	m,p-Xylenes	22	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-003	Xylene (total)	22	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-004	1,2,4-Trimethylbenzene	790	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-004	1,3,5-Trimethylbenzene	170	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-004	Ethylbenzene	81	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-004	m,p-Xylenes	210	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-004	Xylene (total)	240	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-005	1,1-Dichloroethane	600	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	1,1-Dichloroethene	33	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	1,2,4-Trimethylbenzene	39	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	1,3,5-Trimethylbenzene	7.6	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	Benzene	4.9	ug/m ³	J	SSH

VALIDATION FINDINGS

Method	NativeID	Analyte	Final Result	Units	Final Flag	Validation Reason
TO-15	BSVE-SVM-10Q2-005	Chloroform	58	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	cis-1,2-Dichloroethene	27	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	Ethylbenzene	11	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	m,p-Xylenes	25	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	Methyl tert-butyl ether	4.6	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	n-Hexane	4	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	o-Xylene	9.8	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	Tetrachloroethene	68	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	Toluene	24	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	Trichloroethene	380	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-005	Xylene (total)	34	ug/m ³	J	SSH
TO-15	BSVE-SVM-10Q2-006	m,p-Xylenes	12	ug/m ³	J	FD
TO-15	BSVE-SVM-10Q2-006	Xylene (total)	12	ug/m ³	J	FD
TO-15	PL-2102-10Q2	Ethylbenzene	1100	ug/m ³	J	SSH
TO-15	PL-2102-10Q2	m,p-Xylenes	680	ug/m ³	J	SSH
TO-15	PL-2102-10Q2	n-Hexane	670	ug/m ³	J	SSH
TO-15	PL-2102-10Q2	Trichloroethene	710	ug/m ³	J	SSH
TO-15	PL-2102-10Q2	Xylene (total)	680	ug/m ³	J	SSH
TO-15	PMW-1-M-10Q2	1,2,4-Trimethylbenzene	900	ug/m ³	J	SSH
TO-15	PMW-1-M-10Q2	1,3,5-Trimethylbenzene	190	ug/m ³	J	SSH
TO-15	PMW-1-M-10Q2	Ethylbenzene	120	ug/m ³	J	SSH
TO-15	PMW-1-M-10Q2	m,p-Xylenes	290	ug/m ³	J	SSH
TO-15	PMW-1-M-10Q2	Xylene (total)	290	ug/m ³	J	SSH
TO-15	PMW-1-U-10Q2	1,2,4-Trimethylbenzene	1100	ug/m ³	J	SSH
TO-15	PMW-1-U-10Q2	1,3,5-Trimethylbenzene	230	ug/m ³	J	SSH
TO-15	PMW-1-U-10Q2	Ethylbenzene	170	ug/m ³	J	SSH
TO-15	PMW-1-U-10Q2	m,p-Xylenes	400	ug/m ³	J	SSH
TO-15	PMW-1-U-10Q2	o-Xylene	69	ug/m ³	J	SSH
TO-15	PMW-1-U-10Q2	Xylene (total)	470	ug/m ³	J	SSH
TO-15	PMW-3-U-10Q2	1,2,4-Trimethylbenzene	480	ug/m ³	J	FD
TO-15	PMW-3-U-10Q2	1,3,5-Trimethylbenzene	110	ug/m ³	J	FD
TO-15	PMW-3-U-10Q2	Ethylbenzene	47	ug/m ³	J	FD
TO-15	PMW-3-U-10Q2	m,p-Xylenes	140	ug/m ³	J	FD
TO-15	PMW-3-U-10Q2	o-Xylene	34	ug/m ³	J	FD
TO-15	PMW-3-U-10Q2	Trichloroethene	66	ug/m ³	J	FD
TO-15	PMW-3-U-10Q2	Xylene (total)	170	ug/m ³	J	FD
TO-15	PMW-4-ML-10Q2	Benzene	2700	ug/m ³	J	SSH
TO-15	PMW-4-ML-10Q2	Methyl tert-butyl ether	6400	ug/m ³	J	SSH

VALIDATION FINDINGS

Method	NativeID	Analyte	Final Result	Units	Final Flag	Validation Reason
TO-15	PMW-5-ML-10Q2	Methyl tert-butyl ether	47000	ug/m ³	J	SSH
TO-15	PMW-6-M-10Q2	1,2,4-Trimethylbenzene	180	ug/m ³	J	FD
TO-15	PMW-6-M-10Q2	1,3,5-Trimethylbenzene	35	ug/m ³	J	FD
TO-15	PMW-6-M-10Q2	m,p-Xylenes	45	ug/m ³	J	FD
TO-15	PMW-6-M-10Q2	Xylene (total)	45	ug/m ³	J	FD
TO-15	PMW-6-U-10Q2	1,2,4-Trimethylbenzene	430	ug/m ³	J	SSH
TO-15	PMW-6-U-10Q2	1,3,5-Trimethylbenzene	130	ug/m ³	J	SSH
TO-15	PMW-6-U-10Q2	Ethylbenzene	59	ug/m ³	J	SSH
TO-15	PMW-6-U-10Q2	m,p-Xylenes	260	ug/m ³	J	SSH
TO-15	PMW-6-U-10Q2	Methyl tert-butyl ether	24	ug/m ³	J	SSH
TO-15	PMW-6-U-10Q2	n-Hexane	59	ug/m ³	J	SSH
TO-15	PMW-6-U-10Q2	o-Xylene	76	ug/m ³	J	SSH
TO-15	PMW-6-U-10Q2	Xylene (total)	340	ug/m ³	J	SSH
TO-15	PMW-9-U-10Q2	1,2,4-Trimethylbenzene	350	ug/m ³	J	FD
TO-15	PMW-9-U-10Q2	1,3,5-Trimethylbenzene	74	ug/m ³	J	FD
TO-15	PMW-9-U-10Q2	Ethylbenzene	29	ug/m ³	J	FD
TO-15	PMW-9-U-10Q2	m,p-Xylenes	83	ug/m ³	J	FD
TO-15	PMW-9-U-10Q2	Xylene (total)	83	ug/m ³	J	FD
TO-15	SMW-1-L-10Q2	1,2,4-Trimethylbenzene	2100	ug/m ³	J	SSH
TO-15	SMW-1-L-10Q2	1,3,5-Trimethylbenzene	490	ug/m ³	J	SSH
TO-15	SMW-1-L-10Q2	cis-1,2-Dichloroethene	260	ug/m ³	J	SSH
TO-15	SMW-1-L-10Q2	Ethylbenzene	360	ug/m ³	J	SSH
TO-15	SMW-1-L-10Q2	m,p-Xylenes	760	ug/m ³	J	SSH
TO-15	SMW-1-L-10Q2	Trichloroethene	2500	ug/m ³	J	SSH
TO-15	SMW-1-L-10Q2	Xylene (total)	760	ug/m ³	J	SSH
TO-15	SMW-1-M-10Q2	1,2,4-Trimethylbenzene	1300	ug/m ³	J	SSH
TO-15	SMW-1-M-10Q2	1,3,5-Trimethylbenzene	350	ug/m ³	J	SSH
TO-15	SMW-1-M-10Q2	Ethylbenzene	150	ug/m ³	J	SSH
TO-15	SMW-1-M-10Q2	m,p-Xylenes	410	ug/m ³	J	SSH
TO-15	SMW-1-M-10Q2	n-Hexane	16	ug/m ³	J	SSH
TO-15	SMW-1-M-10Q2	o-Xylene	110	ug/m ³	J	SSH
TO-15	SMW-1-M-10Q2	Toluene	12	ug/m ³	J	SSH
TO-15	SMW-1-M-10Q2	Trichloroethene	130	ug/m ³	J	SSH
TO-15	SMW-1-M-10Q2	Xylene (total)	520	ug/m ³	J	SSH
TO-15	SMW-1-U-10Q2	1,2,4-Trimethylbenzene	4000	ug/m ³	J	SSH
TO-15	SMW-1-U-10Q2	1,3,5-Trimethylbenzene	1100	ug/m ³	J	SSH
TO-15	SMW-1-U-10Q2	Ethylbenzene	460	ug/m ³	J	SSH
TO-15	SMW-1-U-10Q2	m,p-Xylenes	1200	ug/m ³	J	SSH

VALIDATION FINDINGS

Method	NativeID	Analyte	Final Result	Units	Final Flag	Validation Reason
TO-15	SMW-1-U-10Q2	n-Hexane	64	ug/m ³	J	SSH
TO-15	SMW-1-U-10Q2	o-Xylene	350	ug/m ³	J	SSH
TO-15	SMW-1-U-10Q2	Trichloroethene	470	ug/m ³	J	SSH
TO-15	SMW-1-U-10Q2	Xylene (total)	1600	ug/m ³	J	SSH
TO-15	SMW-2-M-10Q2	1,2,4-Trimethylbenzene	1300	ug/m ³	J	SSH
TO-15	SMW-2-M-10Q2	1,3,5-Trimethylbenzene	360	ug/m ³	J	SSH
TO-15	SMW-2-M-10Q2	Ethylbenzene	130	ug/m ³	J	SSH
TO-15	SMW-2-M-10Q2	m,p-Xylenes	430	ug/m ³	J	SSH
TO-15	SMW-2-M-10Q2	o-Xylene	100	ug/m ³	J	SSH
TO-15	SMW-2-M-10Q2	Trichloroethene	130	ug/m ³	J	SSH
TO-15	SMW-2-M-10Q2	Xylene (total)	540	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	1,1-Dichloroethane	18	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	1,1-Dichloroethene	28	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	1,2,4-Trimethylbenzene	610	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	1,3,5-Trimethylbenzene	150	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	Chloroform	110	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	Ethylbenzene	57	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	m,p-Xylenes	170	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	o-Xylene	46	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	Tetrachloroethene	75	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	Trichloroethene	110	ug/m ³	J	SSH
TO-15	SMW-3-L-10Q2	Xylene (total)	220	ug/m ³	J	SSH
TO-15	SMW-3-M-10Q2	1,2,4-Trimethylbenzene	520	ug/m ³	J	SSH
TO-15	SMW-3-M-10Q2	1,3,5-Trimethylbenzene	120	ug/m ³	J	SSH
TO-15	SMW-3-M-10Q2	Ethylbenzene	47	ug/m ³	J	SSH
TO-15	SMW-3-M-10Q2	m,p-Xylenes	140	ug/m ³	J	SSH
TO-15	SMW-3-M-10Q2	o-Xylene	38	ug/m ³	J	SSH
TO-15	SMW-3-M-10Q2	Trichloroethene	41	ug/m ³	J	SSH
TO-15	SMW-3-M-10Q2	Xylene (total)	180	ug/m ³	J	SSH
TO-15	SMW-3-U-10Q2	1,2,4-Trimethylbenzene	930	ug/m ³	J	SSH
TO-15	SMW-3-U-10Q2	1,3,5-Trimethylbenzene	240	ug/m ³	J	SSH
TO-15	SMW-3-U-10Q2	Ethylbenzene	110	ug/m ³	J	SSH
TO-15	SMW-3-U-10Q2	m,p-Xylenes	300	ug/m ³	J	SSH
TO-15	SMW-3-U-10Q2	n-Hexane	11	ug/m ³	J	SSH
TO-15	SMW-3-U-10Q2	o-Xylene	84	ug/m ³	J	SSH
TO-15	SMW-3-U-10Q2	Trichloroethene	87	ug/m ³	J	SSH
TO-15	SMW-3-U-10Q2	Xylene (total)	390	ug/m ³	J	SSH
TO-15	SMW-7-U-10Q2	1,2,4-Trimethylbenzene	100	ug/m ³	J	SSH

VALIDATION FINDINGS

Method	NativeID	Analyte	Final Result	Units	Final Flag	Validation Reason
TO-15	SMW-7-U-10Q2	1,3,5-Trimethylbenzene	24	ug/m ³	J	SSH
TO-15	SMW-7-U-10Q2	m,p-Xylenes	29	ug/m ³	J	SSH
TO-15	SMW-7-U-10Q2	Xylene (total)	29	ug/m ³	J	SSH
TO-15	SMW-8-M-10Q2	m,p-Xylenes	7.7	ug/m ³	J	FD
TO-15	SMW-8-M-10Q2	Xylene (total)	7.7	ug/m ³	J	FD

Notes:

FD = Field duplicate relative percent difference criterion exceeded

SSH = Surrogate recovery greater than the upper control limit

µg/m³ = Micrograms per cubic meter



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220069
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
SMW-1-U-10Q2	220069-001
SMW-1-M-10Q2	220069-002
SMW-1-L-10Q2	220069-003
SMW-2-M-10Q2	220069-004
SMW-3-U-10Q2	220069-005
SMW-3-M-10Q2	220069-006
SMW-3-L-10Q2	220069-007
SMW-6-U-10Q2	220069-008
SMW-6-M-10Q2	220069-009
SMW-6-L-10Q2	220069-010

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____
Senior Program Manager

Date: 05/28/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220069
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/12/10
Samples Received: 05/12/10

This data package contains sample and QC results for ten air samples, requested for the above referenced project on 05/12/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

High surrogate recoveries were observed for bromofluorobenzene in many samples.

Many samples were diluted due to problematic matrix.

No other analytical problems were encountered.

Volatile Organics in Air GC (EPA TO-3):

No analytical problems were encountered.

Chain of Custody

220069

Curtis & Tompkins Laboratories		Honeywell		Chain Of Custody / Analysis Request		AESI Ref: 40210.49633													
2323 5th St. Berkeley, CA 94710 510-204-2221		Privileged & Confidential		Sky Harbor AZ		COC#: 37380													
Sampling Co.: CH2MHILL		Tuesdai Powers, Critigen Melanie West, Critigen		Phase: Sampling Program		Lab Proj # (SDG):													
Client Contact: (name, co., address) CH2M HILL		Sampler: <i>Irigli Cortinas Lopez</i>		Location of Site: Phoenix, AZ		Lab ID													
2825 South Plaza Drive, Suite 300 Tempe, AZ 85282		Analysis Turnaround Time (TAT): 10		Preservatives: 0 0 0 0		Site ID													
Preliminary Data To: Tuesdai Powers, Critigen, Melanie West, Critigen		Full Report TAT: 10		Field Filtered Sample ?		Lab Job #													
Sample Receipt: Tuesdai Powers, Critigen, Melanie West, Critigen				Composites/Grab		Authorized User: Honeywell													
Acknowledgement To: Tuesdai Powers, Critigen, Melanie West, Critigen				Units		Text & Excel File Drive Order													
Hard Copy To: Tuesdai Powers and Melanie West, Critigen						Copyright AESI Version 8.0 Unauthorised use strictly prohibited.													
Invoice To: Honeywell/Copy Berney Kidd						Excel & Text File Order													
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Composites/Grab	Field Filtered Sample ?	Preservatives	Location of Site	Site Name	Phase: Sampling Program	BSVE QTR SVM	Lab ID	CTBERK
1 SMU-1-U	5	9	SMU-1-U-1002	050710	1026	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
2 SMU-1-M	30	25	SMU-1-M-1002	050710	1042	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
3 SMU-1-L	45	15	SMU-1-L-1002	050710	1103	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
4 SMU-2-M	10	25	SMU-2-M-1002	050710	1140	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
5 SMU-3-U	5	9	SMU-3-U-1002	050710	1231	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
6 SMU-3-M	20	25	SMU-3-M-1002	050710	1251	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
7 SMU-3-L	55	15	SMU-3-L-1002	050710	1336	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
8 SMU-6-U	5	9	SMU-6-U-1002	051110	0754	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
9 SMU-6-M	20	25	SMU-6-M-1002	051110	0809	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
10 SMU-6-L	55	15	SMU-6-L-1002	051110	0831	SV	AIR	REG	1	G		N	0	Phoenix, AZ	Sky Harbor AZ				
11																			
12																			

Relinquished by: *[Signature]* Company: CH2MHILL Condition: Custody Seals Intact

Date/Time: 051110 0745 Received by: *[Signature]* Date/Time: 0745 Cooler Temp.

Relinquished by: *[Signature]* Company: *[Signature]* Date/Time: *[Signature]* Condition: Custody Seals Intact

Date/Time: *[Signature]* Cooler Temp.

Preservatives: (Other: Specify):
 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH, pH<12); 6 (NaOH, Zn Acetate); 7 (H2SO4 pH<2); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

REC'D BY: *[Signature]* 5-12-10 DAY 5

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 720069 Date Received 5-12-10 Number of coolers 1BX
Client CH2M HILL TAZ HONEYWELL Project BSUE QTR SUM

Date Opened 5-12-10 By (print) S. EVANS (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) FEDEX # YES NO
Shipping info 7921 8373 6752

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 2EA Name SIGNATURE Date 5-11-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(°C)

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

- SAMPLE # 004 + 010 ID'S DO NOT MATCH COL ID'S. LOGGED IN FOR LABEL ID'S.

Laboratory Job Number 220069

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air

Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-1-U-10Q2	Diln Fac:	23.88
Lab ID:	220069-001	Batch#:	163433
Matrix:	Air	Sampled:	05/07/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	12	ND	31	D1
Chloroethane	ND	12	ND	32	D1
1,1-Dichloroethene	ND	12	ND	47	D1
1,1-Dichloroethane	ND	12	ND	48	D1
MTBE	ND	12	ND	43	D1
cis-1,2-Dichloroethene	ND	12	ND	47	D1
n-Hexane	18	12	64	42	D1
Chloroform	ND	12	ND	58	D1
Benzene	ND	12	ND	38	D1
Trichloroethene	88	12	470	64	D1
Toluene	ND	12	ND	45	D1
Tetrachloroethene	ND	12	ND	81	D1
Ethylbenzene	110	12	460	52	D1
m,p-Xylenes	280	12	1,200	52	D1
o-Xylene	81	12	350	52	D1
1,3,5-Trimethylbenzene	220	12	1,100	59	D1
1,2,4-Trimethylbenzene	810	12	4,000	59	D1
Xylene (total)	370	24	1,600	100	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	151 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-1-M-10Q2	Diln Fac:	5.820
Lab ID:	220069-002	Batch#:	163433
Matrix:	Air	Sampled:	05/07/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.9	ND	7.4	D1
Chloroethane	ND	2.9	ND	7.7	D1
1,1-Dichloroethene	ND	2.9	ND	12	D1
1,1-Dichloroethane	ND	2.9	ND	12	D1
MTBE	ND	2.9	ND	10	D1
cis-1,2-Dichloroethene	ND	2.9	ND	12	D1
n-Hexane	4.6	2.9	16	10	D1
Chloroform	ND	2.9	ND	14	D1
Benzene	ND	2.9	ND	9.3	D1
Trichloroethene	24	2.9	130	16	D1
Toluene	3.1	2.9	12	11	D1
Tetrachloroethene	ND	2.9	ND	20	D1
Ethylbenzene	34	2.9	150	13	D1
m,p-Xylenes	94	2.9	410	13	D1
o-Xylene	26	2.9	110	13	D1
1,3,5-Trimethylbenzene	71	2.9	350	14	D1
1,2,4-Trimethylbenzene	270	2.9	1,300	14	D1
Xylene (total)	120	5.8	520	25	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	153 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-1-L-10Q2	Diln Fac:	109.2
Lab ID:	220069-003	Batch#:	163433
Matrix:	Air	Sampled:	05/07/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	55	ND	140	D1
Chloroethane	ND	55	ND	140	D1
1,1-Dichloroethene	ND	55	ND	220	D1
1,1-Dichloroethane	ND	55	ND	220	D1
MTBE	ND	55	ND	200	D1
cis-1,2-Dichloroethene	65	55	260	220	D1
n-Hexane	ND	55	ND	190	D1
Chloroform	ND	55	ND	270	D1
Benzene	ND	55	ND	170	D1
Trichloroethene	470	55	2,500	290	D1
Toluene	ND	55	ND	210	D1
Tetrachloroethene	ND	55	ND	370	D1
Ethylbenzene	83	55	360	240	D1
m,p-Xylenes	170	55	760	240	D1
o-Xylene	ND	55	ND	240	D1
1,3,5-Trimethylbenzene	99	55	490	270	D1
1,2,4-Trimethylbenzene	420	55	2,100	270	D1
Xylene (total)	170	110	760	470	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	165 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-2-M-10Q2	Diln Fac:	10.98
Lab ID:	220069-004	Batch#:	163433
Matrix:	Air	Sampled:	05/07/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	5.5	ND	14	D1
Chloroethane	ND	5.5	ND	14	D1
1,1-Dichloroethene	ND	5.5	ND	22	D1
1,1-Dichloroethane	ND	5.5	ND	22	D1
MTBE	ND	5.5	ND	20	D1
cis-1,2-Dichloroethene	ND	5.5	ND	22	D1
n-Hexane	ND	5.5	ND	19	D1
Chloroform	ND	5.5	ND	27	D1
Benzene	ND	5.5	ND	18	D1
Trichloroethene	24	5.5	130	30	D1
Toluene	ND	5.5	ND	21	D1
Tetrachloroethene	ND	5.5	ND	37	D1
Ethylbenzene	31	5.5	130	24	D1
m,p-Xylenes	99	5.5	430	24	D1
o-Xylene	24	5.5	100	24	D1
1,3,5-Trimethylbenzene	73	5.5	360	27	D1
1,2,4-Trimethylbenzene	270	5.5	1,300	27	D1
Xylene (total)	120	11	540	48	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	145 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-3-U-10Q2	Diln Fac:	5.940
Lab ID:	220069-005	Batch#:	163433
Matrix:	Air	Sampled:	05/07/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.0	ND	7.6	D1
Chloroethane	ND	3.0	ND	7.8	D1
1,1-Dichloroethene	ND	3.0	ND	12	D1
1,1-Dichloroethane	ND	3.0	ND	12	D1
MTBE	ND	3.0	ND	11	D1
cis-1,2-Dichloroethene	ND	3.0	ND	12	D1
n-Hexane	3.3	3.0	11	10	D1
Chloroform	ND	3.0	ND	15	D1
Benzene	ND	3.0	ND	9.5	D1
Trichloroethene	16	3.0	87	16	D1
Toluene	ND	3.0	ND	11	D1
Tetrachloroethene	ND	3.0	ND	20	D1
Ethylbenzene	25	3.0	110	13	D1
m,p-Xylenes	70	3.0	300	13	D1
o-Xylene	19	3.0	84	13	D1
1,3,5-Trimethylbenzene	49	3.0	240	15	D1
1,2,4-Trimethylbenzene	190	3.0	930	15	D1
Xylene (total)	89	5.9	390	26	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	161 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-3-M-10Q2	Diln Fac:	4.120
Lab ID:	220069-006	Batch#:	163433
Matrix:	Air	Sampled:	05/07/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.1	ND	5.3	D1
Chloroethane	ND	2.1	ND	5.4	D1
1,1-Dichloroethene	ND	2.1	ND	8.2	D1
1,1-Dichloroethane	ND	2.1	ND	8.3	D1
MTBE	ND	2.1	ND	7.4	D1
cis-1,2-Dichloroethene	ND	2.1	ND	8.2	D1
n-Hexane	ND	2.1	ND	7.3	D1
Chloroform	ND	2.1	ND	10	D1
Benzene	ND	2.1	ND	6.6	D1
Trichloroethene	7.6	2.1	41	11	D1
Toluene	ND	2.1	ND	7.8	D1
Tetrachloroethene	ND	2.1	ND	14	D1
Ethylbenzene	11	2.1	47	8.9	D1
m,p-Xylenes	32	2.1	140	8.9	D1
o-Xylene	8.8	2.1	38	8.9	D1
1,3,5-Trimethylbenzene	25	2.1	120	10	D1
1,2,4-Trimethylbenzene	110	2.1	520	10	D1
Xylene (total)	41	4.1	180	18	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	140 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-3-L-10Q2	Diln Fac:	4.240
Lab ID:	220069-007	Batch#:	163433
Matrix:	Air	Sampled:	05/07/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.1	ND	5.4	D1
Chloroethane	ND	2.1	ND	5.6	D1
1,1-Dichloroethene	7.1	2.1	28	8.4	D1
1,1-Dichloroethane	4.4	2.1	18	8.6	D1
MTBE	ND	2.1	ND	7.6	D1
cis-1,2-Dichloroethene	ND	2.1	ND	8.4	D1
n-Hexane	ND	2.1	ND	7.5	D1
Chloroform	23	2.1	110	10	D1
Benzene	ND	2.1	ND	6.8	D1
Trichloroethene	20	2.1	110	11	D1
Toluene	ND	2.1	ND	8.0	D1
Tetrachloroethene	11	2.1	75	14	D1
Ethylbenzene	13	2.1	57	9.2	D1
m,p-Xylenes	39	2.1	170	9.2	D1
o-Xylene	11	2.1	46	9.2	D1
1,3,5-Trimethylbenzene	31	2.1	150	10	D1
1,2,4-Trimethylbenzene	120	2.1	610	10	D1
Xylene (total)	50	4.2	220	18	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	154 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-6-U-10Q2	Diln Fac:	2.250
Lab ID:	220069-008	Batch#:	163382
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/26/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.9	D1
Chloroethane	ND	1.1	ND	3.0	D1
1,1-Dichloroethene	ND	1.1	ND	4.5	D1
1,1-Dichloroethane	ND	1.1	ND	4.6	D1
MTBE	ND	1.1	ND	4.1	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.5	D1
n-Hexane	ND	1.1	ND	4.0	D1
Chloroform	ND	1.1	ND	5.5	D1
Benzene	ND	1.1	ND	3.6	D1
Trichloroethene	3.3	1.1	18	6.0	D1
Toluene	ND	1.1	ND	4.2	D1
Tetrachloroethene	1.2	1.1	8.3	7.6	D1
Ethylbenzene	ND	1.1	ND	4.9	D1
m,p-Xylenes	4.3	1.1	19	4.9	D1
o-Xylene	ND	1.1	ND	4.9	D1
1,3,5-Trimethylbenzene	5.4	1.1	26	5.5	D1
1,2,4-Trimethylbenzene	21	1.1	100	5.5	D1
Xylene (total)	4.3	2.3	19	9.8	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	109	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-6-M-10Q2	Diln Fac:	2.210
Lab ID:	220069-009	Batch#:	163433
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.8	D1
Chloroethane	ND	1.1	ND	2.9	D1
1,1-Dichloroethene	ND	1.1	ND	4.4	D1
1,1-Dichloroethane	ND	1.1	ND	4.5	D1
MTBE	ND	1.1	ND	4.0	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.4	D1
n-Hexane	ND	1.1	ND	3.9	D1
Chloroform	ND	1.1	ND	5.4	D1
Benzene	ND	1.1	ND	3.5	D1
Trichloroethene	4.7	1.1	25	5.9	D1
Toluene	ND	1.1	ND	4.2	D1
Tetrachloroethene	1.5	1.1	10	7.5	D1
Ethylbenzene	ND	1.1	ND	4.8	D1
m,p-Xylenes	ND	1.1	ND	4.8	D1
o-Xylene	ND	1.1	ND	4.8	D1
1,3,5-Trimethylbenzene	1.1	1.1	5.5	5.4	D1
1,2,4-Trimethylbenzene	4.5	1.1	22	5.4	D1
Xylene (total)	ND	2.2	ND	9.6	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	103	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-6-L-10Q2	Batch#:	163433
Lab ID:	220069-010	Sampled:	05/11/10
Matrix:	Air	Received:	05/12/10
Units (V):	ppbv	Analyzed:	05/27/10
Units (M):	ug/m3		

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac	ADEQ Flags
Vinyl Chloride	2.0	1.3	5.2	3.3	2.610	D2
Chloroethane	ND	1.3	ND	3.4	2.610	D2
1,1-Dichloroethene	47	1.3	190	5.2	2.610	D2
1,1-Dichloroethane	4.0	1.3	16	5.3	2.610	D2
MTBE	ND	1.3	ND	4.7	2.610	D2
cis-1,2-Dichloroethene	92	1.3	360	5.2	2.610	D2
n-Hexane	ND	1.3	ND	4.6	2.610	D2
Chloroform	16	1.3	78	6.4	2.610	D2
Benzene	ND	1.3	ND	4.2	2.610	D2
Trichloroethene	230	3.9	1,200	21	7.830	D1
Toluene	ND	1.3	ND	4.9	2.610	D2
Tetrachloroethene	44	1.3	300	8.9	2.610	D2
Ethylbenzene	ND	1.3	ND	5.7	2.610	D2
m,p-Xylenes	ND	1.3	ND	5.7	2.610	D2
o-Xylene	ND	1.3	ND	5.7	2.610	D2
1,3,5-Trimethylbenzene	1.9	1.3	9.4	6.4	2.610	D2
1,2,4-Trimethylbenzene	7.8	1.3	38	6.4	2.610	D2
Xylene (total)	ND	2.6	ND	11	2.610	D2

Surrogate	%REC	Limits	Diln Fac	ADEQ Flags
Bromofluorobenzene	99	70-130	2.610	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163382
Units (V):	ppbv	Analyzed:	05/25/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546019

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	10.40	104	70-130		
Chloroethane	10.00	10.92	109	70-130		
1,1-Dichloroethene	10.00	10.64	106	66-139		
1,1-Dichloroethane	10.00	10.55	106	61-134		
MTBE	10.00	11.13	111	70-130		
cis-1,2-Dichloroethene	10.00	10.32	103	70-130		
n-Hexane	10.00	10.93	109	70-130		
Chloroform	10.00	9.931	99	70-130		
Benzene	10.00	10.65	106	70-130		
Trichloroethene	10.00	9.791	98	70-130		
Toluene	10.00	10.76	108	70-130		
Tetrachloroethene	10.00	10.25	102	70-130		
Ethylbenzene	10.00	11.33	113	70-130		
m,p-Xylenes	20.00	22.38	112	70-130		
o-Xylene	10.00	11.14	111	70-130		
1,3,5-Trimethylbenzene	10.00	11.18	112	70-130		
1,2,4-Trimethylbenzene	10.00	11.66	117	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	98	70-130		

Type: BSD Lab ID: QC546020

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.24	102	70-130	2	25		
Chloroethane	10.00	10.86	109	70-130	1	25		
1,1-Dichloroethene	10.00	10.48	105	66-139	2	10		
1,1-Dichloroethane	10.00	10.41	104	61-134	1	15		
MTBE	10.00	10.87	109	70-130	2	25		
cis-1,2-Dichloroethene	10.00	9.952	100	70-130	4	25		
n-Hexane	10.00	10.81	108	70-130	1	25		
Chloroform	10.00	9.903	99	70-130	0	25		
Benzene	10.00	10.43	104	70-130	2	25		
Trichloroethene	10.00	9.839	98	70-130	0	25		
Toluene	10.00	10.42	104	70-130	3	25		
Tetrachloroethene	10.00	9.354	94	70-130	9	25		
Ethylbenzene	10.00	10.57	106	70-130	7	25		
m,p-Xylenes	20.00	20.24	101	70-130	10	25		
o-Xylene	10.00	10.18	102	70-130	9	25		
1,3,5-Trimethylbenzene	10.00	10.17	102	70-130	10	25		
1,2,4-Trimethylbenzene	10.00	10.50	105	70-130	10	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	101	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546021	Diln Fac:	1.000
Matrix:	Air	Batch#:	163382
Units (V):	ppbv	Analyzed:	05/25/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	95	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Diln Fac:	1.000
Units (V):	ppbv	Batch#:	163433

Type: BS Analyzed: 05/26/10
 Lab ID: QC546243

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	10.63	106	70-130		
Chloroethane	10.00	10.73	107	70-130		
1,1-Dichloroethene	10.00	10.66	107	66-139		
1,1-Dichloroethane	10.00	10.58	106	61-134		
MTBE	10.00	11.27	113	70-130		
cis-1,2-Dichloroethene	10.00	10.53	105	70-130		
n-Hexane	10.00	10.58	106	70-130		
Chloroform	10.00	9.869	99	70-130		
Benzene	10.00	11.01	110	70-130		
Trichloroethene	10.00	10.21	102	70-130		
Toluene	10.00	10.61	106	70-130		
Tetrachloroethene	10.00	9.755	98	70-130		
Ethylbenzene	10.00	11.25	112	70-130		
m,p-Xylenes	20.00	21.20	106	70-130		
o-Xylene	10.00	10.43	104	70-130		
1,3,5-Trimethylbenzene	10.00	11.22	112	70-130		
1,2,4-Trimethylbenzene	10.00	11.16	112	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	97	70-130		

Type: BSD Analyzed: 05/27/10
 Lab ID: QC546244

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.58	106	70-130	0	25		
Chloroethane	10.00	10.57	106	70-130	1	25		
1,1-Dichloroethene	10.00	10.53	105	66-139	1	10		
1,1-Dichloroethane	10.00	10.60	106	61-134	0	15		
MTBE	10.00	11.14	111	70-130	1	25		
cis-1,2-Dichloroethene	10.00	10.37	104	70-130	2	25		
n-Hexane	10.00	10.42	104	70-130	2	25		
Chloroform	10.00	9.916	99	70-130	0	25		
Benzene	10.00	10.44	104	70-130	5	25		
Trichloroethene	10.00	9.843	98	70-130	4	25		
Toluene	10.00	10.72	107	70-130	1	25		
Tetrachloroethene	10.00	9.857	99	70-130	1	25		
Ethylbenzene	10.00	11.21	112	70-130	0	25		
m,p-Xylenes	20.00	21.04	105	70-130	1	25		
o-Xylene	10.00	10.57	106	70-130	1	25		
1,3,5-Trimethylbenzene	10.00	11.00	110	70-130	2	25		
1,2,4-Trimethylbenzene	10.00	11.04	110	70-130	1	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	99	70-130		

RPD= Relative Percent Difference
 Result V= Result in volume units
 Page 1 of 1

Batch QC Report

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546245	Diln Fac:	1.000
Matrix:	Air	Batch#:	163433
Units (V):	ppbv	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	100	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220069 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220069 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200209427001 File : 145_001 Time : 25-MAY-2010 10:27

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	29068	13.00	
75	30% - 66% of mass 95	97606	43.66	
95		223572	100.00	
96	5% - 9% of mass 95	17302	7.74	
173	< 2% of mass 174	381	0.21	
174	50% - 120% of mass 95	183430	82.05	
175	4% - 9% of mass 174	9846	5.37	
176	93% - 101% of mass 174	171365	93.42	
177	5% - 9% of mass 176	12282	7.17	

CURTIS & TOMPKINS BFB TUNE FOR 220069 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200211057004 File : 146_004 Time : 26-MAY-2010 20:17

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	27269	13.22	
75	30% - 66% of mass 95	87170	42.25	
95		206317	100.00	
96	5% - 9% of mass 95	13557	6.57	
173	< 2% of mass 174	701	0.42	
174	50% - 120% of mass 95	168013	81.43	
175	4% - 9% of mass 174	10898	6.49	
176	93% - 101% of mass 174	161220	95.96	
177	5% - 9% of mass 176	11256	6.98	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220069 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m=manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor

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1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220069 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220069 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546019 IDF : 1.0
 Seqnum : 1200209427002.2 File : 145_002 Time : 25-MAY-2010 11:51
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14653, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.8426	10.00	10.40	nL/L	4	30	0.0500	u
Chloroethane	0.0815	0.0889	10.00	10.92	nL/L	9	30	0.0500	u
1,1-Dichloroethene	1.9184	2.0410	10.00	10.64	nL/L	6	30	0.0500	u
1,1-Dichloroethane	2.2145	2.3360	10.00	10.55	nL/L	6	30	0.0500	u
MTBE	1.4577	1.6214	10.00	11.13	nL/L	11	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.6966	10.00	10.32	nL/L	3	30	0.0500	u
n-Hexane	0.9022	0.9860	10.00	10.93	nL/L	9	30	0.0500	u
Chloroform	2.4999	2.4817	10.00	9.931	nL/L	-1	30	0.0500	u
Benzene	0.5014	0.5338	10.00	10.65	nL/L	6	30	0.0500	u
Trichloroethene	0.5169	0.5061	10.00	9.791	nL/L	-2	30	0.0500	u
Toluene	1.5032	1.6174	10.00	10.76	nL/L	8	30	0.0500	u
Tetrachloroethene	0.9425	0.9654	10.00	10.25	nL/L	2	30	0.0500	u
Ethylbenzene	1.8627	2.1100	10.00	11.33	nL/L	13	30	0.0500	u
m,p-Xylenes	1.6467	1.8433	20.00	22.38	nL/L	12	30	0.0500	u
o-Xylene	1.6921	1.8854	10.00	11.14	nL/L	11	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.4153	10.00	11.18	nL/L	12	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.3026	10.00	11.66	nL/L	17	30	0.0500	u
Bromofluorobenzene	0.8080	0.7941	6.667	6.552	nL/L	-2	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	315644	-12.48	32.92	32.93	0.02
1,4-Difluorobenzene	1294000	1167000	-9.81	36.90	36.92	0.02
Chlorobenzene-d5	1155000	982638	-14.92	48.03	48.05	0.02

BO 05/26/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220069 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546243 IDF : 1.0
 Seqnum : 1200211057006.2 File : 146_006 Time : 26-MAY-2010 23:34
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14715, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.8610	10.00	10.63	nL/L	6	30	0.0500	u
Chloroethane	0.0815	0.0874	10.00	10.73	nL/L	7	30	0.0500	u
1,1-Dichloroethene	1.9184	2.0439	10.00	10.66	nL/L	7	30	0.0500	u
1,1-Dichloroethane	2.2145	2.3427	10.00	10.58	nL/L	6	30	0.0500	u
MTBE	1.4577	1.6425	10.00	11.27	nL/L	13	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.7313	10.00	10.53	nL/L	5	30	0.0500	u
n-Hexane	0.9022	0.9544	10.00	10.58	nL/L	6	30	0.0500	u
Chloroform	2.4999	2.4666	10.00	9.869	nL/L	-1	30	0.0500	u
Benzene	0.5014	0.5524	10.00	11.01	nL/L	10	30	0.0500	u
Trichloroethene	0.5169	0.5281	10.00	10.21	nL/L	2	30	0.0500	u
Toluene	1.5032	1.5938	10.00	10.61	nL/L	6	30	0.0500	u
Tetrachloroethene	0.9425	0.9191	10.00	9.755	nL/L	-2	30	0.0500	u
Ethylbenzene	1.8627	2.0949	10.00	11.25	nL/L	12	30	0.0500	u
m,p-Xylenes	1.6467	1.7463	20.00	21.20	nL/L	6	30	0.0500	u
o-Xylene	1.6921	1.7640	10.00	10.43	nL/L	4	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.4231	10.00	11.22	nL/L	12	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.2052	10.00	11.16	nL/L	12	30	0.0500	u
Bromofluorobenzene	0.8080	0.7800	6.667	6.436	nL/L	-3	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	311895	-13.52	32.92	32.94	0.03
1,4-Difluorobenzene	1294000	1096000	-15.30	36.90	36.93	0.03
Chlorobenzene-d5	1155000	979200	-15.22	48.03	48.05	0.02

BO 05/27/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200209427

Date : 05/25/10
 Sequence : MSAIR01 145

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC546019	315644	32.93	1167000	36.92	982638	48.05
003	BSD	QC546020	316706	32.93	1168000	36.92	1053000	48.05
004	BLANK	QC546021	302615	32.96	1002000	36.93	922093	48.05
005	SAMPLE	219833-001	303839	32.95	1107000	36.93	923437	48.05
006	SAMPLE	219833-004	324797	32.96	1093000	36.94	947886	48.06
007	SAMPLE	219833-007	320469	32.96	1123000	36.93	975912	48.06
008	SAMPLE	219833-002	321776	32.96	1107000	36.93	924471	48.06
009	SAMPLE	219833-003	308097	32.95	1123000	36.93	970959	48.05
010	SAMPLE	219833-005	318306	32.95	1124000	36.93	973968	48.05
011	CANCHECK		309063	32.97	1054000	36.94	951657	48.06
012	SAMPLE	220069-001	330564	32.96	1177000	36.94	419971 *	48.06
013	IB		277083	32.97	880659	36.94	785773	48.06
014	SAMPLE	220069-002	269641	32.95	986020	36.94	846580	48.06
015	SAMPLE	220069-004	268228	32.95	956746	36.94	845125	48.06
016	SAMPLE	220069-005	258956	32.95	933745	36.94	767679	48.06
017	SAMPLE	220069-006	253569	32.96	858898	36.94	776649	48.06
018	SAMPLE	220069-007	247658	32.95	870268	36.93	818219	48.06
019	SAMPLE	220069-008	245853	32.96	826293	36.93	787882	48.05
020	SAMPLE	220069-009	236291	32.96	775980 *	36.94	730012	48.05
021	SAMPLE	220069-001	245722	32.95	891957	36.93	823345	48.05
022	SAMPLE	220069-002	253324	32.96	849864	36.93	804244	48.06

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200211057

Date : 05/26/10
 Sequence : MSAIR01 146

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
003	CCV/BS	QC546243	282687	32.94	959507	36.93	852642	48.05
005	IB	NONE	289041	32.97	937363	36.94	853053	48.06
006	CCV/BS	QC546243	311895	32.94	1096000	36.93	979200	48.05
007	BSD	QC546244	319312	32.94	1151000	36.93	996603	48.05
008	IB	NONE	310060	32.96	995247	36.93	934343	48.05
009	BLANK	QC546245	313171	32.97	985087	36.94	929142	48.06
010	SAMPLE	220069-009	322785	32.96	1044000	36.94	959198	48.06
011	SAMPLE	220069-010	333910	32.95	1135000	36.93	1003000	48.06
012	SAMPLE	219906-002	303948	32.97	1037000	36.94	914129	48.06
013	SAMPLE	220069-001	316996	32.96	1077000	36.94	962661	48.06
014	SAMPLE	219906-001	302259	32.97	1007000	36.94	892789	48.06
015	SAMPLE	220069-006	317853	32.96	1054000	36.94	970041	48.06
016	SAMPLE	220069-007	304224	32.95	1068000	36.93	920267	48.05
017	SAMPLE	220069-002	290573	32.96	1005000	36.94	896305	48.06
018	SAMPLE	220069-005	293541	32.96	996126	36.93	898353	48.05
019	SAMPLE	220069-004	277284	32.95	972594	36.93	902984	48.05
020	SAMPLE	220069-003	285679	32.96	948558	36.93	830861	48.05
021	SAMPLE	220069-010	278745	32.95	1036000	36.92	862090	48.05

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200209427

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/25/10 10:27

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	145_001	TUN	BFB			05/25/10 10:27	1.0	1	
002	145_002	CCV/BS	QC546019	Air	163382	05/25/10 11:51	1.0	2 1	
003	145_003	BSD	QC546020	Air	163382	05/25/10 12:54	1.0	2 1	
004	145_004	BLANK	QC546021	Air	163382	05/25/10 13:58	1.0	1	
005	145_005	SAMPLE	219833-001	Air	163382	05/25/10 15:32	70.80	1	
006	145_006	SAMPLE	219833-004	Air	163382	05/25/10 16:35	69.60	1	
007	145_007	SAMPLE	219833-007	Air	163382	05/25/10 17:38	72.40	1	
008	145_008	SAMPLE	219833-002	Air	163382	05/25/10 18:43	11.40	1	
009	145_009	SAMPLE	219833-003	Air	163382	05/25/10 19:50	11.16	1	
010	145_010	SAMPLE	219833-005	Air	163382	05/25/10 20:56	10.92	1	
011	145_011	CANCHECK		Air		05/25/10 22:48	1.0	1	
012	145_012	SAMPLE	220069-001	Air	163382	05/25/10 23:53	1.99	1	9:TMB124=460
013	145_013	IB				05/26/10 00:58	1.0	1	
014	145_014	SAMPLE	220069-002	Air	163382	05/26/10 02:03	1.94	1	1:TMB124=110
015	145_015	SAMPLE	220069-004	Air	163382	05/26/10 03:08	1.83	1	
016	145_016	SAMPLE	220069-005	Air	163382	05/26/10 04:13	1.98	1	
017	145_017	SAMPLE	220069-006	Air	163382	05/26/10 05:18	2.06	1	
018	145_018	SAMPLE	220069-007	Air	163382	05/26/10 06:23	2.12	1	
019	145_019	SAMPLE	220069-008	Air	163382	05/26/10 07:28	2.25	1	
020	145_020	SAMPLE	220069-009	Air	163382	05/26/10 08:33	2.21	1	
021	145_021	SAMPLE	220069-001	Air	163382	05/26/10 09:38	11.94	1	
022	145_022	SAMPLE	220069-002	Air	163382	05/26/10 10:45	5.82	1	

BO 05/26/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Analyst: BO Date: 05/26/10 Reviewer: SJD Date: 05/26/10

Standards used: 1=S13547 2=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200211057

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/26/10 13:37

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	146_001	TUN	BFB			05/26/10 13:37	1.0	1	
002	146_002	TUN	BFB			05/26/10 18:08	1.0	1	
003	146_003	CCV/BS	QC546243	Air	163433	05/26/10 19:13	1.0	2 1	
004	146_004	TUN	BFB			05/26/10 20:17	1.0	1	
005	146_005	IB	NONE			05/26/10 21:21	1.0	1	
006	146_006	CCV/BS	QC546243	Air	163433	05/26/10 23:34	1.0	2 1	
007	146_007	BSD	QC546244	Air	163433	05/27/10 00:40	1.0	2 1	
008	146_008	IB	NONE			05/27/10 01:43	1.0	1	
009	146_009	BLANK	QC546245	Air	163433	05/27/10 02:46	1.0	1	
010	146_010	SAMPLE	220069-009	Air	163433	05/27/10 03:49	2.21	1	
011	146_011	SAMPLE	220069-010	Air	163433	05/27/10 04:55	2.61	1	1:TCE=170
012	146_012	SAMPLE	219906-002	Air	163433	05/27/10 06:01	11.58	1	
013	146_013	SAMPLE	220069-001	Air	163433	05/27/10 07:06	23.88	1	
014	146_014	SAMPLE	219906-001	Air	163433	05/27/10 08:12	3.68	1	
015	146_015	SAMPLE	220069-006	Air	163433	05/27/10 09:17	4.12	1	
016	146_016	SAMPLE	220069-007	Air	163433	05/27/10 10:23	4.24	1	
017	146_017	SAMPLE	220069-002	Air	163433	05/27/10 11:29	5.82	1	
018	146_018	SAMPLE	220069-005	Air	163433	05/27/10 12:33	5.94	1	
019	146_019	SAMPLE	220069-004	Air	163433	05/27/10 13:36	10.98	1	
020	146_020	SAMPLE	220069-003	Air	163433	05/27/10 14:40	109.2	1	
021	146_021	SAMPLE	220069-010	Air	163433	05/27/10 15:43	7.83	1	

BO 05/27/10 : 146_2 baked out MS

BO 05/28/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Analyst: BO Date: 05/27/10 Reviewer: SJD Date: 05/28/10

Standards used: 1=S13547 2=S14715

Prepped by / Date	Sample ID	Can ID	Initial Pressure (psig)	Final Pressure (psig)	Dilution Factor	Comments	
Pw / 4/28/10	219764-001	C00052	12.96	23.48	1.81x		
		-002 C00247	13.48	23.48	1.74x		
		-003 C00263	12.72	23.13	1.82x		
		BLANK C00031	—	—	1x	Prepped w/ 219630 job on 4/27/10	
		BLANK C00231	—	—	1x		
Pw / 4/29/10	219764-001	C00199	1.5 added	30 total	36.2x	20x of 1.81x	
	219764-002	C00208	1.5 added	30 total	34.8x	20x of 1.74x	
		-003 C00028	1.5 added	30 total	36.4x	20x of 1.82x	
SSB 5/3/10	219630-001	C00098	2.09	23.67	11.7x		
		-002 C00075	2.07	25.67	12.4x		
		-003 C00131	2.07 3.39	23.61	6.96x 6.96x		
		-004 C00058	2.22	23.67	10.7x		
		-005 C00136	7.75	23.51	3.03x		
		-006 C00190	2.30	23.38	10.2x		
		-007 C00178	2.09	24.63	11.8x		
		-008 C00128	3.34	23.46	7.02x		
		-009 C00137	2.68	23.74	8.86x		
		-010 C00139	1.72	23.29	13.5x		
		BLANK C00007	—	—	1x		
Pw 5/10/10	219833-001	C00117	13.28	23.46	1.77x		
		-002 C00167	12.21	23.14	1.90x		
		-003 C00100	12.71	23.65	1.86x		
		-004 C00127	13.27	23.05	1.74x		
		-005 C00290	12.90	23.52	1.82x		
		-006 C00097	12.84	23.23	1.81x		
		-007 C00254	13.05	23.57	1.81x		
		219905-001	C00121	10.94	23.63	2.16x	
		-002 C00124	11.51	23.43	2.04x		
		-003 C00099	11.43	23.29	2.04x		
Pw 5/10/10	219906-001	C00275	12.80	23.58	1.84x		
		-002 C00140	12.40	23.87	1.93x		
		-003 C00129	14.92	24.21		Final 24.21 with loose quick connect	
		BLANK C00003	—	—	1x		

Continued on Page

Read and Understood By

Signed

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Prepped by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments
Ans 5/10/10	219994-001	C0186	11.84	23.11	1.95x	
	-002	C00172	12.33	24.64	2.00x	
	-003	C00177	13.97	23.04	1.65x	
Ans 5/17/10	220069-004	C00283	12.70	23.25	1.83x	
	220070-001	C00062	11.08	23.51	2.12x	
	-002	C00152	12.31	23.07	1.87x	
	-003	C00109	8.64	23.36	2.70x	
	-004	C00125	9.54	23.30	2.44x	
	-005	C00072	9.60	23.62	2.46x	
	BLANK	C00017	—	—	1x	
	219994-001	C00156	15.02	24.26	3.16x	1.62x of 1.95x
Ans 5/21/10	220069-001	C00076	11.63	23.13	1.99x	
	-002	C00251	12.03	23.35	1.94x	
	-003	C00083	12.95	23.55	1.82x	
	-004	—	—	—	—	already filled 5/17/10
	-005	C00069	11.84	23.43	1.98x	
	-006	C00113	11.78	24.30	2.06x	
	-007	C00130	11.35	24.09	2.12x	
	-008	C00057	10.26	23.12	2.25x	
	-009	C00107	10.40	23.02	2.21x	
	-010	C00288	8.99	23.44	2.61x	
	220071-001	C00150	10.84	23.69	2.19x	
	-002	C00142	10.71	23.29	2.18x	
	-003	C00286	10.98	23.46	2.14x	
	-004	C00166	10.98	23.53	2.14x	
	-005	C00120	11.08	23.17	2.09x	
	220211-001	C00144	11.62	23.35	2.01x	
-002	C00281	10.37	23.33	2.25x		
-003	C00285	11.42	23.02	2.02x		
-004	C00250	11.50	23.41	2.04x		
	BLANK	C00219	—	—	1x	
Ans 5/21/10	220207-001	C00087 C00193	11.40	23.09	2.03x	can ID C00087
	-002	C00260	11.63	23.38	2.01x	
	-003	C00241	11.26	23.08	2.05x	

Continued on Page 36

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Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments	
2/25/11	220207-004	C00249	11.40	24.24	2.13x		
	-005	C00049	11.53	23.08	2.00x		
	-006	C00115	11.27	23.33	2.07x		
	-007	C00152	11.43	24.95	2.18x		
	-008	C00180	11.23	23.62	2.10x		
	-009	C00061	11.80	23.21	1.97x		
	-010	C00289	11.62	23.60	2.03x		
	-011	C00192	11.34	23.75	2.09x		
	-012	C00138	11.57	24.44	2.11x		
	-013	C00064	11.52	23.43	2.03x		
	220208	-001	C00193	9.30	23.13	2.49x	
	-002	C00123	10.53	23.20	2.20x		
	-003	C00246	9.18	23.21	2.53x		
-004	C00267	9.82	23.18	2.36x			
-005	C00265	9.31	23.09	2.48x			
-006	C00255	9.63	23.36	2.43x			
	BANK	C00008	—	—	1x		
<hr/>							
	219833-001	C00117					
	-002	C00167					
	-003	C00100					
	-004	C00127					
	-005	C00290					
	-006	C00097					
	-007	C00254					
5/23/10	219833-001	C00200	0.75 added	30.0 total added	70.8x	40x of 1.77x can C00117	
	-002	C00019	1.5 added	30.0 total added	38.0x	20x of 1.90x can C00167	
	-003	C00002	1.5 added	30.0 total added	37.2x	20x of 1.86x can C00100	
	-004	C00203	0.75 added	30.0 total added	69.6x	40x of 1.74x can C00127	
	-005	C00010	1.5 added	30.0 total added	34.4x	20x of 1.82x can C00290	
	-006	C00213	1.5 added	30.0 total added	36.2x	20x of 1.81x can C00097	
	-007	C00233	0.75 added	30.0 total added	36.2x	40x of 1.81x can C00254	
	219905-003	C00229	0.75 added	30.0 total added	40.8x	40x of 2.04x can C00099	
	CAN CHECK	C00040	—	—	1x		

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Prepped by / Date	Sample ID	Can ID	Initial Pressure (Psig)	Final Pressure (Psig)	Dilution Factor	Comments	
Pw / 4/28/10	219764-001	C00052	12.96	23.48	1.81x		
		-002	C00247	13.48	23.48	1.74x	
		-003	C00263	12.72	23.13	1.82x	
		BLANK	C00031	—	—	1x	Prepped w/ 219630 job on 4/27/10
		BLANK	C00231	—	—	1x	
		BLANK	C00218	—	—	1x	Prepped w/ 219654 job on 4/26/10
Pw / 4/29/10	219764-001	C00199	1.5 added	30 total	36.2x	20x of 1.81x	
	219764-002	C00208	1.5 added	30 total	34.8x	20x of 1.74x	
		-003	C00028	1.5 added	30 total	36.4x	20x of 1.82x
SSS 5/3/10	219630-001	C00098	2.09	23.67	11.3x		
		-002	C00075	2.07	25.67	12.4x	
		-003	C00131	2.37 3.39	23.61	6.765x 6.96x	
		-004	C00058	2.22	23.67	10.7x	
		-005	C00136	7.75	23.51	3.03x	
		-006	C00190	2.30	23.38	10.2x	
		-007	C00178	2.09	24.63	11.8x	
		-008	C00128	3.34	23.46	7.02x	
		-009	C00137	2.68	23.74	8.86x	
		-010	C00139	1.72	23.29	13.5x	
		BLANK	C00007	—	—	1x	
Pw 5/10/10	219833-001	C00117	13.28	23.46	1.77x		
		-002	C00167	12.21	23.14	1.90x	
		-003	C00100	12.71	23.65	1.86x	
		-004	C00127	13.27	23.05	1.74x	
		-005	C00290	12.90	23.52	1.82x	
		-006	C00097	12.84	23.23	1.81x	
		-007	C00254	13.05	23.57	1.81x	
219905-001		C00121	10.94	23.63	2.16x		
		-002	C00124	11.51	23.43	2.04x	
		-003	C00099	11.43	23.29	2.04x	
219906-001		C00275	12.80	23.58	1.84x		
		-002	C00140	12.40	23.87	1.93x	
		-003	C00129	14.92	24.21	1.61x	Quick connect Final 24.21 w/ 1005C
	BLANK	C00003	—	—	1x		

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PROJECT Air Sample Prep Loop

Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments	
Drs 5/10/10	219994-001	C00186	11.84	23.11	1.95x		
		-002 C00172	12.33	24.64	2.00x		
		-003 C00177	13.97	23.04	1.65x		
Pns 5/17/10	220069-004	C00253	12.70	23.25	1.83x		
	220070	-001 C00062	11.08	23.51	2.12x		
		-002 C00152	12.31	23.07	1.87x		
		-003 C00109	8.64	23.30	2.70x		
		-004 C00125	9.54	23.30	2.44x		
		-005 C00072	9.60	23.62	2.46x		
	BLANK	C00017	—	—	1x		
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x	
Pns 5/21/10	220069-001	C00076	11.63	23.13	1.99x		
		-002 C00251	12.03	23.35	1.94x		
		-003 C00083	12.95	23.55	1.82x		
		-004	—	—	—	already filled 5/17/10	
		-005 C00069	11.84	23.43	1.98x		
		-006 C00113	11.78	24.30	2.06x		
		-007 C00130	11.35	24.09	2.12x		
		-008 C00057	10.26	23.12	2.25x		
		-009 C00107	10.40	23.02	2.21x		
		-010 C00288	8.99	23.44	2.61x		
		220071-001	C00150	10.84	23.69	2.19x	
		-002 C00142	10.71	23.29	2.18x		
		-003 C00286	10.98	23.46	2.14x		
		-004 C00166	10.98	23.53	2.14x		
		-005 C00120	11.08	23.17	2.09x		
		220211-001	C00144	11.62	23.35	2.01x	
		-002 C00281	10.37	23.33	2.25x		
		-003 C00285	11.42	23.02	2.02x		
		-004 C00250	11.50	23.41	2.04x		
	BLANK	C00219	—	—	1x		
5/21/10	220207-001	C00087 C00143	11.40	23.09	2.03x	Can ID C00087	
		-002 C00260	11.63	23.38	2.01x		
		-003 C00241	11.26	23.08	2.05x		

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Prepped by / Date	Sample ID	CAN ID	Initial Pressure (psig)	Final Pressure (psig)	Dilution Factor	Comments	PSI/PSIG
AS 5/24/10	220194-001	C00198	0.75 added	30.0 total added	126.4	40x of 3.16x 220194-001 CAN C00186	
		-002 C00231			80.0x	40x of 2x 220194-002 CAN C00172	
		-003 C00045			66x	40x of 1.65x 220194-003 CAN C00177	
		-001 C00031			5056x	40x of 126.4x CAN C00198	
		-002 C00236			3200x	40x of 80x CAN C00231	
		220194-BLANK-003	C00022			2640x	40x of 66x CAN C0031
AS 5/26/10	220244-001	C00235	9.82	23.10			
		-002 C00020	9.10				
	BLANK	C00218	-	-			
	220069-003	C00215	1.5 added	30 total added	36.4x	20x of 1.82x, CAN C00083	

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Date _____

Laboratory Job Number 220069

ANALYTICAL REPORT

Volatile Organics in Air GC

Matrix: Air

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Diln Fac:	1.830
Field ID:	SMW-2-M-10Q2	Batch#:	163138
Lab ID:	220069-004	Sampled:	05/07/10
Matrix:	Air	Received:	05/12/10
Units:	ppmv	Analyzed:	05/19/10
Units (M):	ug/L		

Result	RL	Result (M)	RL	ADEQ Flags
2.4	0.92	1.6	0.60	D1

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Units (M):	ug/L
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC545021	Batch#:	163138
Matrix:	Air	Analyzed:	05/19/10
Units:	ppmv		

Result	RL	Result (M)	RL	ADEQ Flags
ND	0.50	ND	0.33	

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Volatile Organics in Air			
Lab #:	220069	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Diln Fac:	1.000
Matrix:	Air	Batch#:	163138
Units:	ppmv	Analyzed:	05/19/10

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim ADEQ	Flags
BS	QC545022	100.0	98.62	99	70-130			
BSD	QC545023	100.0	99.03	99	70-130	0	20	

RPD= Relative Percent Difference

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220069 GCAIR Air: EPA TO-3

Inst : GC28
 Calnum : 1309497539003
 Units : uL/L

Date : 11-DEC-2009 12:37
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	345_002	1309497539002		11-DEC-2009 12:37	S13381
L2	345_003	1309497539003		11-DEC-2009 13:00	S13382
L3	345_004	1309497539004		11-DEC-2009 13:18	S13383
L4	345_005	1309497539005		11-DEC-2009 13:35	S13384
L5	345_006	1309497539006		11-DEC-2009 13:53	S13385
L6	345_007	1309497539007		11-DEC-2009 14:16	S13386
L7	345_008	1309497539008		11-DEC-2009 14:36	S13387
L8	345_009	1309497539009		11-DEC-2009 16:08	S13388

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Methane-TO3	A	0.1314	0.1225	0.1271	0.1208	0.1197	0.1183	0.1197	0.1242	AVRG		8.13190		0.1230	4	.99	30	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Methane-TO3	A	0.500	7	10.00	0	100.0	3	501.0	-2	1002	-3	9980	-4	2E+5	-3	5E+5	1

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220069 GCAIR Air
EPA TO-3

Inst : GC28

Calnum : 1309497539003

Cal Date : 11-DEC-2009

ICV 1309497539011 (345_011 11-DEC-2009) stds: S13375

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Methane-TO3	A	1000	1017	uL/L	2	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220069 GCAIR Air
EPA TO-3

Inst : GC28
 Seqnum : 1300200997012
 Cal : 1309497539003
 Standards: S14660

IDF : 1.0
 Time : 19-MAY-2010 21:09

File : 139_012
 Caldate : 11-DEC-2009

Analyte	Ch	Avg		Spiked	Quant	Units	%D	Max %D	Flags
		RF/CF	RF/CF						
Methane-TO3	A	0.1230	0.1219	100.0	99.12	uL/L	-1	30	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1300200997

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 05/19/10 13:57

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	139_001	X	IB			05/19/10 13:57	1.0	
002	139_002	X	QC545022	Air	163138	05/19/10 14:23	1.0	1
003	139_003	CCV/BS	QC545022	Air	163138	05/19/10 14:48	1.0	1
004	139_004	BSD	QC545023	Air	163138	05/19/10 15:52	1.0	1
005	139_005	BLANK	QC545021	Air	163138	05/19/10 16:21	1.0	
006	139_006	SAMPLE	220069-004	Air	163138	05/19/10 16:49	1.83	
007	139_007	SAMPLE	220070-001	Air	163138	05/19/10 18:14	2.12	
008	139_008	SAMPLE	220070-002	Air	163138	05/19/10 18:36	1.87	
009	139_009	SAMPLE	220070-003	Air	163138	05/19/10 19:07	2.700	
010	139_010	SAMPLE	220070-004	Air	163138	05/19/10 19:27	2.44	
011	139_011	SAMPLE	220070-005	Air	163138	05/19/10 19:49	2.46	
012	139_012	CCV				05/19/10 21:09	1.0	1

SJD 05/27/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

Analyst: SJD Date: 05/27/10 Reviewer: BO Date: 05/27/10

Standards used: 1=S14660

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1309497539

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 12/11/09 12:19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	345_001	IB	IB			12/11/09 12:19	1.0	
002	345_002	ICAL				12/11/09 12:37	1.0	1
003	345_003	ICAL				12/11/09 13:00	1.0	2
004	345_004	ICAL				12/11/09 13:18	1.0	3
005	345_005	ICAL				12/11/09 13:35	1.0	4
006	345_006	ICAL				12/11/09 13:53	1.0	5
007	345_007	ICAL				12/11/09 14:16	1.0	6
008	345_008	ICAL				12/11/09 14:36	1.0	7
009	345_009	ICAL				12/11/09 16:08	1.0	8
010	345_010	IB	IB			12/11/09 16:29	1.0	
011	345_011	ICV				12/11/09 16:47	1.0	9

APP 12/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 011.

Analyst: APP Date: 12/14/09 Reviewer: SJD Date: 01/20/10

Standards used: 1=S13381 2=S13382 3=S13383 4=S13384 5=S13385 6=S13386 7=S13387 8=S13388 9=S13375

Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments
Dns 5/10/10	219994-001	C00186	11.84	23.11	1.95x	
	-002	C00172	12.33	24.64	2.00x	
	-003	C00177	13.97	23.04	1.65x	
Pro 5/17/10	220069-004	C00283	12.70	23.25	1.83x	
	220070-001	C00062	11.08	23.51	2.12x	
	-002	C00182	12.31	23.07	1.87x	
	-003	C00109	8.64	23.30	2.70x	
	-004	C00125	9.54	23.30	2.44x	
	-005	C00072	9.60	23.62	2.46x	
	BLANK	C00017	—	—	1x	
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x
As 5/21/10	220069-001	C00076	11.63	23.13	1.99x	
	-002	C00251	12.03	23.35	1.94x	
	-003	C00083	12.95	23.55	1.82x	
	-004	—	—	—	—	already filled 5/17/10
	-005	C00069	11.84	23.43	1.98x	
	-006	C00113	11.78	24.30	2.06x	
	-007	C00130	11.35	24.09	2.12x	
	-008	C00057	10.26	23.12	2.25x	
	-009	C00107	10.40	23.02	2.21x	
	-010	C00288	8.99	23.44	2.61x	
	220071-001	C00150	10.84	23.69	2.19x	
	-002	C00142	10.71	23.29	2.18x	
	-003	C00286	10.98	23.46	2.14x	
	-004	C00166	10.98	23.53	2.14x	
	-005	C00120	11.08	23.17	2.09x	
	220211-001	C00144	11.62	23.35	2.01x	
-002	C00281	10.37	23.33	2.25x		
-003	C00285	11.42	23.02	2.02x		
-004	C00250	11.50	23.41	2.04x		
	BLANK	C00219	—	—	1x	
As 5/21/10	220207-001	C00087 C00192	11.40	23.09	2.03x	Can ID C00087
	-002	C00260	11.63	23.38	2.01x	
	-003	C00241	11.26	23.08	2.05x	

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Date



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Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 220070
ANALYTICAL REPORT**

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
BV-1N-10Q2	220070-001
BV-19N-10Q2	220070-002
BV-3N-10Q2	220070-003
BV-13N-10Q2	220070-004
BV-9N-10Q2	220070-005

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: *Deviné N. Tetrault*
Project Manager

Date: 05/28/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220070
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/12/10
Samples Received: 05/12/10

This data package contains sample and QC results for five air samples, requested for the above referenced project on 05/12/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air GC (ASTM D1946 and EPA TO-3):

No analytical problems were encountered.

Chain of Custody

220070

Curtis & Tompkins Laboratories 2323 5th St. Berkeley, CA 94710 510-204-2221		Honeywell Chain Of Custody / Analysis Request		AESI Ref: 40210.49633 COC#: 37380									
Sampling Co.: CH2MHILL		Site Name: Sky Harbor AZ		Phase: Sampling Program									
Client Contact: (name, co., address) 2625 South Plaza Drive, Suite 300 Tempe, AZ 85282		Location of Site: Phoenix, AZ		Lab ID: CTBERK									
Sample: LAMAR DAVIS		Preservatives: 0 0 0 0		Site ID: SKYHARBOR									
PO #: 5101516		Field Filtered Sample ?		Lab Job #:									
Analysis Turnaround Time (TAT): 10 Consultant		Composite/Grab		Authorized User: Honeywell									
Full Report TAT: 10		Units		Text & Excel File Drive Order									
Sample Identification		Sample # of		Copyright AESI: Version 8.0 Unauthorised use strictly prohibited.									
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Compos	Units	Sampling Method (code)	Canister Serial No.
1 BV-1N	55	105	BV-1N 10QZ	05/10/10	1207	SV	AIR	REG	1	X	X		00062
2 BV-19N	55	105	BV-19N 10QZ	05/10/10	1247	SV	AIR	REG	1	X	X		00182
3 BV-3N	55	105	BV-3N 10RZ	05/10/10	0638	SV	AIR	REG	1	X	X		00109
4 BV-13N	55	95	BV-13N 10RZ	05/11/10	0737	SV	AIR	REG	1	X	X		00125
5 BV-9N	55	105	BV-9N 10RZ	05/11/10	0836	SV	AIR	REG	1	X	X		00072
6													
7													
8													
9													
10													
11													
12													
Relinquished by: LAMAR DAVIS		Company: CH2MHILL		Received by: Brian Fecht/Barney Kidd		Company: CH2MHILL		Condition: Cooler Temp.		Custody Seals Intact:			
Relinquished by: Brian Fecht/Barney Kidd		Company: CH2MHILL		Received by: Fred Ex		Company: CH2MHILL		Condition: Cooler Temp.		Custody Seals Intact:			
Preservatives: (Other, Specify):													

Rec'd by: *[Signature]* 5-12-10 0945

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 220070 Date Received 5-12-10 Number of coolers 1BX
Client CH2M HILL TAZ HONEYWELL Project BSNE QTR SUM

Date Opened 5-12-10 By (print) S. EVANS (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) FEDEX # YES NO
Shipping info 7994 5067 4557

2A. Were custody seals present? ... [X] YES (circle) on cooler on samples [] NO
How many 2EA Name SIGNATURE Date 5-11-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- [] Bubble Wrap [] Foam blocks [] Bags [] None
[] Cloth material [X] Cardboard [] Styrofoam [] Paper towels

7. Temperature documentation:

Type of ice used: [] Wet [] Blue/Gel [X] None Temp(°C)

[] Samples Received on ice & cold without a temperature blank

[] Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Lisa Brooker

From: "John Goyette" <goyette@ctberk.com>
To: "dnt" <desiree.tetrault@ctberk.com>
Sent: Thursday, May 13, 2010 12:47 PM
Attach: 220070_COC_Amended.pdf
Subject: [Fwd: RE: 371451.SV.99.IS.0109 - C&T Login Summary (220070)]

Could you take care of this for me?

thanks

----- Original Message -----

Subject: RE: 371451.SV.99.IS.0109 - C&T Login Summary (220070)
Date: Thu, 13 May 2010 13:44:36 -0600
From: Theresa Wong <Theresa.Wong@critigen.com>
To: goyette@ctberk.com <goyette@ctberk.com>
CC: Tuesdai Powers <Tuesdai.Powers@critigen.com>, Melanie West <Melanie.West@critigen.c
References: <0225D2CE86025049BC4DD520947B18CD051FD1439B@MNUSTRICGTGEC01.manage

Hi John,

Attached is the amended COC for SDG 220070 which shows the removal of TO-15 analysis.

Thanks

+ + + + +

Theresa Wong
GIS Analyst

C R I + I G E N

Theresa.Wong@critigen.com
+1 425.233.3370 Direct

critigen.com

From: John Goyette [<mailto:goyette@ctberk.com>]
Sent: Wednesday, May 12, 2010 2:00 PM
To: bernice.kidd@ch2m.com; Melanie West; Tuesdai Powers
Subject: 371451.SV.99.IS.0109 - C&T Login Summary (220070)

We'll hold off on the TO-15 until we get confirmation. -JG

C&T Login Summary for 220070

Project: 371451.SV.99.IS.0109	Report To: CH2M Hill	Bill To: Honeywell
--------------------------------------	-----------------------------	---------------------------

Amorold 5/13 TN 270070

Curtis & Tompkins Laboratories 2323 5th St. Berkeley, CA 94710 510-204-2221		Honeywell Chain of Custody / Analysis Request		AESI Ref: 40210-4653 COC#: 37330														
Privileged & Confidential EDD To: CH2MHILL Client Contact: (name, co., address) CH2M HILL 2825 South Plaza Drive, Suite 300 Tempe, AZ 85282		Site Name: Sky Harbor AZ Location of Site: Phoenix, AZ Phase: Sampling Program BSVE QTR SVM		Lab Job #: CTBERK Site ID: SKYHARBOR Authorized User: Honeywell Test & Excel File Drive: Excel & Text File Order														
Sampler: Lamar Davis PO #: 5101516 Analysis Turnaround Time (TAT): 10 Consultant:		Preservatives: 0 0 0 0 Field Filtered Sample 7 VOCs (TO-15) Methane (TO-3M) TPH (TO-3M) O2 and CO2 (ASTM 1946)		Copyright AEEI Version 8.0 Inchoseast uses every parameter.														
Preliminary Data To: Tuscaloosa Powers, Crittgen, Melanie West, Crittgen Sample Receipt Acknowledgement To: Tuscaloosa Powers, Crittgen, Melanie West, Crittgen Hard Copy To: Tuscaloosa Powers and Melanie West, Crittgen Invoice To: Honeywell/Copy Barney Kidd		Full Report TAT: 10		Sampling Method (code) Canister Serial No.														
Sample Identification																		
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Compos/Grab	Field Filtered Sample 7	VOCs (TO-15)	Methane (TO-3M)	TPH (TO-3M)	O2 and CO2 (ASTM 1946)	Canister Serial No.	
1	BV-1N	55	105	BV-1N	05/10/10	1207	SV	AIR	REG	1	X	N	X	X	X	X	X	00062
2	BV-19N	55	105	BV-19N	05/10/10	1247	SU	AIR	REG	1	X	N	X	X	X	X	X	00182
3	BV-3N	55	105	BV-3N	05/10/10	0638	SV	AIR	REG	1	X	N	X	X	X	X	X	00109
4	BV-13N	55	95	BV-13N	05/11/10	0737	SV	AIR	REG	1	X	N	X	X	X	X	X	00125
5	BV-9N	55	105	BV-9N	05/11/10	0836	SV	AIR	REG	1	X	N	X	X	X	X	X	00072
6																		
7																		
8																		
9																		
10																		
11																		
12																		
Requisitioned by: Lamar Davis Date/Time: 5-11-10 0950 Company: CH2MHILL		Received by: Ryan Fuchs/Kenneth Date/Time: 5/11/10 0950 Company: CH2MHILL		Condition: Coolant Temp. Condition: Coolant Temp.														
Requisitioned by: Lamar Davis Date/Time: 5/13/10 Company: CH2MHILL		Received by: Ryan Fuchs/Kenneth Date/Time: 5/13/10 Company: CH2MHILL		Condition: Coolant Temp. Condition: Coolant Temp.														
Preservatives: (Other, Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH<12); 6 (NaOH, Zn Acetate); 7 (H2SO4 pH<2); 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2); 4 Deg C); 11 (4C NaOH pH<12) & Ascorbic Acid); 12 (4C H2SO4 pH<2) & Na2S2O3); 13 (2n Acetate); sp (special instructions)																		

REC'D BY: [Signature]
 5-12-10
 0945

Laboratory Job Number 220070

ANALYTICAL REPORT

Volatile Organics in Air GC

Matrix: Air

Analysis of Reformed Gas

Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	BV-1N-10Q2	Diln Fac:	2.120
Lab ID:	220070-001	Batch#:	163092
Matrix:	Air	Sampled:	05/10/10
Units:	ppmv	Received:	05/12/10
Units (Mol %):	MOL %	Analyzed:	05/17/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	43,000	2,100	4.3	0.21	D1
Oxygen	150,000	2,100	15	0.21	D1

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Volatile Organics in Air

Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	BV-1N-10Q2	Diln Fac:	2.120
Lab ID:	220070-001	Batch#:	163138
Matrix:	Air	Sampled:	05/10/10
Units:	ppmv	Received:	05/12/10
Units (M):	ug/L	Analyzed:	05/19/10

Analyte	Result	RL	Result (M)	RL	ADEQ Flags
Methane-TO3	4.6	1.1	3.0	0.70	D1
C1-C2 as Ethane	ND	2.1	ND	2.6	D1
C2-C3 as Propane	ND	2.1	ND	3.8	D1
C3-C4 as n-Butane	ND	2.1	ND	5.0	D1
C4-C5 as n-Pentane	ND	2.1	ND	6.3	D1
C5-C6 as n-Hexane	ND	2.1	ND	7.5	D1
C6+ as n-Hexane	ND	2.1	ND	7.5	D1

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Analysis of Reformed Gas

Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	BV-19N-10Q2	Diln Fac:	1.870
Lab ID:	220070-002	Batch#:	163092
Matrix:	Air	Sampled:	05/10/10
Units:	ppmv	Received:	05/12/10
Units (Mol %):	MOL %	Analyzed:	05/17/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	43,000	1,900	4.3	0.19	D1
Oxygen	140,000	1,900	14	0.19	D1

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Volatile Organics in Air

Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	BV-19N-10Q2	Diln Fac:	1.870
Lab ID:	220070-002	Batch#:	163138
Matrix:	Air	Sampled:	05/10/10
Units:	ppmv	Received:	05/12/10
Units (M):	ug/L	Analyzed:	05/19/10

Analyte	Result	RL	Result (M)	RL	ADEQ Flags
Methane-TO3	230	0.94	150	0.61	D1
C1-C2 as Ethane	ND	1.9	ND	2.3	D1
C2-C3 as Propane	ND	1.9	ND	3.4	D1
C3-C4 as n-Butane	ND	1.9	ND	4.4	D1
C4-C5 as n-Pentane	ND	1.9	ND	5.5	D1
C5-C6 as n-Hexane	3.5	1.9	12	6.6	D1
C6+ as n-Hexane	14	1.9	48	6.6	D1

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Analysis of Reformed Gas

Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	BV-3N-10Q2	Diln Fac:	2.700
Lab ID:	220070-003	Batch#:	163092
Matrix:	Air	Sampled:	05/11/10
Units:	ppmv	Received:	05/12/10
Units (Mol %):	MOL %	Analyzed:	05/17/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	4,700	2,700	0.47	0.27	D1
Oxygen	200,000	2,700	20	0.27	D1

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Volatile Organics in Air

Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	BV-3N-10Q2	Diln Fac:	2.700
Lab ID:	220070-003	Batch#:	163435
Matrix:	Air	Sampled:	05/11/10
Units:	ppmv	Received:	05/12/10
Units (M):	ug/L	Analyzed:	05/26/10

Analyte	Result	RL	Result (M)	RL	ADEQ Flags
Methane-TO3	42	1.4	28	0.89	D1
C1-C2 as Ethane	ND	2.7	ND	3.3	D1
C2-C3 as Propane	ND	2.7	ND	4.9	D1
C3-C4 as n-Butane	ND	2.7	ND	6.4	D1
C4-C5 as n-Pentane	ND	2.7	ND	8.0	D1
C5-C6 as n-Hexane	ND	2.7	ND	9.5	D1
C6+ as n-Hexane	ND	2.7	ND	9.5	D1

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Analysis of Reformed Gas

Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	BV-13N-10Q2	Diln Fac:	2.440
Lab ID:	220070-004	Batch#:	163092
Matrix:	Air	Sampled:	05/11/10
Units:	ppmv	Received:	05/12/10
Units (Mol %):	MOL %	Analyzed:	05/17/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	19,000	2,400	1.9	0.24	D1
Oxygen	180,000	2,400	18	0.24	D1

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Volatile Organics in Air

Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	BV-13N-10Q2	Diln Fac:	2.440
Lab ID:	220070-004	Batch#:	163435
Matrix:	Air	Sampled:	05/11/10
Units:	ppmv	Received:	05/12/10
Units (M):	ug/L	Analyzed:	05/26/10

Analyte	Result	RL	Result (M)	RL	ADEQ Flags
Methane-TO3	3.3	1.2	2.2	0.80	D1
C1-C2 as Ethane	ND	2.4	ND	3.0	D1
C2-C3 as Propane	ND	2.4	ND	4.4	D1
C3-C4 as n-Butane	ND	2.4	ND	5.8	D1
C4-C5 as n-Pentane	ND	2.4	ND	7.2	D1
C5-C6 as n-Hexane	ND	2.4	ND	8.6	D1
C6+ as n-Hexane	5.0	2.4	18	8.6	D1

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Analysis of Reformed Gas

Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	BV-9N-10Q2	Diln Fac:	2.460
Lab ID:	220070-005	Batch#:	163092
Matrix:	Air	Sampled:	05/11/10
Units:	ppmv	Received:	05/12/10
Units (Mol %):	MOL %	Analyzed:	05/17/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	19,000	2,500	1.9	0.25	D1
Oxygen	170,000	2,500	17	0.25	D1

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Volatile Organics in Air			
Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	BV-9N-10Q2	Diln Fac:	2.460
Lab ID:	220070-005	Batch#:	163435
Matrix:	Air	Sampled:	05/11/10
Units:	ppmv	Received:	05/12/10
Units (M):	ug/L	Analyzed:	05/26/10

Analyte	Result	RL	Result (M)	RL	ADEQ Flags
Methane-TO3	44	1.2	29	0.81	D1
C1-C2 as Ethane	ND	2.5	ND	3.0	D1
C2-C3 as Propane	ND	2.5	ND	4.4	D1
C3-C4 as n-Butane	ND	2.5	ND	5.8	D1
C4-C5 as n-Pentane	ND	2.5	ND	7.3	D1
C5-C6 as n-Hexane	ND	2.5	ND	8.7	D1
C6+ as n-Hexane	8.3	2.5	29	8.7	D1

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Analysis of Reformed Gas			
Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Type:	BLANK	Units (Mol %):	MOL %
Lab ID:	QC544838	Diln Fac:	1.000
Matrix:	Air	Batch#:	163092
Units:	ppmv	Analyzed:	05/17/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	ND	1,000	ND	0.10	
Oxygen	ND	1,000	ND	0.10	

ND= Not Detected

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Batch QC Report

Analysis of Reformed Gas			
Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC544839	Batch#:	163092
Matrix:	Air	Analyzed:	05/17/10
Units:	ppmv		

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Carbon Dioxide	2,000	1,918	96	70-130		
Oxygen	2,000	1,908	95	70-130		

Batch QC Report

Analysis of Reformed Gas			
Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	ZZZZZZZZZZ	Units (Mol %):	MOL %
Type:	SDUP	Diln Fac:	1.840
MSS Lab ID:	219906-001	Batch#:	163092
Lab ID:	QC544840	Sampled:	05/04/10
Matrix:	Air	Received:	05/04/10
Units:	ppmv	Analyzed:	05/17/10

Analyte	MSS Result	Result	RL	Result (Mol %)	RL	RPD	Lim	ADEQ	Flags
Carbon Dioxide	<1,840	ND	1,840	ND	0.1840	NC	30	D2	
Oxygen	202,000	202,300	1,840	20.23	0.1840	0	30	D2	

NC= Not Calculated

ND= Not Detected

RL= Reporting Limit

RPD= Relative Percent Difference

Result Mol %= Result in Mole Percent

Batch QC Report

Volatile Organics in Air			
Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Type:	BLANK	Units (M):	ug/L
Lab ID:	QC545021	Diln Fac:	1.000
Matrix:	Air	Batch#:	163138
Result (M):	ND	Analyzed:	05/19/10
Units:	ppmv		

Analyte	Result	RL	RL	ADEQ Flags
Methane-TO3	ND	0.50	0.33	
C1-C2 as Ethane	ND	1.0	1.2	
C2-C3 as Propane	ND	1.0	1.8	
C3-C4 as n-Butane	ND	1.0	2.4	
C4-C5 as n-Pentane	ND	1.0	3.0	
C5-C6 as n-Hexane	ND	1.0	3.5	
C6+ as n-Hexane	ND	1.0	3.5	

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Volatile Organics in Air			
Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Matrix:	Air	Batch#:	163138
Units:	ppmv	Analyzed:	05/19/10
Diln Fac:	1.000		

Type: BS Lab ID: QC545022

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Methane-TO3	100.0	98.62	99	70-130		
C1-C2 as Ethane	100.0	99.10	99	70-130		
C2-C3 as Propane	100.0	97.46	97	70-130		
C3-C4 as n-Butane	100.0	96.73	97	70-130		
C4-C5 as n-Pentane	100.0	97.61	98	70-130		
C5-C6 as n-Hexane	100.0	97.19	97	70-130		

Type: BSD Lab ID: QC545023

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Methane-TO3	100.0	99.03	99	70-130	0	20		
C1-C2 as Ethane	100.0	99.22	99	70-130	0	20		
C2-C3 as Propane	100.0	97.47	97	70-130	0	20		
C3-C4 as n-Butane	100.0	96.86	97	70-130	0	20		
C4-C5 as n-Pentane	100.0	97.76	98	70-130	0	20		
C5-C6 as n-Hexane	100.0	97.32	97	70-130	0	20		

RPD= Relative Percent Difference

Batch QC Report

Volatile Organics in Air			
Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Type:	BLANK	Units (M):	ug/L
Lab ID:	QC546250	Diln Fac:	1.000
Matrix:	Air	Batch#:	163435
Result (M):	ND	Analyzed:	05/26/10
Units:	ppmv		

Analyte	Result	RL	RL	ADEQ Flags
Methane-TO3	ND	0.50	0.33	
C1-C2 as Ethane	ND	1.0	1.2	
C2-C3 as Propane	ND	1.0	1.8	
C3-C4 as n-Butane	ND	1.0	2.4	
C4-C5 as n-Pentane	ND	1.0	3.0	
C5-C6 as n-Hexane	ND	1.0	3.5	
C6+ as n-Hexane	ND	1.0	3.5	

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Volatile Organics in Air			
Lab #:	220070	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Matrix:	Air	Batch#:	163435
Units:	ppmv	Analyzed:	05/26/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546251

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Methane-TO3	100.0	98.06	98	70-130		
C1-C2 as Ethane	100.0	98.32	98	70-130		
C2-C3 as Propane	100.0	96.55	97	70-130		
C3-C4 as n-Butane	100.0	95.84	96	70-130		
C4-C5 as n-Pentane	100.0	96.80	97	70-130		
C5-C6 as n-Hexane	100.0	96.30	96	70-130		

Type: BSD Lab ID: QC546252

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Methane-TO3	100.0	97.72	98	70-130	0	20		
C1-C2 as Ethane	100.0	97.85	98	70-130	0	20		
C2-C3 as Propane	100.0	96.17	96	70-130	0	20		
C3-C4 as n-Butane	100.0	95.54	96	70-130	0	20		
C4-C5 as n-Pentane	100.0	96.41	96	70-130	0	20		
C5-C6 as n-Hexane	100.0	95.86	96	70-130	0	20		

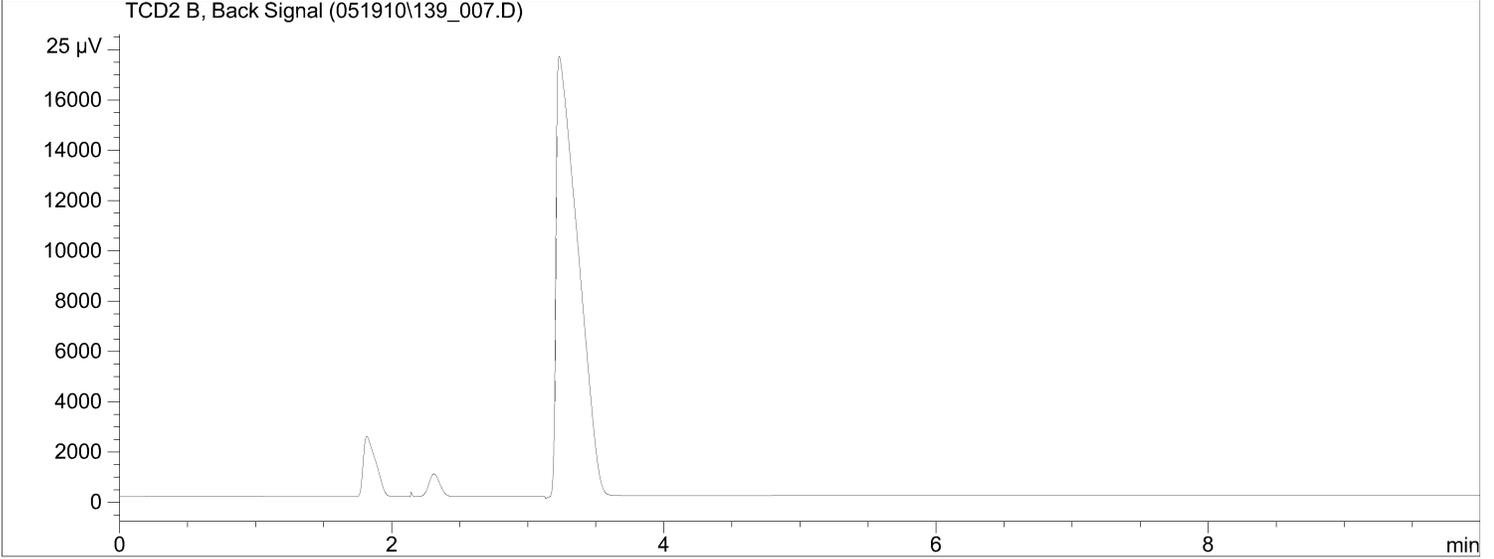
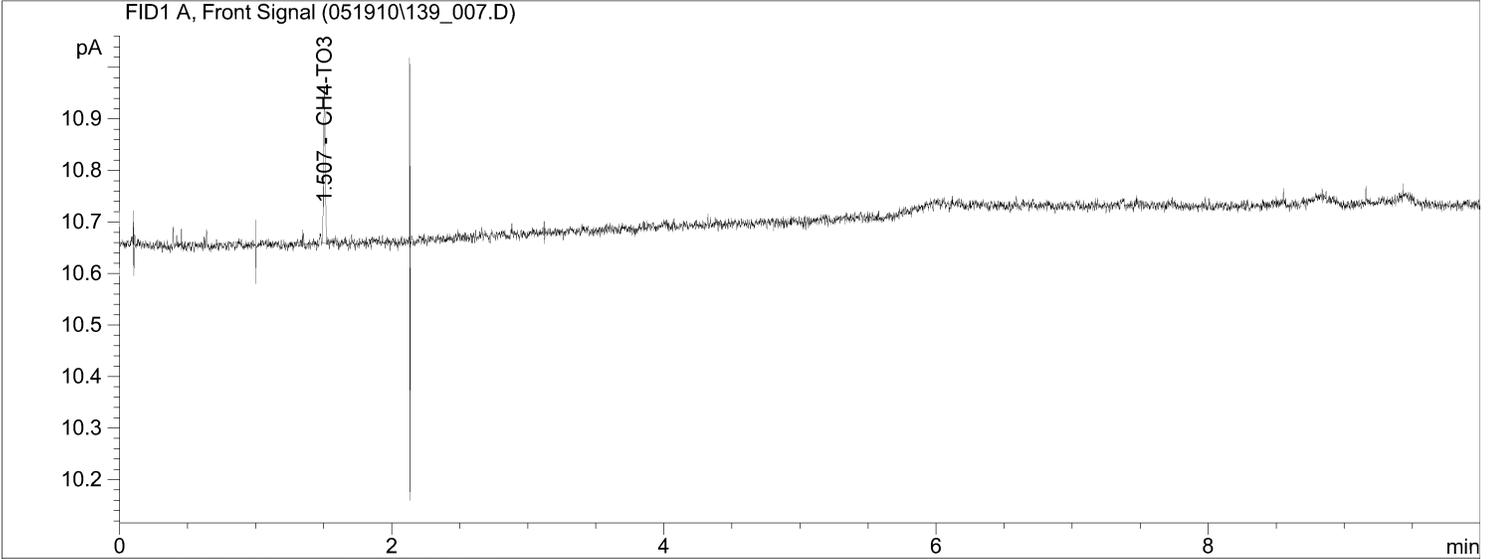
RPD= Relative Percent Difference

Sample Name: 220070-00,163138,2.12,c00062

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 1
Injection Date  : 5/19/2010 06:14:33 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_050310.M
Last changed    : 5/19/2010 05:04:30 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 3/15/2010 04:30:11 PM by GC28 RGA

```



```

=====
External Standard Report
=====

```

```

Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution       : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

```

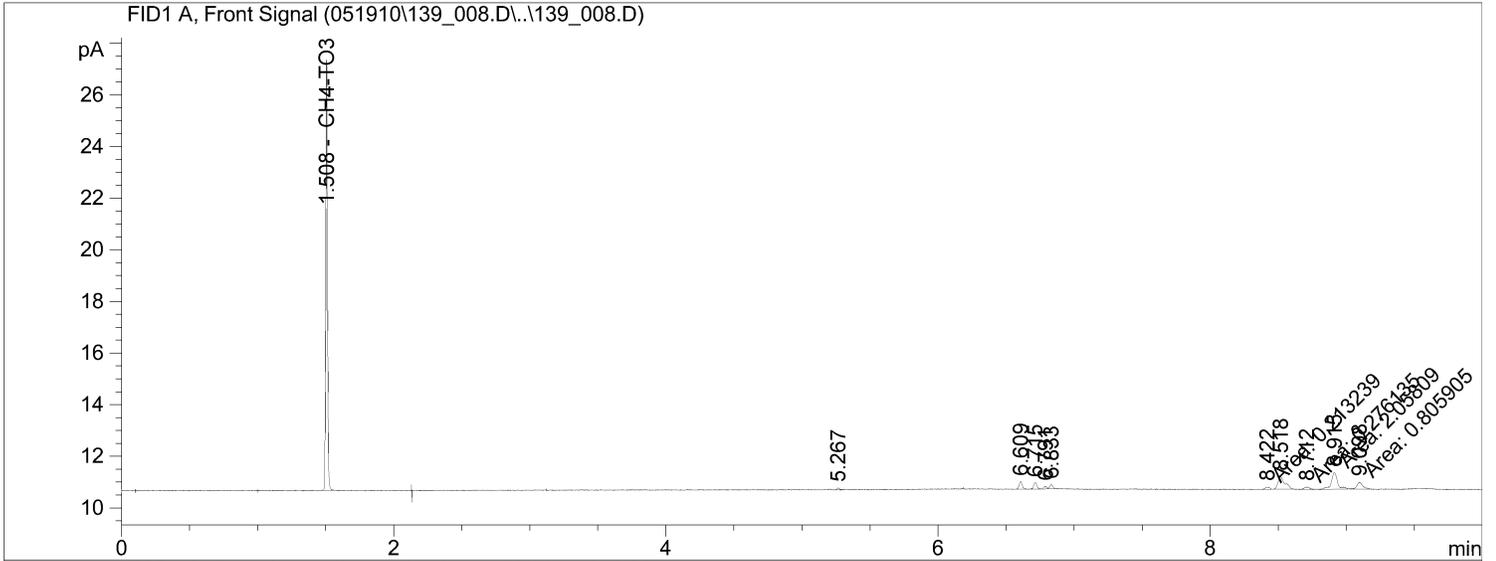
Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.507	BB	2.69526e-1	8.13190	2.19176		CH4-TO3

Sample Name: 220070-002,163138,1.87,c00182

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 1
Injection Date  : 5/19/2010 06:36:33 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_050310.M
Last changed    : 5/19/2010 06:29:35 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 3/15/2010 04:30:11 PM by GC28 RGA
    
```

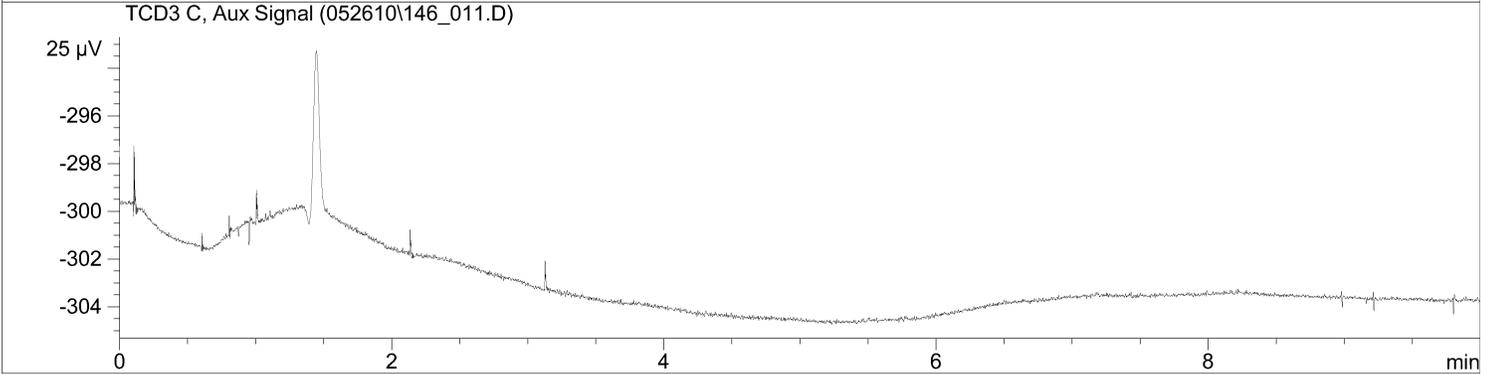
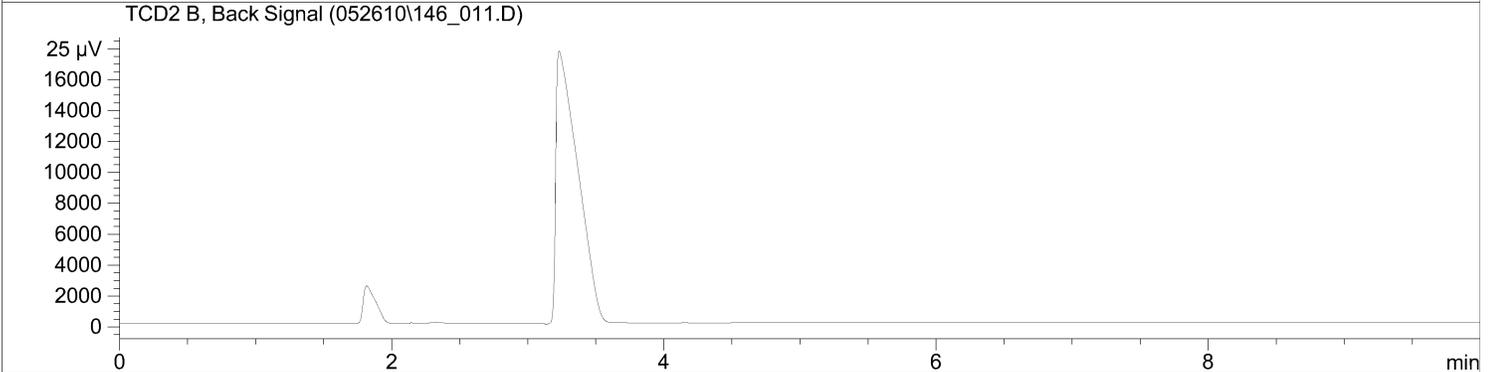
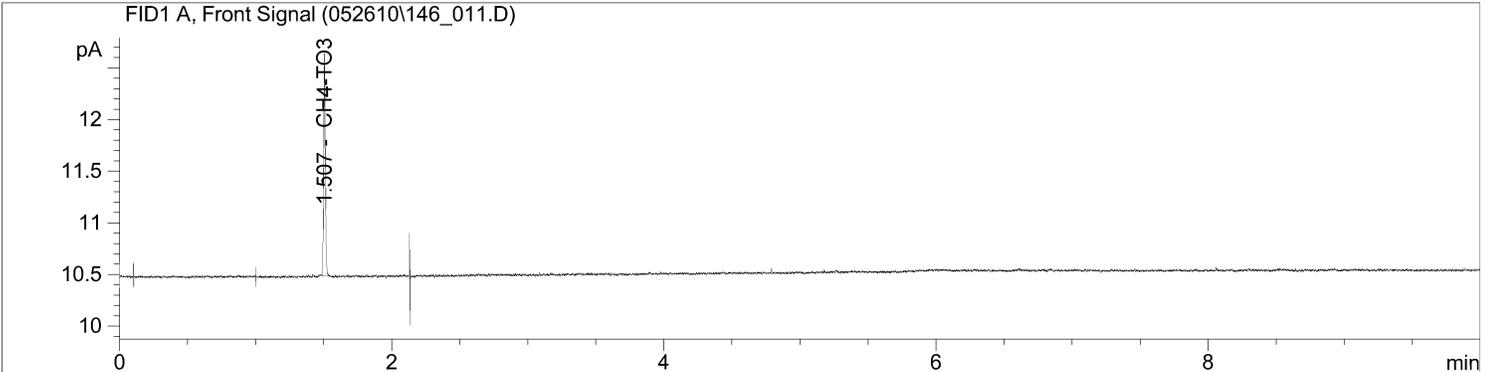


```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28
Injection Date  : 5/26/2010 04:09:27 PM
Location        : Vial 1
Inj Volume     : Manually

Acq. Method    : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed   : 5/26/2010 03:51:54 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed   : 3/15/2010 04:30:11 PM by GC28 RGA

```



```

=====
External Standard Report
=====

```

```

Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution       : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

```

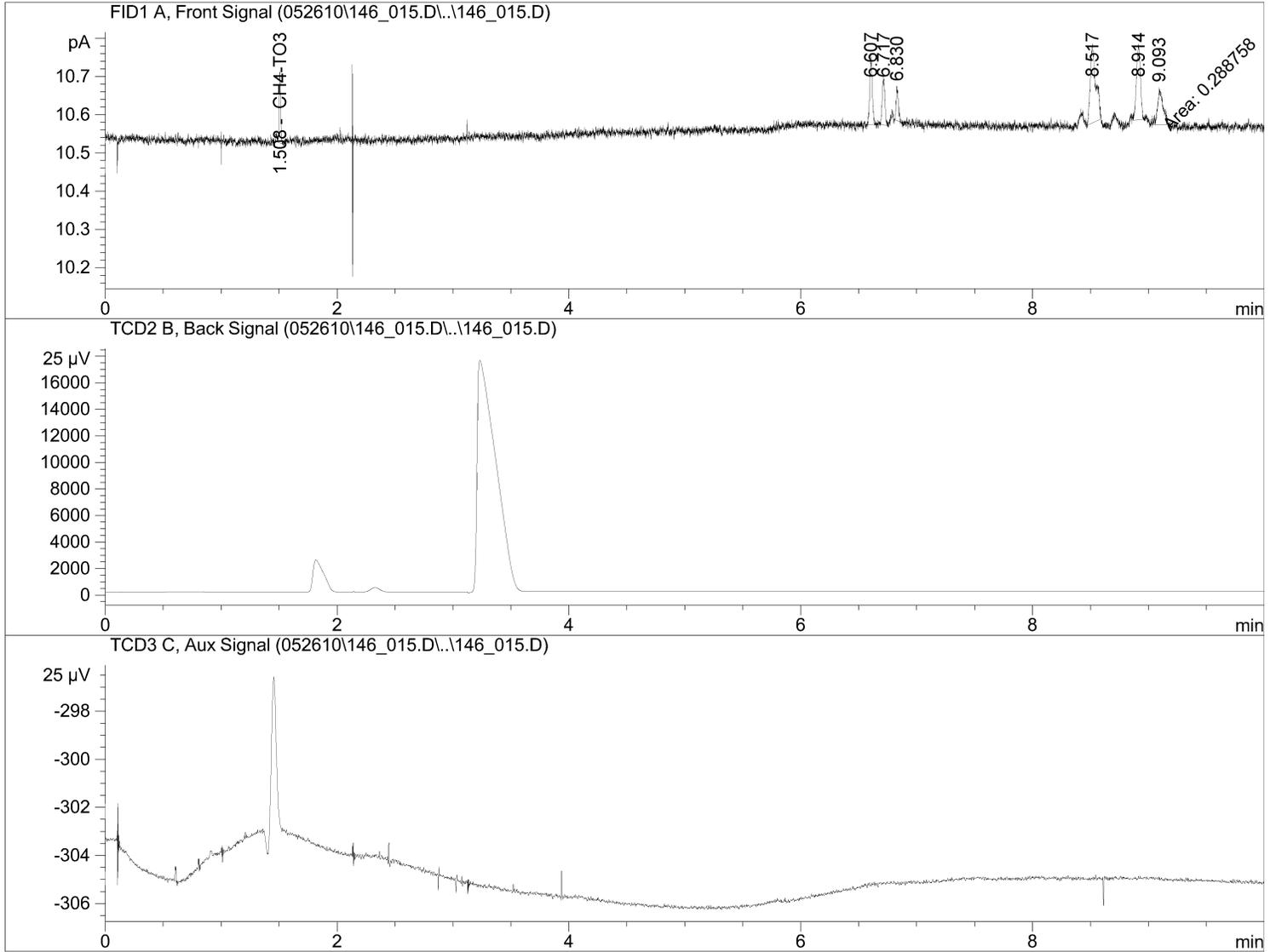
Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.507	BB	1.93039	8.13190	15.69776		CH4-TO3

Sample Name: 220070-004,163345,2.44,c00125

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 1
Injection Date  : 5/26/2010 07:15:20 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed    : 5/26/2010 07:09:41 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 3/15/2010 04:30:11 PM by GC28 RGA
    
```



External Standard Report

```

Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution       : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs
    
```

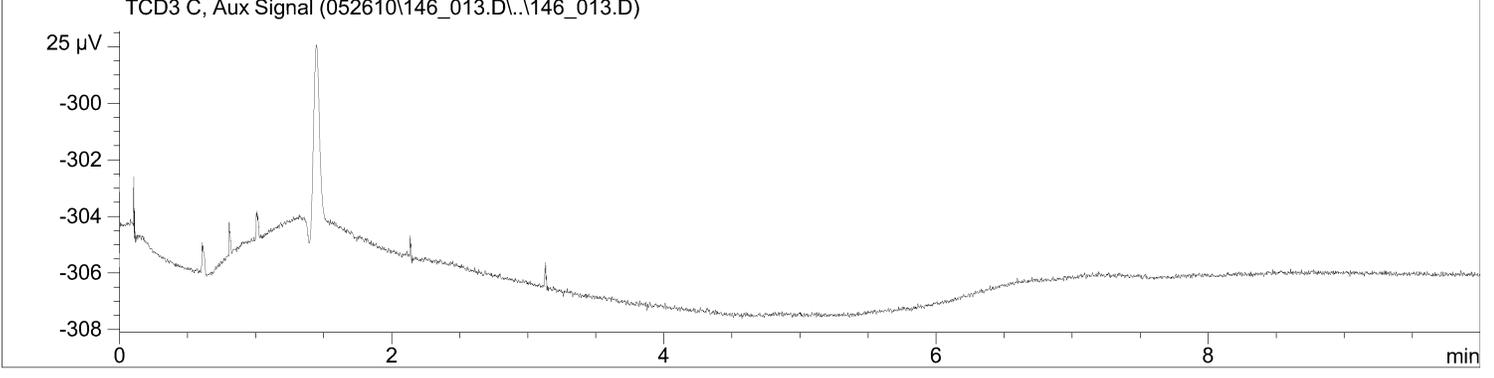
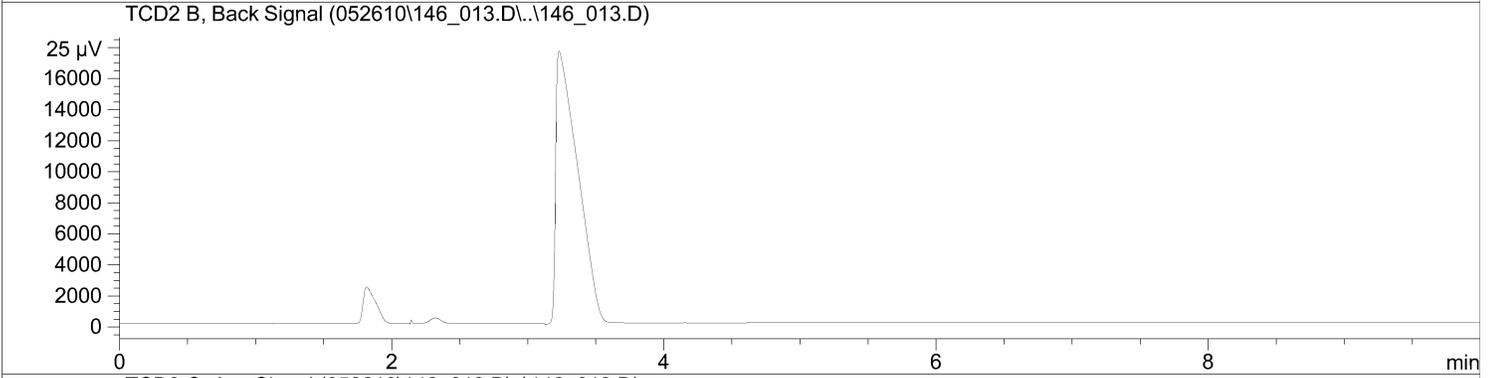
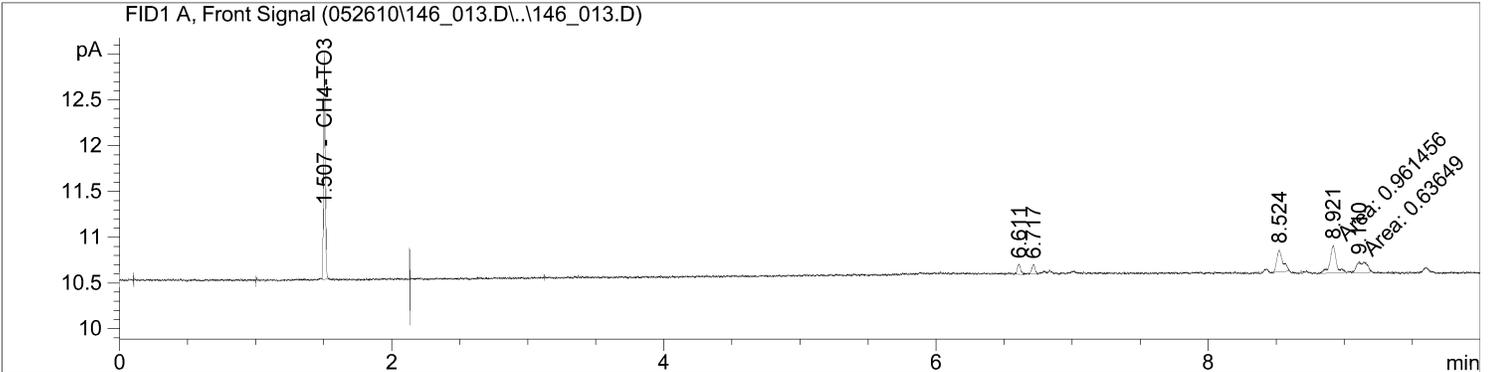
Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.508	BB	1.68643e-1	8.13190	1.37139		CH4-TO3

Sample Name: 220070-005,163138,2.46,c0072

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 1
Injection Date  : 5/26/2010 06:31:39 PM
                                           Inj Volume : Manually
Acq. Method    : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed   : 5/26/2010 04:45:17 PM by GC28 RGA
Analysis Method: C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed   : 3/15/2010 04:30:11 PM by GC28 RGA
    
```



External Standard Report

```

Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier    : 1.0000
Dilution      : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs
    
```

Signal 1: FID1 A, Front Signal

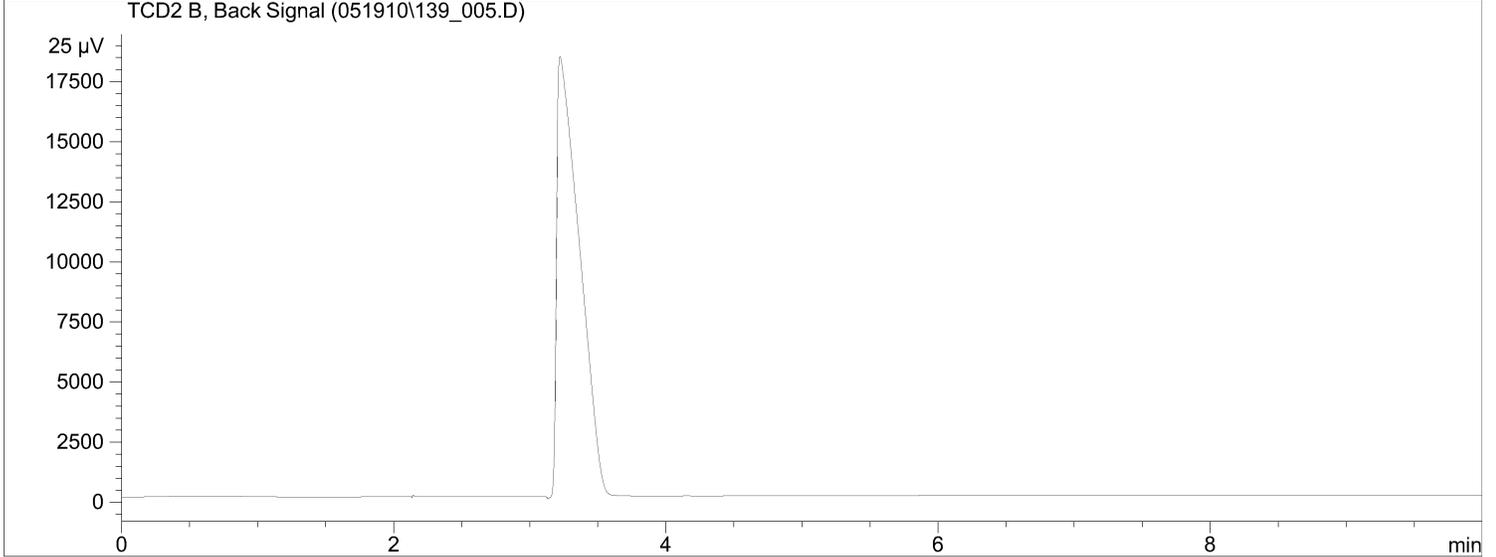
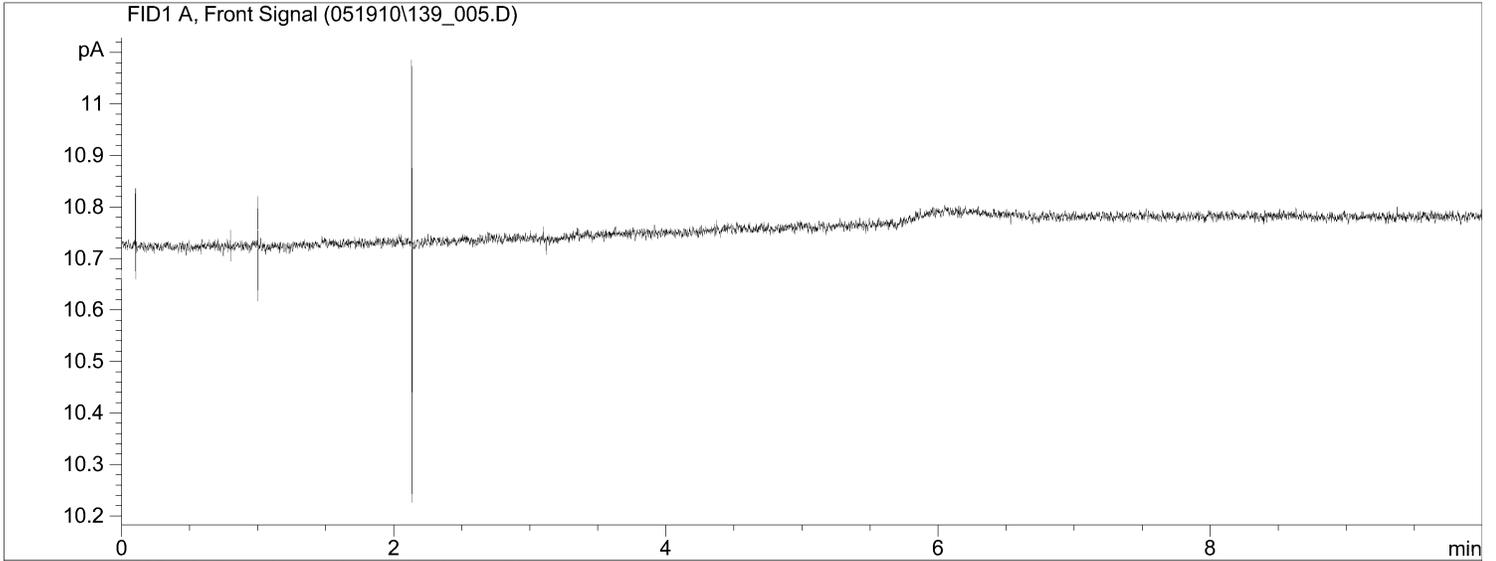
RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.507	BB	2.20426	8.13190	17.92481		CH4-TO3

Sample Name: mb,qc545021,163138,1,c00017

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 1
Injection Date  : 5/19/2010 04:21:02 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_050310.M
Last changed    : 5/19/2010 04:07:56 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 3/15/2010 04:30:11 PM by GC28 RGA
=====

```



```

=====
External Standard Report
=====

```

```

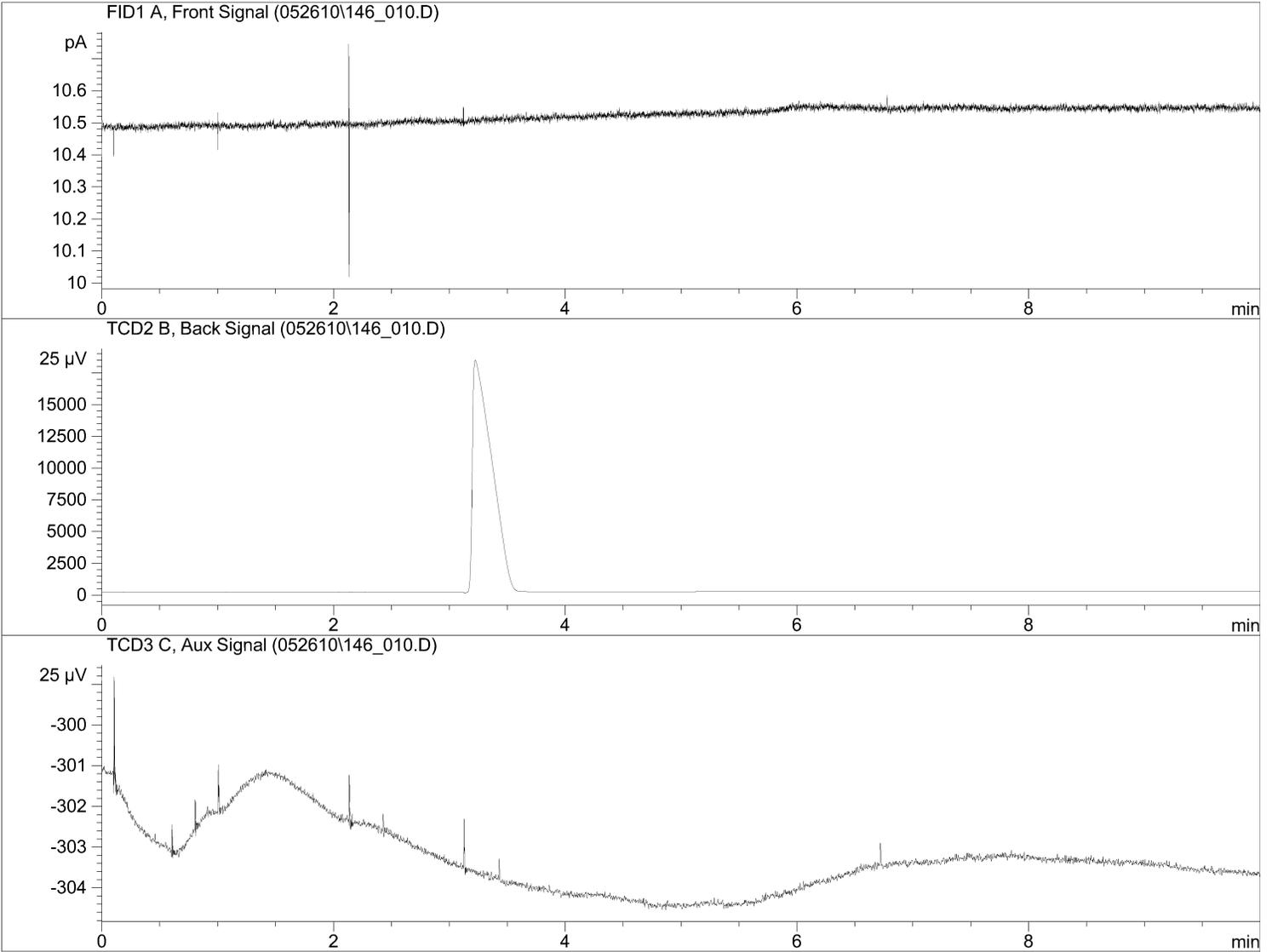
Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution       : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

```

Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.495	-	-	-	-	-	CH4-TO3

=====
Acq. Operator : GC28 RGA
Acq. Instrument : GC28 Location : Vial 1
Injection Date : 5/26/2010 03:36:51 PM
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed : 5/26/2010 03:31:23 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed : 3/15/2010 04:30:11 PM by GC28 RGA



=====
External Standard Report
=====

Sorted By : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier : 1.0000
Dilution : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs

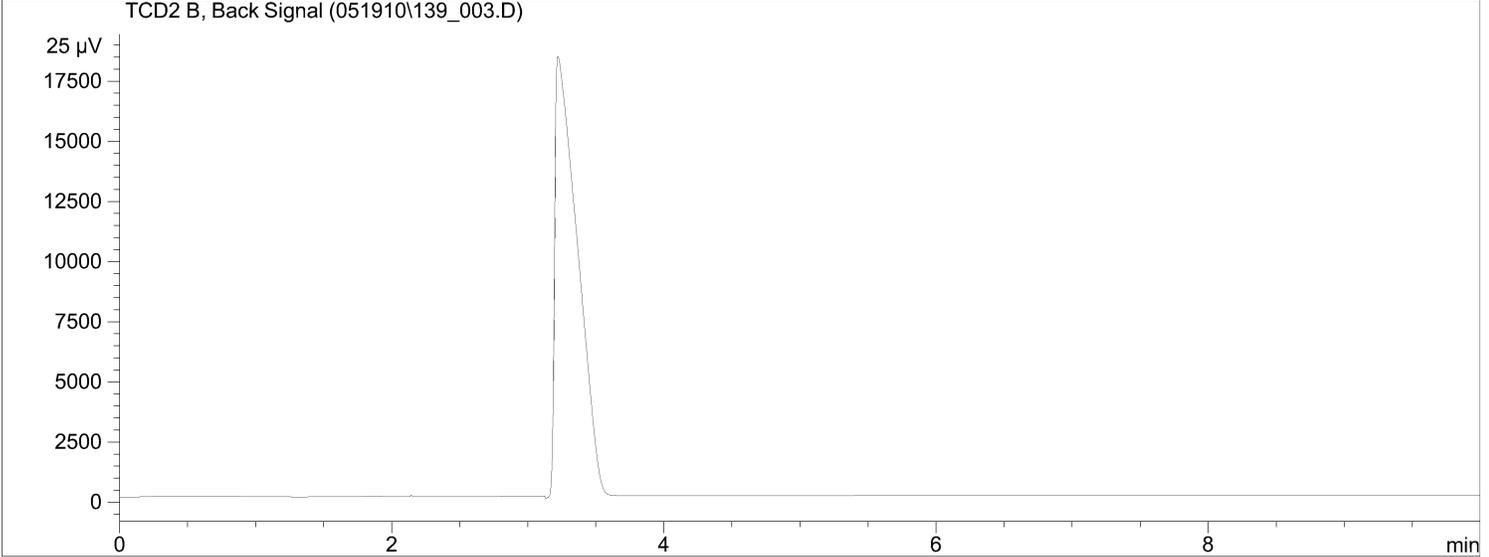
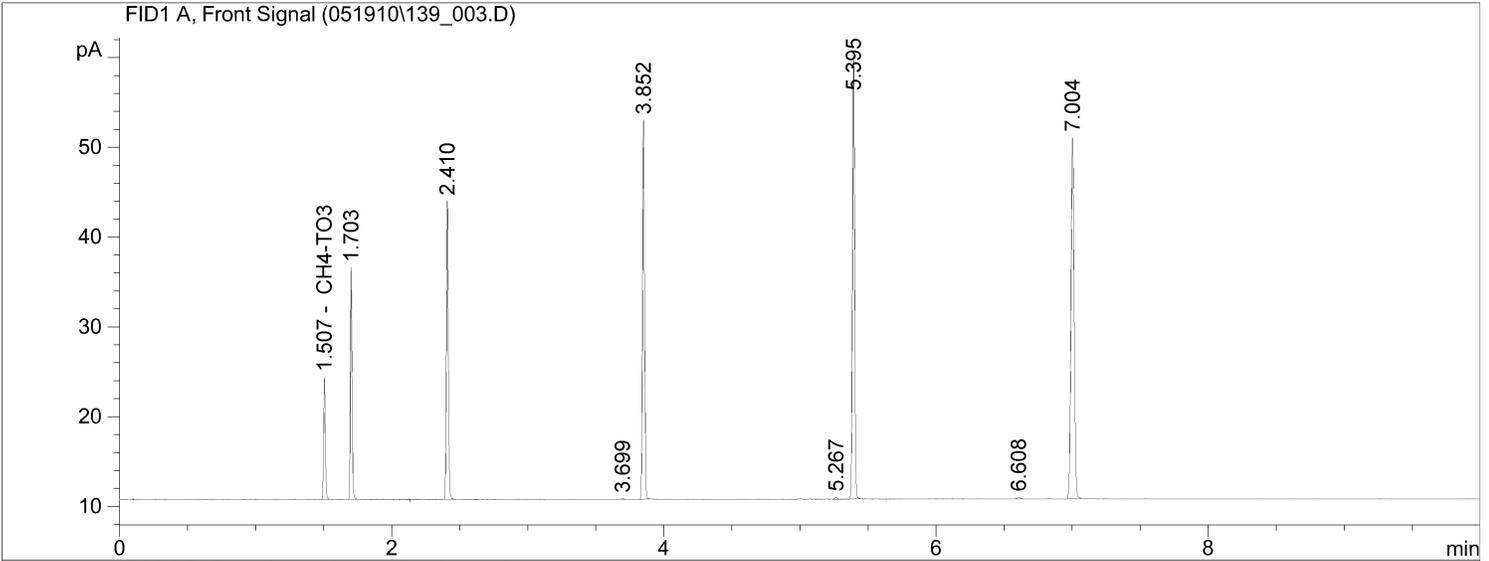
Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.495	-	-	-	-	-	CH4-TO3

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28
Injection Date  : 5/19/2010 02:48:51 PM
Location       : Vial 1
Inj Volume     : Manually

Acq. Method    : C:\CHEM32\1\METHODS\D1946_050310.M
Last changed   : 5/19/2010 02:38:02 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed   : 3/15/2010 04:30:11 PM by GC28 RGA
  
```



External Standard Report

```

Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution      : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs
  
```

Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.507	BB	12.12790	8.13190	98.62285		CH4-TO3

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220070 GCAIR Air: ASTM D1946

Inst : GC28
 Calnum : 1309434246001
 Units : uL/L

Date : 28-OCT-2009 13:50
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	301_006	1309434246006		28-OCT-2009 13:50	S13246
L2	301_007	1309434246007		28-OCT-2009 14:17	S13247
L3	301_008	1309434246008		28-OCT-2009 14:50	S13248
L4	301_009	1309434246009		28-OCT-2009 15:11	S13249
L5	301_010	1309434246010		28-OCT-2009 15:33	S13250
L6	301_011	1309434246011		28-OCT-2009 16:02	S13251

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	Flg
Oxygen	B		0.2310	0.2147	0.2147	0.2063	0.1979	AVRG		4.69612		0.2129	6	.99	
Carbon Dioxide	B		0.2502	0.2589	0.2542	0.2539	0.2416m	AVRG		3.97217		0.2518	3	.99	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Oxygen	B			500.0	8	2000	1	5000	1	10000	-3	2E+5	-7
Carbon Dioxide	B			500.0	-1	2000	3	5000	1	10000	1	2E+5	-4

m=manual integration

Instrument amount = a0 + response * a1 + response² * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220070 GCAIR Air: EPA TO-3

Inst : GC28
 Calnum : 1309497539003
 Units : uL/L

Date : 11-DEC-2009 12:37
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	345_002	1309497539002		11-DEC-2009 12:37	S13381
L2	345_003	1309497539003		11-DEC-2009 13:00	S13382
L3	345_004	1309497539004		11-DEC-2009 13:18	S13383
L4	345_005	1309497539005		11-DEC-2009 13:35	S13384
L5	345_006	1309497539006		11-DEC-2009 13:53	S13385
L6	345_007	1309497539007		11-DEC-2009 14:16	S13386
L7	345_008	1309497539008		11-DEC-2009 14:36	S13387
L8	345_009	1309497539009		11-DEC-2009 16:08	S13388

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Methane-TO3	A	0.1314	0.1225	0.1271	0.1208	0.1197	0.1183	0.1197	0.1242	AVRG		8.13190		0.1230	4	.99	30	
C1-C2 as Ethane	A	0.2344	0.2246	0.2351	0.2214	0.2192				AVRG		4.40634		0.2269	3	.99	30	
C2-C3 as Propane	A	0.3733	0.3403	0.3520	0.3349	0.3314				AVRG		2.88691		0.3464	5	.99	30	
C3-C4 as n-Butane	A	0.5160	0.4525	0.4696	0.4450	0.4404				AVRG		2.15194		0.4647	7	.99	30	
C4-C5 as n-Pentane	A	0.6216	0.5643	0.5844	0.5569	0.5515				AVRG		1.73685		0.5758	5	.99	30	
C5-C6 as n-Hexane	A	0.7502	0.6699	0.6955	0.6640	0.6573				AVRG		1.45477		0.6874	6	.99	30	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Methane-TO3	A	0.500	7	10.00	0	100.0	3	501.0	-2	1002	-3	9980	-4	2E+5	-3	5E+5	1
C1-C2 as Ethane	A	0.500	3	10.00	-1	100.0	4	505.5	-2	1011	-3						
C2-C3 as Propane	A	0.500	8	10.00	-2	100.0	2	501.0	-3	1002	-4						
C3-C4 as n-Butane	A	0.500	11	10.00	-3	100.0	1	502.5	-4	1005	-5						
C4-C5 as n-Pentane	A	0.500	8	10.00	-2	100.0	2	500.0	-3	1000	-4						
C5-C6 as n-Hexane	A	0.500	9	10.00	-3	100.0	1	498.5	-3	997.0	-4						

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220070 GCAIR Air
EPA TO-3

Inst : GC28

Calnum : 1309497539003

Cal Date : 11-DEC-2009

ICV 1309497539011 (345_011 11-DEC-2009) stds: S13375

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Methane-TO3	A	1000	1017	uL/L	2	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220070 GCAIR Air
ASTM D1946

Inst : GC28
 Seqnum : 1300198009010
 Cal : 1309434246001
 Standards: S14551

IDF : 1.0
 Time : 17-MAY-2010 17:02

File : 137_010
 Caldate : 28-OCT-2009

Analyte	Ch	Avg		Spiked	Quant	Units	%D	Max %D	Flags
		RF/CF	RF/CF						
Oxygen	B	0.2129	0.1963	2000	1844	uL/L	-8	30	
Carbon Dioxide	B	0.2518	0.2429	2000	1930	uL/L	-4	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220070 GCAIR Air
ASTM D1946

Inst : GC28
 Seqnum : 1300198009016
 Cal : 1309434246001
 Standards: S14551

IDF : 1.0
 Time : 17-MAY-2010 22:15

File : 137_016
 Caldate : 28-OCT-2009

Analyte	Ch	Avg		Spiked	Quant	Units	%D	Max %D	Flags
		RF/CF	RF/CF						
Oxygen	B	0.2129	0.2023	2000	1900	uL/L	-5	30	
Carbon Dioxide	B	0.2518	0.2428	2000	1929	uL/L	-4	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220070 GCAIR Air
EPA TO-3

Inst : GC28
 Seqnum : 1300200997012
 Cal : 1309497539003
 Standards: S14660

IDF : 1.0
 Time : 19-MAY-2010 21:09

File : 139_012
 Caldate : 11-DEC-2009

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Methane-TO3	A	0.1230	0.1219	100.0	99.12	uL/L	-1	30	
C1-C2 as Ethane	A	0.2269	0.2259	100.0	99.54	uL/L	0	30	
C2-C3 as Propane	A	0.3464	0.3389	100.0	97.83	uL/L	-2	30	
C3-C4 as n-Butane	A	0.4647	0.4517	100.0	97.21	uL/L	-3	30	
C4-C5 as n-Pentane	A	0.5758	0.5650	100.0	98.12	uL/L	-2	30	
C5-C6 as n-Hexane	A	0.6874	0.6706	100.0	97.56	uL/L	-2	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220070 GCAIR Air
EPA TO-3

Inst : GC28
 Seqnum : 1300210959017
 Cal : 1309497539003
 Standards: S14660

IDF : 1.0
 Time : 26-MAY-2010 23:56

File : 146_017
 Caldate : 11-DEC-2009

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Methane-TO3	A	0.1230	0.1215	100.0	98.83	uL/L	-1	30	
C1-C2 as Ethane	A	0.2269	0.2247	100.0	99.03	uL/L	-1	30	
C2-C3 as Propane	A	0.3464	0.3371	100.0	97.32	uL/L	-3	30	
C3-C4 as n-Butane	A	0.4647	0.4489	100.0	96.60	uL/L	-3	30	
C4-C5 as n-Pentane	A	0.5758	0.5616	100.0	97.53	uL/L	-2	30	
C5-C6 as n-Hexane	A	0.6874	0.6668	100.0	97.01	uL/L	-3	30	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1300198009

Instrument : GC28
 Method : ASTM D1946

Begun : 05/17/10 12:09

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	137_001	X	IB			05/17/10 12:09	1.0	
002	137_002	CCV/LCS	QC544839	Air	163092	05/17/10 12:36	1.0	1
003	137_003	BLANK	QC544838	Air	163092	05/17/10 13:00	1.0	
004	137_004	MSS	219906-001	Air	163092	05/17/10 13:21	1.84	
005	137_005	SDUP	QC544840	Air	163092	05/17/10 13:52	1.84	
006	137_006	SAMPLE	219906-002	Air	163092	05/17/10 14:13	1.93	
007	137_007	SAMPLE	219994-002	Air	163092	05/17/10 14:53	2.0	
008	137_008	SAMPLE	219994-003	Air	163092	05/17/10 16:18	1.65	
009	137_009	SAMPLE	219994-001	Air	163092	05/17/10 16:42	3.16	
010	137_010	CCV				05/17/10 17:02	1.0	1
011	137_011	SAMPLE	220070-001	Air	163092	05/17/10 19:08	2.12	
012	137_012	SAMPLE	220070-002	Air	163092	05/17/10 20:12	1.87	
013	137_013	SAMPLE	220070-003	Air	163092	05/17/10 20:32	2.700	
014	137_014	SAMPLE	220070-004	Air	163092	05/17/10 20:52	2.44	
015	137_015	SAMPLE	220070-005	Air	163092	05/17/10 21:14	2.46	
016	137_016	CCV				05/17/10 22:15	1.0	1

SJD 05/27/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

Analyst: SJD

Date: 05/27/10

Reviewer: BO

Date: 05/27/10

Standards used: 1=S14551

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1300200997

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 05/19/10 13:57

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	139_001	X	IB			05/19/10 13:57	1.0	
002	139_002	X	QC545022	Air	163138	05/19/10 14:23	1.0	1
003	139_003	CCV/BS	QC545022	Air	163138	05/19/10 14:48	1.0	1
004	139_004	BSD	QC545023	Air	163138	05/19/10 15:52	1.0	1
005	139_005	BLANK	QC545021	Air	163138	05/19/10 16:21	1.0	
006	139_006	SAMPLE	220069-004	Air	163138	05/19/10 16:49	1.83	
007	139_007	SAMPLE	220070-001	Air	163138	05/19/10 18:14	2.12	
008	139_008	SAMPLE	220070-002	Air	163138	05/19/10 18:36	1.87	
009	139_009	SAMPLE	220070-003	Air	163138	05/19/10 19:07	2.700	
010	139_010	SAMPLE	220070-004	Air	163138	05/19/10 19:27	2.44	
011	139_011	SAMPLE	220070-005	Air	163138	05/19/10 19:49	2.46	
012	139_012	CCV				05/19/10 21:09	1.0	1

SJD 05/27/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

Analyst: SJD Date: 05/27/10 Reviewer: BO Date: 05/27/10

Standards used: 1=S14660

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1300210959

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 05/26/10 11:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	146_001	X	IB			05/26/10 11:59	1.0	
002	146_002	IB	CALIB IB			05/26/10 12:20	1.0	
003	146_003	ICAL				05/26/10 12:45	1.0	1
004	146_004	ICAL				05/26/10 13:10	1.0	2
005	146_005	ICAL				05/26/10 13:36	1.0	3
006	146_006	ICAL				05/26/10 14:01	1.0	4
007	146_007	X	IB			05/26/10 14:29	1.0	
008	146_008	CCV/BS	QC546251	Air	163435	05/26/10 14:55	1.0	5
009	146_009	BSD	QC546252	Air	163435	05/26/10 15:16	1.0	5
010	146_010	BLANK	QC546250	Air	163435	05/26/10 15:36	1.0	
011	146_011	SAMPLE	220070-003	Air	163435	05/26/10 16:09	2.700	
012	146_012	X	IB CHECK			05/26/10 16:30	1.0	
013	146_013	SAMPLE	220070-005	Air	163435	05/26/10 18:31	2.46	
014	146_014	X	IB			05/26/10 18:54	1.0	
015	146_015	SAMPLE	220070-004	Air	163435	05/26/10 19:15	2.44	
016	146_016	X	IB			05/26/10 23:35	1.0	
017	146_017	CCV				05/26/10 23:56	1.0	5

SJD 05/27/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 17.

Analyst: SJD Date: 05/27/10 Reviewer: BO Date: 05/27/10

Standards used: 1=S14694 2=S14693 3=S14692 4=S14691 5=S14660

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1309434246

Instrument : GC28
 Method : ASTM D1946

Begun : 10/28/09 11:55

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	301_001	IB	IB			10/28/09 11:55	1.0	
002	301_002	IB	IB			10/28/09 12:15	1.0	
003	301_003	IB	IB			10/28/09 12:40	1.0	
004	301_004	IB	HE BLANK			10/28/09 13:05	1.0	
005	301_005	ICAL	CALBLANK			10/28/09 13:26	1.0	
006	301_006	ICAL				10/28/09 13:50	1.0	1
007	301_007	ICAL				10/28/09 14:17	1.0	2
008	301_008	ICAL				10/28/09 14:50	1.0	3
009	301_009	ICAL				10/28/09 15:11	1.0	4
010	301_010	ICAL				10/28/09 15:33	1.0	5
011	301_011	ICAL				10/28/09 16:02	1.0	6

APP 11/12/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 011.

Analyst: APP Date: 11/12/09 Reviewer: SJD Date: 11/12/09

Standards used: 1=S13246 2=S13247 3=S13248 4=S13249 5=S13250 6=S13251

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1309497539

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 12/11/09 12:19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	345_001	IB	IB			12/11/09 12:19	1.0	
002	345_002	ICAL				12/11/09 12:37	1.0	1
003	345_003	ICAL				12/11/09 13:00	1.0	2
004	345_004	ICAL				12/11/09 13:18	1.0	3
005	345_005	ICAL				12/11/09 13:35	1.0	4
006	345_006	ICAL				12/11/09 13:53	1.0	5
007	345_007	ICAL				12/11/09 14:16	1.0	6
008	345_008	ICAL				12/11/09 14:36	1.0	7
009	345_009	ICAL				12/11/09 16:08	1.0	8
010	345_010	IB	IB			12/11/09 16:29	1.0	
011	345_011	ICV				12/11/09 16:47	1.0	9

APP 12/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 011.

Analyst: APP Date: 12/14/09 Reviewer: SJD Date: 01/20/10

Standards used: 1=S13381 2=S13382 3=S13383 4=S13384 5=S13385 6=S13386 7=S13387 8=S13388 9=S13375

Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments
Dns 5/10/10	219994-001	C00186	11.84	23.11	1.95x	
	-002	C00172	12.33	24.64	2.00x	
	-003	C00177	13.97	23.04	1.65x	
Pns 5/17/10	220069-004	C00283	12.70	23.25	1.83x	
	220070-001	C00062	11.08	23.51	2.12x	
	-002	C00182	12.31	23.07	1.87x	
	-003	C00109	8.64	23.36	2.70x	
	-004	C00125	9.54	23.30	2.44x	
	-005	C00072	9.60	23.62	2.46x	
	BLANK	C00017	—	—	1x	
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x
Ans 5/21/10	220069-001	C00076	11.63	23.13	1.99x	
	-002	C00251	12.03	23.35	1.94x	
	-003	C00083	12.95	23.55	1.82x	
	-004	—	—	—	—	already filled 5/17/10
	-005	C00069	11.84	23.43	1.98x	
	-006	C00113	11.78	24.30	2.06x	
	-007	C00130	11.35	24.09	2.12x	
	-008	C00057	10.26	23.12	2.25x	
	-009	C00107	10.40	23.02	2.21x	
	-010	C00288	8.99	23.44	2.61x	
	220071-001	C00150	10.84	23.69	2.19x	
-002	C00142	10.71	23.29	2.18x		
-003	C00286	10.98	23.46	2.14x		
-004	C00166	10.98	23.53	2.14x		
-005	C00120	11.08	23.17	2.09x		
220211-001	C00144	11.62	23.35	2.01x		
-002	C00281	10.37	23.33	2.25x		
-003	C00285	11.42	23.02	2.02x		
-004	C00250	11.50	23.41	2.04x		
	BLANK	C00219	—	—	1x	
Ans 5/21/10	220207-001	C00087 C00192	11.40	23.09	2.03x	Can ID C00087
	-002	C00260	11.63	23.38	2.01x	
	-003	C00241	11.26	23.08	2.05x	

Continued on Page 36

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Date

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Date

Prep by/Date	Sample ID	Can ID	Initial Pressure (Psi)	Final Pressure (Psi)	Dilution Factor	Comments	
Pw 4/28/10	219764-001	C00052	12.96	23.48	1.81x		
		-002 C00247	13.48	23.48	1.74x		
		-003 C00263	12.72	23.13	1.82x		
		BLANK	C00031	—	—	1x	Prepped w/219630 job on 4/27/10
		BLANK	C00231	—	—	1x	
		BLANK	C00218	—	—	1x	Prepped w/219654 job on 4/26/10
Pw 4/29/10	219764-001	C00199	1.5 added	30 total	36.2x	20x of 1.81x	
	219764-002	C00208	1.5 added	30 total	34.8x	20x of 1.74x	
		-003 C00028	1.5 added	30 total	36.4x	20x of 1.82x	
SG 5/3/10	219630-001	C00098	2.09	23.69	11.3x		
		-002 C00075	2.07	25.67	12.4x		
		-003 C00131	3.39 3.39	23.61	6.965x 6.96x		
		-004 C00058	2.22	23.67	10.7x		
		-005 C00136	7.75	23.51	3.03x		
		-006 C00190	2.30	23.38	10.2x		
		-007 C00178	2.09	24.63	11.8x		
		-008 C00128	3.34	23.46	7.02x		
		-009 C00137	2.68	23.74	8.86x		
		-010 C00139	1.72	23.29	13.5x		
		BLANK	C00007	—	—	1x	
Pw 5/10/10	219833-001	C00117	13.28	23.46	1.77x		
		-002 C00167	12.21	23.14	1.90x		
		-003 C00100	12.71	23.65	1.86x		
		-004 C00127	13.27	23.05	1.74x		
		-005 C00290	12.90	23.52	1.82x		
		-006 C00097	12.84	23.23	1.81x		
		-007 C00284	13.05	23.57	1.81x		
		219905-001	C00121	10.94	23.63	2.16x	
		-002 C00124	11.51	23.43	2.04x		
		-003 C00099	11.43	23.29	2.04x		
		219906-001	C00275	12.80	23.58	1.84x	
		-002 C00140	12.40	23.87	1.93x		
		-003 C00129	14.92	24.21	—	Quick connect Final 24.21 was loose	
	BLANK	C00003	—	—	1x		

Continued on Page

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Date

Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments
Dns 5/10/10	219994-001	C00186	11.84	23.11	1.95x	
	-002	C00172	12.33	24.64	2.00x	
	-003	C00177	13.97	23.04	1.65x	
Pro 5/17/10	220069-004	C00283	12.70	23.25	1.83x	
	220070-001	C00062	11.08	23.51	2.12x	
	-002	C00182	12.31	23.07	1.87x	
	-003	C00109	8.64	23.30	2.70x	
	-004	C00125	9.54	23.30	2.44x	
	-005	C00072	9.60	23.62	2.46x	
	BLANK	C00017	—	—	1x	
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x
As 5/21/10	220069-001	C00076	11.63	23.13	1.99x	
	-002	C00251	12.03	23.35	1.94x	
	-003	C00083	12.95	23.55	1.82x	
	-004	—	—	—	—	already filled 5/17/10
	-005	C00069	11.84	23.43	1.98x	
	-006	C00113	11.78	24.30	2.06x	
	-007	C00130	11.35	24.09	2.12x	
	-008	C00057	10.26	23.12	2.25x	
	-009	C00107	10.40	23.02	2.21x	
	-010	C00288	8.99	23.44	2.61x	
	220071-001	C00150	10.84	23.69	2.19x	
-002	C00142	10.71	23.29	2.18x		
-003	C00286	10.98	23.46	2.14x		
-004	C00166	10.98	23.53	2.14x		
-005	C00120	11.08	23.17	2.09x		
220211-001	C00144	11.62	23.35	2.01x		
-002	C00281	10.37	23.33	2.25x		
-003	C00285	11.42	23.02	2.02x		
-004	C00250	11.50	23.41	2.04x		
	BLANK	C00219	—	—	1x	
As 5/21/10	220207-001	C00087 C00192	11.40	23.09	2.03x	Can ID C00087
	-002	C00260	11.63	23.38	2.01x	
	-003	C00241	11.26	23.08	2.05x	

Continued on Page 36

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Date

Prepped by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments
Dns 5/10/10	219994-001	C00186	11.84	23.11	1.95x	
	-002	C00172	12.33	24.64	2.00x	
	-003	C00177	13.97	23.04	1.65x	
Pns 5/17/10	220069-004	C00283	12.70	23.25	1.83x	
	220070-001	C00062	11.08	23.51	2.12x	
	-002	C00182	12.31	23.07	1.87x	
	-003	C00109	8.64	23.36	2.70x	
	-004	C00125	9.54	23.30	2.44x	
	-005	C00072	9.60	23.62	2.46x	
	BLANK	C00017	—	—	1x	
	219994-003	C00186	15.02	24.26	3.16x	1.62x of 1.95x
As 5/21/10	220069-001	C00076	11.63	23.13	1.99x	
	-002	C00251	12.03	23.35	1.94x	
	-003	C00083	12.95	23.55	1.82x	
	-004	—	—	—	—	already filled 5/17/10
	-005	C00069	11.84	23.43	1.98x	
	-006	C00113	11.78	24.30	2.06x	
	-007	C00130	11.35	24.09	2.12x	
	-008	C00057	10.26	23.12	2.25x	
	-009	C00107	10.40	23.02	2.21x	
	-010	C00288	8.99	23.44	2.61x	
	220071-001	C00150	10.84	23.69	2.19x	
-002	C00142	10.71	23.29	2.18x		
-003	C00286	10.98	23.46	2.14x		
-004	C00166	10.98	23.53	2.14x		
-005	C00120	11.08	23.17	2.09x		
220211-001	C00144	11.62	23.35	2.01x		
-002	C00281	10.37	23.33	2.25x		
-003	C00285	11.42	23.02	2.02x		
-004	C00250	11.50	23.41	2.04x		
	BLANK	C00219	—	—	1x	
As 5/21/10	220207-001	C00087 C00143	11.40	23.09	2.03x	Can ID C00087
	-002	C00260	11.63	23.38	2.01x	
	-003	C00241	11.26	23.08	2.05x	

Continued on Page 36

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Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220071
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
PMW-1-U-10Q2	220071-001
PMW-1-M-10Q2	220071-002
PMW-9-U-10Q2	220071-003
PMW-9-M-10Q2	220071-004
BSVE-SVM-10Q2-004	220071-005

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____
Project Manager

Date: 05/28/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220071
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/12/10
Samples Received: 05/12/10

This data package contains sample and QC results for five air samples, requested for the above referenced project on 05/12/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

High surrogate recoveries were observed for bromofluorobenzene in PMW-1-U-10Q2 (lab # 220071-001) and PMW-1-M-10Q2 (lab # 220071-002).

A number of samples were diluted due to problematic matrix.

No other analytical problems were encountered.

Chain of Custody

220071

Curtis & Tompkins Laboratories		Honeywell Chain Of Custody / Analysis Request																	
2323 5th St. Berkeley, CA 94710 510-204-2221		Privileged & Confidential		Sky Harbor AZ		Phase: Sampling Program		Site Name: Phoenix, AZ		BSVE QTR SVM		AESI Ref: 40210.49633 COC#: 37380							
Sampling Co.: CH2MHILL		Tuesdai Powers, Critigen Melanie West, Critigen		Sky Harbor AZ		Phase: Sampling Program		Site Name: Phoenix, AZ		BSVE QTR SVM		Lab Proj # (SDG): CTBERK							
Client Contact: (name, co., address) CH2MHILL		DAVID EICKSON		Phoenix, AZ		Phase: Sampling Program		Site Name: Phoenix, AZ		BSVE QTR SVM		Lab ID SKYHARBOR							
2625 South Plaza Drive, Suite 300 Tempe, AZ 85282		5101516		0 0 0 0		Phase: Sampling Program		Site Name: Phoenix, AZ		BSVE QTR SVM		Lab Job # Honeywell							
Preliminary Data To: Tuesdai Powers, Critigen, Melanie West, Critigen		Analysis Turnaround Time (TAT): Consultant		10		Phase: Sampling Program		Site Name: Phoenix, AZ		BSVE QTR SVM		Authorized User: Honeywell							
Sample Receipt Acknowledgement To: Tuesdai Powers, Critigen, Melanie West, Critigen		Full Report TAT:		10		Phase: Sampling Program		Site Name: Phoenix, AZ		BSVE QTR SVM		Text & Excel File Drive Order							
Hard Copy To: Tuesdai Powers and Melanie West, Critigen		Full Report TAT:		10		Phase: Sampling Program		Site Name: Phoenix, AZ		BSVE QTR SVM		Copyright AESI Version 8.0 Unauthorized use strictly prohibited.							
Invoice To: Honeywell/Copy Berney Kidd		Full Report TAT:		10		Phase: Sampling Program		Site Name: Phoenix, AZ		BSVE QTR SVM		Text & Excel File Drive Order							
Sample Identification		Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Composites/Grab	Field Filtered Sample ?	VOCs (TO-15)	Methane (TO-3M)	TPH (TO-3M)	OZ and COZ (ASTM 1946)	Sampling Method (code)	Canister Serial No.
1	PMW-1U	5	1D	PMW-1U 1D QZ	051010	0800	SV	AIR	REG	1	X	N	X						00150
2	PMW-1M	20	25	PMW-1M 1D QZ	051010	0927	SV	AIR	REG	1	X	N	X						00142
3	PMW-9U	5	1D	PMW-9U 1D QZ	051010	1133	SV	AIR	REG	1	X	N	X						00170
4	PMW-9M	20	25	PMW-9M 1D QZ	051010	1204	SV	AIR	REG	1	X	N	X						00166
5				BSVE-SUM-1DRL-004	051010		SV	AIR	REG	1	X	N	X						00286
6																			
7																			
8																			
9																			
10																			
11																			
12																			

REC'D BY: *[Signature]* 5-12-10 0945

COOLER RECEIPT CHECKLIST



Login # 220071 Date Received 5-12-10 Number of coolers 1BX
Client CH2M HILL TAZ HONEYWELL Project BSNE QTR SUM

Date Opened 5-12-10 By (print) S. EVANS (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) FEDEX # [Signature] YES NO
Shipping info [Signature]

2A. Were custody seals present? ... [X] YES (circle) on cooler on samples [] NO
How many 2EA Name SIGNATURE Date 5-11-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- [] Bubble Wrap [] Foam blocks [] Bags [] None
[] Cloth material [X] Cardboard [] Styrofoam [] Paper towels

7. Temperature documentation:

Type of ice used: [] Wet [] Blue/Gel [X] None Temp(°C)

[] Samples Received on ice & cold without a temperature blank

[] Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

SAMPLE # 003 + 005 LABEL TIMES DO NOT MATCH COL TIMES.

Logged in for LABEL TIMES: #003 = 11:37

#005 = 11:33

Lisa Brooker

From: "Theresa Wong" <Theresa.Wong@critigen.com>
To: <desiree.tetrault@ctberk.com>; <goyette@ctberk.com>
Cc: "Tuesdai Powers" <Tuesdai.Powers@critigen.com>; "Melanie West" <Melanie.West@critigen.com>; <Bernice.Kidd@CH2M.com>
Sent: Monday, May 17, 2010 9:01 AM
Attach: 220071_COC_Amended.pdf
Subject: RE: 371451.SV.99.IS.0109 - C&T Login Summary (220071)

Desiree & John,

Please see attached amended COC for SDG 220071. The Location IDs and Field Sample IDs were incorrectly written on the COC. The correct Field Sample IDs for the first 4 samples are:

- PMW-1-U-10Q2
- PMW-1-M-10Q2
- PMW-9-U-10Q2
- PMW-9-M-10Q2

Thanks

+ + + + +

Theresa Wong
GIS Analyst

C R I T I G E N

Theresa.Wong@critigen.com
 +1 425.233.3370 Direct

critigen.com

From: Desiree Tetrault for JG [mailto:desiree.tetrault@ctberk.com]
Sent: Thursday, May 13, 2010 2:01 PM
To: bernice.kidd@ch2m.com; Melanie West; Tuesdai Powers
Subject: 371451.SV.99.IS.0109 - C&T Login Summary (220071)

Please note on the cooler receipt checklist that the sample times on the COC did not match what was written on the on containers. The times on the containers were used for login.

C&T Login Summary for 220071

<p>Project: 371451.SV.99.IS.0109 Site: BSVE QTR SVM Lab Login #: 220071 Report Level: III</p>	<p>Report To: CH2M Hill 2625 South Plaza Drive Suite 300 Tempe, AZ 85282-3397</p>	<p>Bill To: Honeywell 101 Columbia SOLVAY-4 Morristown, N.</p>
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Laboratory Job Number 220071

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air			
Lab #:	220071	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-1-U-10Q2	Diln Fac:	13.14
Lab ID:	220071-001	Batch#:	163492
Matrix:	Air	Sampled:	05/10/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.6	ND	17	D1
Chloroethane	ND	6.6	ND	17	D1
1,1-Dichloroethene	ND	6.6	ND	26	D1
1,1-Dichloroethane	ND	6.6	ND	27	D1
MTBE	ND	6.6	ND	24	D1
cis-1,2-Dichloroethene	ND	6.6	ND	26	D1
n-Hexane	ND	6.6	ND	23	D1
Chloroform	ND	6.6	ND	32	D1
Benzene	ND	6.6	ND	21	D1
Trichloroethene	ND	6.6	ND	35	D1
Toluene	ND	6.6	ND	25	D1
Tetrachloroethene	ND	6.6	ND	45	D1
Ethylbenzene	40	6.6	170	29	D1
m,p-Xylenes	93	6.6	400	29	D1
o-Xylene	16	6.6	69	29	D1
1,3,5-Trimethylbenzene	47	6.6	230	32	D1
1,2,4-Trimethylbenzene	220	6.6	1,100	32	D1
Xylene (total)	110	13	470	57	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	136 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220071	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-1-M-10Q2	Diln Fac:	13.08
Lab ID:	220071-002	Batch#:	163492
Matrix:	Air	Sampled:	05/10/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.5	ND	17	D1
Chloroethane	ND	6.5	ND	17	D1
1,1-Dichloroethene	ND	6.5	ND	26	D1
1,1-Dichloroethane	ND	6.5	ND	26	D1
MTBE	ND	6.5	ND	24	D1
cis-1,2-Dichloroethene	ND	6.5	ND	26	D1
n-Hexane	ND	6.5	ND	23	D1
Chloroform	ND	6.5	ND	32	D1
Benzene	ND	6.5	ND	21	D1
Trichloroethene	ND	6.5	ND	35	D1
Toluene	ND	6.5	ND	25	D1
Tetrachloroethene	ND	6.5	ND	44	D1
Ethylbenzene	29	6.5	120	28	D1
m,p-Xylenes	68	6.5	290	28	D1
o-Xylene	ND	6.5	ND	28	D1
1,3,5-Trimethylbenzene	38	6.5	190	32	D1
1,2,4-Trimethylbenzene	180	6.5	900	32	D1
Xylene (total)	68	13	290	57	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	142 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220071	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-9-U-10Q2	Diln Fac:	6.420
Lab ID:	220071-003	Batch#:	163492
Matrix:	Air	Sampled:	05/10/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.2	ND	8.2	D1
Chloroethane	ND	3.2	ND	8.5	D1
1,1-Dichloroethene	ND	3.2	ND	13	D1
1,1-Dichloroethane	ND	3.2	ND	13	D1
MTBE	ND	3.2	ND	12	D1
cis-1,2-Dichloroethene	ND	3.2	ND	13	D1
n-Hexane	ND	3.2	ND	11	D1
Chloroform	ND	3.2	ND	16	D1
Benzene	ND	3.2	ND	10	D1
Trichloroethene	ND	3.2	ND	17	D1
Toluene	ND	3.2	ND	12	D1
Tetrachloroethene	ND	3.2	ND	22	D1
Ethylbenzene	6.6	3.2	29	14	D1
m,p-Xylenes	19	3.2	83	14	D1
o-Xylene	ND	3.2	ND	14	D1
1,3,5-Trimethylbenzene	15	3.2	74	16	D1
1,2,4-Trimethylbenzene	72	3.2	350	16	D1
Xylene (total)	19	6.4	83	28	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	120	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220071	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-9-M-10Q2	Diln Fac:	12.84
Lab ID:	220071-004	Batch#:	163492
Matrix:	Air	Sampled:	05/10/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.4	ND	16	D1
Chloroethane	ND	6.4	ND	17	D1
1,1-Dichloroethene	ND	6.4	ND	25	D1
1,1-Dichloroethane	ND	6.4	ND	26	D1
MTBE	ND	6.4	ND	23	D1
cis-1,2-Dichloroethene	ND	6.4	ND	25	D1
n-Hexane	ND	6.4	ND	23	D1
Chloroform	ND	6.4	ND	31	D1
Benzene	ND	6.4	ND	21	D1
Trichloroethene	ND	6.4	ND	34	D1
Toluene	ND	6.4	ND	24	D1
Tetrachloroethene	ND	6.4	ND	44	D1
Ethylbenzene	8.3	6.4	36	28	D1
m,p-Xylenes	24	6.4	100	28	D1
o-Xylene	ND	6.4	ND	28	D1
1,3,5-Trimethylbenzene	18	6.4	90	32	D1
1,2,4-Trimethylbenzene	87	6.4	430	32	D1
Xylene (total)	24	13	100	56	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	106	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220071	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BSVE-SVM-10Q2-004	Diln Fac:	12.54
Lab ID:	220071-005	Batch#:	163492
Matrix:	Air	Sampled:	05/10/10
Units (V):	ppbv	Received:	05/12/10
Units (M):	ug/m3	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.3	ND	16	D1
Chloroethane	ND	6.3	ND	17	D1
1,1-Dichloroethene	ND	6.3	ND	25	D1
1,1-Dichloroethane	ND	6.3	ND	25	D1
MTBE	ND	6.3	ND	23	D1
cis-1,2-Dichloroethene	ND	6.3	ND	25	D1
n-Hexane	ND	6.3	ND	22	D1
Chloroform	ND	6.3	ND	31	D1
Benzene	ND	6.3	ND	20	D1
Trichloroethene	ND	6.3	ND	34	D1
Toluene	ND	6.3	ND	24	D1
Tetrachloroethene	ND	6.3	ND	43	D1
Ethylbenzene	19	6.3	81	27	D1
m,p-Xylenes	47	6.3	210	27	D1
o-Xylene	8.8	6.3	38	27	D1
1,3,5-Trimethylbenzene	34	6.3	170	31	D1
1,2,4-Trimethylbenzene	160	6.3	790	31	D1
Xylene (total)	56	13	240	54	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	118	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220071	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546479	Diln Fac:	1.000
Matrix:	Air	Batch#:	163492
Units (V):	ppbv	Analyzed:	05/27/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	99	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220071	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163492
Units (V):	ppbv	Analyzed:	05/27/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546480

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	10.22	102	70-130		
Chloroethane	10.00	10.43	104	70-130		
1,1-Dichloroethene	10.00	10.30	103	66-139		
1,1-Dichloroethane	10.00	10.28	103	61-134		
MTBE	10.00	10.74	107	70-130		
cis-1,2-Dichloroethene	10.00	10.17	102	70-130		
n-Hexane	10.00	10.42	104	70-130		
Chloroform	10.00	9.664	97	70-130		
Benzene	10.00	11.28	113	70-130		
Trichloroethene	10.00	10.05	100	70-130		
Toluene	10.00	10.50	105	70-130		
Tetrachloroethene	10.00	9.907	99	70-130		
Ethylbenzene	10.00	10.87	109	70-130		
m,p-Xylenes	20.00	20.90	104	70-130		
o-Xylene	10.00	10.38	104	70-130		
1,3,5-Trimethylbenzene	10.00	10.86	109	70-130		
1,2,4-Trimethylbenzene	10.00	10.64	106	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	98	70-130		

Type: BSD Lab ID: QC546481

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.48	105	70-130	3	25		
Chloroethane	10.00	10.78	108	70-130	3	25		
1,1-Dichloroethene	10.00	10.44	104	66-139	1	10		
1,1-Dichloroethane	10.00	10.53	105	61-134	2	15		
MTBE	10.00	11.05	111	70-130	3	25		
cis-1,2-Dichloroethene	10.00	10.52	105	70-130	3	25		
n-Hexane	10.00	10.47	105	70-130	0	25		
Chloroform	10.00	10.08	101	70-130	4	25		
Benzene	10.00	11.05	111	70-130	2	25		
Trichloroethene	10.00	10.02	100	70-130	0	25		
Toluene	10.00	10.75	107	70-130	2	25		
Tetrachloroethene	10.00	9.833	98	70-130	1	25		
Ethylbenzene	10.00	10.90	109	70-130	0	25		
m,p-Xylenes	20.00	21.02	105	70-130	1	25		
o-Xylene	10.00	10.59	106	70-130	2	25		
1,3,5-Trimethylbenzene	10.00	10.65	106	70-130	2	25		
1,2,4-Trimethylbenzene	10.00	11.05	110	70-130	4	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	98	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220071 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220071 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200212836001 File : 147_001 Time : 27-MAY-2010 19:16

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	29142	11.95	
75	30% - 66% of mass 95	106999	43.87	
95		243873	100.00	
96	5% - 9% of mass 95	16617	6.81	
173	< 2% of mass 174	334	0.18	
174	50% - 120% of mass 95	183586	75.28	
175	4% - 9% of mass 174	15082	8.22	
176	93% - 101% of mass 174	184775	100.65	
177	5% - 9% of mass 176	13795	7.47	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220071 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

Page 3 of 3

1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220071 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220071 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546480 IDF : 1.0
 Seqnum : 1200212836002.1 File : 147_002 Time : 27-MAY-2010 20:23
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14715, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.8281	10.00	10.22	nL/L	2	30	0.0500	u
Chloroethane	0.0815	0.0849	10.00	10.43	nL/L	4	30	0.0500	u
1,1-Dichloroethene	1.9184	1.9746	10.00	10.30	nL/L	3	30	0.0500	u
1,1-Dichloroethane	2.2145	2.2755	10.00	10.28	nL/L	3	30	0.0500	u
MTBE	1.4577	1.5654	10.00	10.74	nL/L	7	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.6734	10.00	10.17	nL/L	2	30	0.0500	u
n-Hexane	0.9022	0.9398	10.00	10.42	nL/L	4	30	0.0500	u
Chloroform	2.4999	2.4153	10.00	9.664	nL/L	-3	30	0.0500	u
Benzene	0.5014	0.5653	10.00	11.28	nL/L	13	30	0.0500	u
Trichloroethene	0.5169	0.5191	10.00	10.05	nL/L	0	30	0.0500	u
Toluene	1.5032	1.5775	10.00	10.50	nL/L	5	30	0.0500	u
Tetrachloroethene	0.9425	0.9335	10.00	9.907	nL/L	-1	30	0.0500	u
Ethylbenzene	1.8627	2.0239	10.00	10.87	nL/L	9	30	0.0500	u
m,p-Xylenes	1.6467	1.7206	20.00	20.90	nL/L	4	30	0.0500	u
o-Xylene	1.6921	1.7558	10.00	10.38	nL/L	4	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.3456	10.00	10.86	nL/L	9	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.1014	10.00	10.64	nL/L	6	30	0.0500	u
Bromofluorobenzene	0.8080	0.7922	6.667	6.536	nL/L	-2	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	333986	-7.39	32.92	32.93	0.02
1,4-Difluorobenzene	1294000	1123000	-13.21	36.90	36.92	0.02
Chlorobenzene-d5	1155000	1032000	-10.65	48.03	48.04	0.01

BO 05/28/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200212836

Date : 05/27/10
 Sequence : MSAIR01 147

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC546480	333986	32.93	1123000	36.92	1032000	48.04
003	BSD	QC546481	327423	32.93	1152000	36.92	1026000	48.04
004	IB	NONE	311068	32.96	1004000	36.92	925659	48.04
005	BLANK	QC546479	312554	32.95	1028000	36.92	932662	48.04
006	SAMPLE	220071-003	312268	32.94	1080000	36.92	999073	48.04
007	SAMPLE	220071-001	0 *	32.92	0 *	36.90	1713 *	47.96
008	SAMPLE	220071-002	342785	32.91	1023000	36.89	860524	48.02
009	SAMPLE	220071-001	318698	32.91	1019000	36.89	970411	48.02
010	SAMPLE	220071-004	295987	32.92	1001000	36.89	960139	48.02
011	SAMPLE	220071-005	298993	32.91	1006000	36.89	960406	48.02
012	SAMPLE	220244-001	303657	32.91	1014000	36.88	941243	48.01
013	SAMPLE	220244-002	301838	32.91	1006000	36.88	903230	48.01

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200212836

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/27/10 19:16

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	147_001	TUN	BFB			05/27/10 19:16	1.0	1	
002	147_002	CCV/BS	QC546480	Air	163492	05/27/10 20:23	1.0	2 1	
003	147_003	BSD	QC546481	Air	163492	05/27/10 21:26	1.0	2 1	
004	147_004	IB	NONE			05/27/10 22:29	1.0	1	
005	147_005	BLANK	QC546479	Air	163492	05/27/10 23:32	1.0	1	
006	147_006	SAMPLE	220071-003	Air	163492	05/28/10 00:35	6.42	1	
007	147_007	SAMPLE	220071-001	Air	163492	05/28/10 01:39	13.14	1	4:HXO2=13000
008	147_008	SAMPLE	220071-002	Air	163492	05/28/10 07:57	13.08	1	
009	147_009	SAMPLE	220071-001	Air	163492	05/28/10 09:01	13.14	1	
010	147_010	SAMPLE	220071-004	Air	163492	05/28/10 10:05	12.84	1	
011	147_011	SAMPLE	220071-005	Air	163492	05/28/10 11:10	12.54	1	
012	147_012	SAMPLE	220244-001	Air	163492	05/28/10 12:13	2.35	1	
013	147_013	SAMPLE	220244-002	Air	163492	05/28/10 13:17	2.64	1	

BO 05/28/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Analyst: BO Date: 05/28/10 Reviewer: SJD Date: 05/28/10

Standards used: 1=S13547 2=S14715

Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments	
Drs 5/10/10	219994-001	C00186	11.84	23.11	1.95x		
		-002 C00172	12.33	24.64	2.00x		
		-003 C00177	13.97	23.04	1.65x		
Drs 5/17/10	220069-004	C00253	12.70	23.25	1.83x		
	220070-001	C00062	11.08	23.51	2.12x		
		-002 C00152	12.31	23.07	1.87x		
		-003 C00109	8.64	23.36	2.70x		
		-004 C00125	9.54	23.30	2.44x		
		-005 C00072	9.60	23.62	2.46x		
	BLANK	C00017	—	—	1x		
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x	
Drs 5/21/10	220069-001	C00076	11.63	23.13	1.99x		
		-002 C00251	12.03	23.35	1.94x		
		-003 C00043	12.95	23.55	1.82x		
		-004 —	—	—	—	already filled 5/17/10	
		-005 C00069	11.84	23.43	1.98x		
		-006 C00113	11.78	24.30	2.06x		
		-007 C00130	11.35	24.09	2.12x		
		-008 C00057	10.26	23.12	2.25x		
		-009 C00107	10.40	23.02	2.21x		
		-010 C00288	8.99	23.44	2.61x		
		220071-001	C00150	10.84	23.69	2.19x	
		-002 C00142	10.71	23.29	2.18x		
		-003 C00286	10.98	23.46	2.14x		
		-004 C00166	10.98	23.53	2.14x		
		-005 C00120	11.08	23.17	2.09x		
		220211-001	C00144	11.62	23.35	2.01x	
	-002 C00221	10.37	23.33	2.25x			
	-003 C00285	11.42	23.02	2.02x			
	-004 C00250	11.50	23.41	2.04x			
	BLANK	C00219	—	—	1x		
5/21/10	220207-001	C00087 C00142	11.40	23.09	2.03x	can ID C00087	
	-002	C00260	11.63	23.38	2.01x		
	-003	C00241	11.26	23.08	2.05x		

Continued on Page 36

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

Prepped by / Date	Sample ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments	Prepared by
PWS 5/24/10	220194 ^{PWS 5/27/10} 219 994 - 001	C00198	0.75 added	30.0 total added	126.4	40x of 3.16x	3.16x CAN C00186
	219 994 - 002	C00231			80.0x	40x of 2x	CAN C00172
	219 994 - 003	C00045			66x	40x of 1.65x	CAN C00177
	-001	C00031			5056x	40x of 126.4x	CAN C00198
	-002	C00236			3200x	40x of 80x	CAN C00231
PWS 5/27/10	220194 BLANK	-003 C00022			2640x	40x of 66x	CAN C00031
PWS 5/26/10	220244 -001	C00235	9.82	23.10	2.35x		
	L -002	C00020	9.10	24.06	2.64x		
	BLANK	C00218	-	-	1x		
	220069 -003	C00215	1.5 added	30 total added	36.4x	20x of 1.82x	CAN C00063
SWS 5/27/10	220211-004	C00354	1.5 added	30.0 total added	40.8x	20x of 2.04x	CAN C00250
BS 5/28/10	220185 -001	C00056	13.21	23.35	1.77x		
	-002	C00268	12.95	23.84	1.84x		
	-003	C00266	12.69	23.15	1.87x		
	-004	C00189	12.11	23.67	1.95x		
	-005	C00176	12.71	23.32	1.83x		
	220297-003	C00171	11.84	23.49	1.98x		
	-001	C00279	12.71	23.84	1.88x		
	-002	C00289	12.78	23.76	1.86x		
	220243-001	C00079	13.11	23.23	1.77x		
	-002	C00159	12.96	23.73	1.83x		
	-003	C00148	12.50	24.01	1.92x		
	-004	C00287	11.99	23.40	1.95x		
	-005	C00126	12.99	23.76	1.83x		
	-006	C00136	12.33	23.57	1.91x		
	220211-004	C00005	1.5 added	30.0 total added	7.28x	20x of 36.4x	CAN C00354
	BLANK	C00351	-	-	1x		
	220276-001	C00272	4.81	23.15	1.56x		
	-002	C00114	12.34	23.38	1.89x		
	-003	C00096	12.58	23.72	1.89x		
	-004	C00197	12.77	23.38	1.83x		
-005	C00074	12.47	23.42	1.88x			
-006	C00154	12.13	23.43	1.93x			
-007	C00170	12.16	23.61	1.94x			

Continued on Page 38

Read and Understood By

Signed

Date

Signed

Date



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220207
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
PMW-2-U-10Q2	220207-001
PMW-2-M-10Q2	220207-002
PMW-3-U-10Q2	220207-003
PMW-3-M-10Q2	220207-004
PMW-5-U-10Q2	220207-005
PMW-5-M-10Q2	220207-006
PMW-5-ML-10Q2	220207-007
PMW-6-U-10Q2	220207-008
PMW-6-M-10Q2	220207-009
PMW-10-U-10Q2	220207-010
PMW-10-M-10Q2	220207-011
BSVE-SVM-10Q2-003	220207-012
BSVE-SVM-10Q2-002	220207-013

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____
Project Manager

Date: 06/02/2010

CASE NARRATIVE

Laboratory number: 220207
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/18/10
Samples Received: 05/18/10

This data package contains sample and QC results for thirteen air samples, requested for the above referenced project on 05/18/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

High surrogate recoveries were observed for bromofluorobenzene in PMW-5-ML-10Q2 (lab # 220207-007) and PMW-6-U-10Q2 (lab # 220207-008).

Many samples were diluted due to problematic matrix.

No other analytical problems were encountered.

Chain of Custody

220207

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Curtis & Tompkins Laboratories		Honeywell Chain Of Custody / Analysis Request									
2323 5th St. Berkeley, CA 94710 510-204-2221		AESI Ref: 40210-49633 COC#: 37380									
Sampling Co.: CH2M-HILL		Privileged & Confidential		Tuesdai Powers, Critigen Melanie West, Critigen		Site Name: Sky Harbor AZ		Phase: Sampling Program		Lab Proj # (SDG):	
Client Contact: (name, co., address)		Sampler: DAVID GUCKEN		Location of Site: Phoenix, AZ		Methane (TO-3M)		TPH (TO-3M)		Lab ID	
CH2M-HILL		PO # 5101516		Preservative 0 0 0 0		VOCs (TO-15)		Field Filtered Sample ?		Site ID	
2625 South Plaza Drive, Suite 300 Tempe, AZ 85282		Analysis Turnaround Time (TAT): 10		Consultant		Composites/Grab		OZ and CO2 (ASTM 1946)		Lab Job #	
Preliminary Data To: Tuesdai Powers, Critigen, Melanie West, Critigen		Full Report TAT: 10		Sample Date		Sample Time		Sample Type		Sample Matrix	
Sample Receipt Acknowledgement To: Tuesdai Powers, Critigen, Melanie West, Critigen		Sample Date		Sample Time		Sample Type		Sample Matrix		Sample Purpose Cont.	
Hard Copy To: Tuesdai Powers and Melanie West, Critigen		Sample Date		Sample Time		Sample Type		Sample Matrix		Sample Purpose Cont.	
Invoice To: Honeywell/Copy Berney Kidd		Sample Date		Sample Time		Sample Type		Sample Matrix		Sample Purpose Cont.	
Sample Identification		Sample Date		Sample Time		Sample Type		Sample Matrix		Sample Purpose Cont.	
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose Cont.	Units	Sampling Method (code)	Canister Serial No.
1 PMW-2-U	5	10	PMW-2-U-10Q2	05-11-10	07:38	SV	AIR	REG	1 G	N X	00087
2 PMW-2-M	20	25	PMW-2-M-10Q2	05-11-10	07:59	SV	AIR	REG	1 G	N X	00260
3 PMW-3-U	5	10	PMW-3-U-10Q2	05-11-10	08:56	SV	AIR	REG	1 G	N X	00241
4 PMW-3-M	20	25	PMW-3-M-10Q2	05-11-10	09:23	SV	AIR	REG	1 G	N X	00249
5 PMW-5-U	5	10	PMW-5-U-10Q2	05-11-10	10:27	SV	AIR	REG	1 G	N X	00049
6 PMW-5-M	20	25	PMW-5-M-10Q2	05-11-10	10:35	SV	AIR	REG	1 G	N X	00115
7 PMW-5-ML	55	66	PMW-5-ML-10Q2	05-11-10	11:13	SV	AIR	REG	1 G	N X	00152
8 PMW-6-U	5	10	PMW-6-U-10Q2	05-11-10	13:44	SV	AIR	REG	1 G	N X	00180
9 PMW-6-M	20	25	PMW-6-M-10Q2	05-11-10	13:58	SV	AIR	REG	1 G	N X	00061
10 PMW-6-ML	55	66	PMW-6-ML-10Q2	05-11-10		SV	AIR	REG	1 G	N	
11 PMW-10-U	5	10	PMW-10-U-10Q2	05-11-10	14:56	SV	AIR	REG	1 G	N X	00269
12 PMW-10-M	20	25	PMW-10-M-10Q2	05-11-10	15:17	SV	AIR	REG	1 G	N X	00192

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Text & Excel File Drive Order

Condition: Cooler Temp.

Company: S-825

Received by: [Signature]

Received Date/Time: 5-18-10 11:00

Preservatives: (Other; Specify):

0 / none; 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH, Zn Acetate); 6 (NaOH, pH>12); 7 (H2SO4 pH<2); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2); 11 (4C NaOH, pH>12) & Ascorbic Acid; 12 (4C H2SO4, pH<2) & Na2S2O3; 13 (Zn Acetate); sp (special instructions)

220207

2002

Curtis & Tompkins Laboratories		Honeywell										Chain Of Custody / Analysis Request									
2325 5th St. Berkeley, CA 94710 510-204-2221		CH2MHILL		Tuesdai Powers, Critigen Melanie West, Critigen		Sky Harbor AZ		Phoenix, AZ		Phase: Sampling Program		BSVE QTR SVM		Lab Proj # (SDG):		CTBERK					
Client Contact: (name, co., address)		CH2MHILL		Sampler: David Erickson		PO #		Analysis Turnaround Time (TAT):		10		Lab ID		SKYHARBOR		Authorized User: Honeywell					
2625 South Plaza Drive, Suite 300 Tempe, AZ 85282		Preliminary Data To		Tuesdai Powers, Critigen, Melanie West, Critigen		Sample Receipt Acknowledgement To		Tuesdai Powers, Critigen, Melanie West, Critigen		Hard Copy To		Honeywell/Copy Berney Kidd		Full Report TAT:		10					
Sample Identification		Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	Cont.	Units	Field Filtered Sample ?	Composites/Grab	Preservative	0	0	0	0			
1	12			BSVE-SVM-1002-003	05-11-10	1358	SV	AIR	REG	1	GN	X									
2	13			BSVE-SVM-1002-002	05-11-10	0859	SV	AIR	REG	1	GN	X									
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Relinquished by	CH2MHILL	Company	Received by	CH2MHILL	Company	Condition	Custody Seals Intact
DAVID ERICKSON	05-12-2010	1600	BERNEY KIDD	5/13/10	1600	Cooler Temp.	
Relinquished by	BERNEY KIDD	Company	Received by	BERNEY KIDD	Company	Condition	Custody Seals Intact
BERNEY KIDD	5/13/10	1500	BERNEY KIDD	5/13/10	1500	Cooler Temp.	

Preservatives: (Other: Specify):
 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH, Zn Acetate); 7 (H2SO4 pH<2); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

COOLER RECEIPT CHECKLIST



Login # 220207 Date Received 5-18-10 Number of coolers 1BX
Client CH2M AZ HONEYWELL Project BSUE QTR SUM

Date Opened 5-18-10 By (print) S. EVANS (sign)
Date Logged in J By (print) J (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info FEDEX# 7994 5109 9035

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 2 EA Name SIGNATURE Date 5-17-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Checked: Bubble Wrap, Cardboard, Bags
Unchecked: Foam blocks, Styrofoam, None, Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(C)

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Multiple horizontal lines for handwritten comments.

Laboratory Job Number 220207

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air

Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-2-U-10Q2	Diln Fac:	12.18
Lab ID:	220207-001	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.1	ND	16	D1
Chloroethane	ND	6.1	ND	16	D1
1,1-Dichloroethene	ND	6.1	ND	24	D1
1,1-Dichloroethane	ND	6.1	ND	25	D1
MTBE	ND	6.1	ND	22	D1
cis-1,2-Dichloroethene	ND	6.1	ND	24	D1
n-Hexane	ND	6.1	ND	21	D1
Chloroform	ND	6.1	ND	30	D1
Benzene	ND	6.1	ND	19	D1
Trichloroethene	ND	6.1	ND	33	D1
Toluene	ND	6.1	ND	23	D1
Tetrachloroethene	ND	6.1	ND	41	D1
Ethylbenzene	16	6.1	69	26	D1
m,p-Xylenes	42	6.1	180	26	D1
o-Xylene	6.8	6.1	29	26	D1
1,3,5-Trimethylbenzene	23	6.1	110	30	D1
1,2,4-Trimethylbenzene	110	6.1	560	30	D1
Xylene (total)	49	12	210	53	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	120	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-2-M-10Q2	Diln Fac:	6.030
Lab ID:	220207-002	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.0	ND	7.7	D1
Chloroethane	ND	3.0	ND	8.0	D1
1,1-Dichloroethene	ND	3.0	ND	12	D1
1,1-Dichloroethane	ND	3.0	ND	12	D1
MTBE	ND	3.0	ND	11	D1
cis-1,2-Dichloroethene	ND	3.0	ND	12	D1
n-Hexane	ND	3.0	ND	11	D1
Chloroform	ND	3.0	ND	15	D1
Benzene	ND	3.0	ND	9.6	D1
Trichloroethene	ND	3.0	ND	16	D1
Toluene	ND	3.0	ND	11	D1
Tetrachloroethene	ND	3.0	ND	20	D1
Ethylbenzene	7.5	3.0	33	13	D1
m,p-Xylenes	19	3.0	81	13	D1
o-Xylene	ND	3.0	ND	13	D1
1,3,5-Trimethylbenzene	13	3.0	65	15	D1
1,2,4-Trimethylbenzene	61	3.0	300	15	D1
Xylene (total)	19	6.0	81	26	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	115	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-3-U-10Q2	Diln Fac:	12.30
Lab ID:	220207-003	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.2	ND	16	D1
Chloroethane	ND	6.2	ND	16	D1
1,1-Dichloroethene	ND	6.2	ND	24	D1
1,1-Dichloroethane	ND	6.2	ND	25	D1
MTBE	ND	6.2	ND	22	D1
cis-1,2-Dichloroethene	ND	6.2	ND	24	D1
n-Hexane	ND	6.2	ND	22	D1
Chloroform	ND	6.2	ND	30	D1
Benzene	ND	6.2	ND	20	D1
Trichloroethene	12	6.2	66	33	D1
Toluene	ND	6.2	ND	23	D1
Tetrachloroethene	ND	6.2	ND	42	D1
Ethylbenzene	11	6.2	47	27	D1
m,p-Xylenes	32	6.2	140	27	D1
o-Xylene	7.9	6.2	34	27	D1
1,3,5-Trimethylbenzene	23	6.2	110	30	D1
1,2,4-Trimethylbenzene	98	6.2	480	30	D1
Xylene (total)	40	12	170	53	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	110	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-3-M-10Q2	Diln Fac:	4.260
Lab ID:	220207-004	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.1	ND	5.4	D1
Chloroethane	ND	2.1	ND	5.6	D1
1,1-Dichloroethene	ND	2.1	ND	8.4	D1
1,1-Dichloroethane	ND	2.1	ND	8.6	D1
MTBE	ND	2.1	ND	7.7	D1
cis-1,2-Dichloroethene	ND	2.1	ND	8.4	D1
n-Hexane	ND	2.1	ND	7.5	D1
Chloroform	ND	2.1	ND	10	D1
Benzene	ND	2.1	ND	6.8	D1
Trichloroethene	3.3	2.1	18	11	D1
Toluene	ND	2.1	ND	8.0	D1
Tetrachloroethene	ND	2.1	ND	14	D1
Ethylbenzene	3.5	2.1	15	9.2	D1
m,p-Xylenes	11	2.1	47	9.2	D1
o-Xylene	ND	2.1	ND	9.2	D1
1,3,5-Trimethylbenzene	7.2	2.1	36	10	D1
1,2,4-Trimethylbenzene	32	2.1	160	10	D1
Xylene (total)	11	4.3	47	18	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	121	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-5-U-10Q2	Diln Fac:	12.00
Lab ID:	220207-005	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.0	ND	15	D1
Chloroethane	ND	6.0	ND	16	D1
1,1-Dichloroethene	ND	6.0	ND	24	D1
1,1-Dichloroethane	ND	6.0	ND	24	D1
MTBE	ND	6.0	ND	22	D1
cis-1,2-Dichloroethene	ND	6.0	ND	24	D1
n-Hexane	ND	6.0	ND	21	D1
Chloroform	ND	6.0	ND	29	D1
Benzene	ND	6.0	ND	19	D1
Trichloroethene	ND	6.0	ND	32	D1
Toluene	ND	6.0	ND	23	D1
Tetrachloroethene	ND	6.0	ND	41	D1
Ethylbenzene	9.1	6.0	40	26	D1
m,p-Xylenes	29	6.0	130	26	D1
o-Xylene	ND	6.0	ND	26	D1
1,3,5-Trimethylbenzene	19	6.0	92	29	D1
1,2,4-Trimethylbenzene	85	6.0	420	29	D1
Xylene (total)	29	12	130	52	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	111	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-5-M-10Q2	Diln Fac:	6.210
Lab ID:	220207-006	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.1	ND	7.9	D1
Chloroethane	ND	3.1	ND	8.2	D1
1,1-Dichloroethene	ND	3.1	ND	12	D1
1,1-Dichloroethane	ND	3.1	ND	13	D1
MTBE	ND	3.1	ND	11	D1
cis-1,2-Dichloroethene	ND	3.1	ND	12	D1
n-Hexane	ND	3.1	ND	11	D1
Chloroform	ND	3.1	ND	15	D1
Benzene	3.1	3.1	10	9.9	D1
Trichloroethene	ND	3.1	ND	17	D1
Toluene	ND	3.1	ND	12	D1
Tetrachloroethene	ND	3.1	ND	21	D1
Ethylbenzene	5.5	3.1	24	13	D1
m,p-Xylenes	14	3.1	61	13	D1
o-Xylene	ND	3.1	ND	13	D1
1,3,5-Trimethylbenzene	8.7	3.1	43	15	D1
1,2,4-Trimethylbenzene	40	3.1	200	15	D1
Xylene (total)	14	6.2	61	27	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	111	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-5-ML-10Q2	Diln Fac:	523.2
Lab ID:	220207-007	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	260	ND	670	D1
Chloroethane	ND	260	ND	690	D1
1,1-Dichloroethene	ND	260	ND	1,000	D1
1,1-Dichloroethane	ND	260	ND	1,100	D1
MTBE	13,000	260	47,000	940	D1
cis-1,2-Dichloroethene	ND	260	ND	1,000	D1
n-Hexane	ND	260	ND	920	D1
Chloroform	ND	260	ND	1,300	D1
Benzene	ND	260	ND	840	D1
Trichloroethene	ND	260	ND	1,400	D1
Toluene	ND	260	ND	990	D1
Tetrachloroethene	ND	260	ND	1,800	D1
Ethylbenzene	ND	260	ND	1,100	D1
m,p-Xylenes	ND	260	ND	1,100	D1
o-Xylene	ND	260	ND	1,100	D1
1,3,5-Trimethylbenzene	ND	260	ND	1,300	D1
1,2,4-Trimethylbenzene	ND	260	ND	1,300	D1
Xylene (total)	ND	520	ND	2,300	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	133 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-6-U-10Q2	Diln Fac:	6.300
Lab ID:	220207-008	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.2	ND	8.1	D1
Chloroethane	ND	3.2	ND	8.3	D1
1,1-Dichloroethene	ND	3.2	ND	12	D1
1,1-Dichloroethane	ND	3.2	ND	13	D1
MTBE	6.5	3.2	24	11	D1
cis-1,2-Dichloroethene	ND	3.2	ND	12	D1
n-Hexane	17	3.2	59	11	D1
Chloroform	ND	3.2	ND	15	D1
Benzene	ND	3.2	ND	10	D1
Trichloroethene	ND	3.2	ND	17	D1
Toluene	ND	3.2	ND	12	D1
Tetrachloroethene	ND	3.2	ND	21	D1
Ethylbenzene	14	3.2	59	14	D1
m,p-Xylenes	60	3.2	260	14	D1
o-Xylene	18	3.2	76	14	D1
1,3,5-Trimethylbenzene	26	3.2	130	15	D1
1,2,4-Trimethylbenzene	88	3.2	430	15	D1
Xylene (total)	78	6.3	340	27	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	153 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-6-M-10Q2	Diln Fac:	5.910
Lab ID:	220207-009	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.0	ND	7.6	D1
Chloroethane	ND	3.0	ND	7.8	D1
1,1-Dichloroethene	ND	3.0	ND	12	D1
1,1-Dichloroethane	ND	3.0	ND	12	D1
MTBE	ND	3.0	ND	11	D1
cis-1,2-Dichloroethene	ND	3.0	ND	12	D1
n-Hexane	ND	3.0	ND	10	D1
Chloroform	ND	3.0	ND	14	D1
Benzene	ND	3.0	ND	9.4	D1
Trichloroethene	ND	3.0	ND	16	D1
Toluene	ND	3.0	ND	11	D1
Tetrachloroethene	ND	3.0	ND	20	D1
Ethylbenzene	3.6	3.0	16	13	D1
m,p-Xylenes	10	3.0	45	13	D1
o-Xylene	ND	3.0	ND	13	D1
1,3,5-Trimethylbenzene	7.1	3.0	35	15	D1
1,2,4-Trimethylbenzene	37	3.0	180	15	D1
Xylene (total)	10	5.9	45	26	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	111	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-10-U-10Q2	Diln Fac:	12.18
Lab ID:	220207-010	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.1	ND	16	D1
Chloroethane	ND	6.1	ND	16	D1
1,1-Dichloroethene	ND	6.1	ND	24	D1
1,1-Dichloroethane	ND	6.1	ND	25	D1
MTBE	ND	6.1	ND	22	D1
cis-1,2-Dichloroethene	ND	6.1	ND	24	D1
n-Hexane	ND	6.1	ND	21	D1
Chloroform	ND	6.1	ND	30	D1
Benzene	ND	6.1	ND	19	D1
Trichloroethene	ND	6.1	ND	33	D1
Toluene	ND	6.1	ND	23	D1
Tetrachloroethene	ND	6.1	ND	41	D1
Ethylbenzene	8.6	6.1	37	26	D1
m,p-Xylenes	51	6.1	220	26	D1
o-Xylene	7.2	6.1	31	26	D1
1,3,5-Trimethylbenzene	29	6.1	140	30	D1
1,2,4-Trimethylbenzene	130	6.1	640	30	D1
Xylene (total)	58	12	250	53	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	117	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-10-M-10Q2	Diln Fac:	6.270
Lab ID:	220207-011	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.1	ND	8.0	D1
Chloroethane	ND	3.1	ND	8.3	D1
1,1-Dichloroethene	3.5	3.1	14	12	D1
1,1-Dichloroethane	8.9	3.1	36	13	D1
MTBE	ND	3.1	ND	11	D1
cis-1,2-Dichloroethene	ND	3.1	ND	12	D1
n-Hexane	ND	3.1	ND	11	D1
Chloroform	ND	3.1	ND	15	D1
Benzene	ND	3.1	ND	10	D1
Trichloroethene	13	3.1	72	17	D1
Toluene	ND	3.1	ND	12	D1
Tetrachloroethene	3.2	3.1	22	21	D1
Ethylbenzene	4.5	3.1	19	14	D1
m,p-Xylenes	27	3.1	120	14	D1
o-Xylene	3.9	3.1	17	14	D1
1,3,5-Trimethylbenzene	16	3.1	80	15	D1
1,2,4-Trimethylbenzene	78	3.1	380	15	D1
Xylene (total)	31	6.3	130	27	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	113	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BSVE-SVM-10Q2-003	Diln Fac:	6.330
Lab ID:	220207-012	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.2	ND	8.1	D1
Chloroethane	ND	3.2	ND	8.4	D1
1,1-Dichloroethene	ND	3.2	ND	13	D1
1,1-Dichloroethane	ND	3.2	ND	13	D1
MTBE	ND	3.2	ND	11	D1
cis-1,2-Dichloroethene	ND	3.2	ND	13	D1
n-Hexane	ND	3.2	ND	11	D1
Chloroform	ND	3.2	ND	15	D1
Benzene	ND	3.2	ND	10	D1
Trichloroethene	ND	3.2	ND	17	D1
Toluene	ND	3.2	ND	12	D1
Tetrachloroethene	ND	3.2	ND	21	D1
Ethylbenzene	ND	3.2	ND	14	D1
m,p-Xylenes	5.1	3.2	22	14	D1
o-Xylene	ND	3.2	ND	14	D1
1,3,5-Trimethylbenzene	4.8	3.2	23	16	D1
1,2,4-Trimethylbenzene	21	3.2	100	16	D1
Xylene (total)	5.1	3.2	22	14	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	107	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BSVE-SVM-10Q2-002	Diln Fac:	6.090
Lab ID:	220207-013	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.0	ND	7.8	D1
Chloroethane	ND	3.0	ND	8.0	D1
1,1-Dichloroethene	ND	3.0	ND	12	D1
1,1-Dichloroethane	ND	3.0	ND	12	D1
MTBE	ND	3.0	ND	11	D1
cis-1,2-Dichloroethene	ND	3.0	ND	12	D1
n-Hexane	ND	3.0	ND	11	D1
Chloroform	ND	3.0	ND	15	D1
Benzene	ND	3.0	ND	9.7	D1
Trichloroethene	8.0	3.0	43	16	D1
Toluene	ND	3.0	ND	11	D1
Tetrachloroethene	ND	3.0	ND	21	D1
Ethylbenzene	3.7	3.0	16	13	D1
m,p-Xylenes	11	3.0	48	13	D1
o-Xylene	3.3	3.0	14	13	D1
1,3,5-Trimethylbenzene	7.9	3.0	39	15	D1
1,2,4-Trimethylbenzene	37	3.0	180	15	D1
Xylene (total)	14	6.1	62	26	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	100	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163528
Units (V):	ppbv	Analyzed:	05/28/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546618

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	10.56	106	70-130		
Chloroethane	10.00	10.51	105	70-130		
1,1-Dichloroethene	10.00	10.58	106	66-139		
1,1-Dichloroethane	10.00	10.70	107	61-134		
MTBE	10.00	10.98	110	70-130		
cis-1,2-Dichloroethene	10.00	10.56	106	70-130		
n-Hexane	10.00	10.80	108	70-130		
Chloroform	10.00	10.04	100	70-130		
Benzene	10.00	10.71	107	70-130		
Trichloroethene	10.00	9.655	97	70-130		
Toluene	10.00	10.80	108	70-130		
Tetrachloroethene	10.00	9.955	100	70-130		
Ethylbenzene	10.00	11.02	110	70-130		
m,p-Xylenes	20.00	21.88	109	70-130		
o-Xylene	10.00	10.89	109	70-130		
1,3,5-Trimethylbenzene	10.00	11.00	110	70-130		
1,2,4-Trimethylbenzene	10.00	11.03	110	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	100	70-130		

Type: BSD Lab ID: QC546619

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.50	105	70-130	1	25		
Chloroethane	10.00	10.55	106	70-130	0	25		
1,1-Dichloroethene	10.00	10.54	105	66-139	0	10		
1,1-Dichloroethane	10.00	10.66	107	61-134	0	15		
MTBE	10.00	11.29	113	70-130	3	25		
cis-1,2-Dichloroethene	10.00	10.38	104	70-130	2	25		
n-Hexane	10.00	10.75	107	70-130	1	25		
Chloroform	10.00	9.823	98	70-130	2	25		
Benzene	10.00	11.07	111	70-130	3	25		
Trichloroethene	10.00	9.784	98	70-130	1	25		
Toluene	10.00	10.99	110	70-130	2	25		
Tetrachloroethene	10.00	10.25	103	70-130	3	25		
Ethylbenzene	10.00	11.31	113	70-130	3	25		
m,p-Xylenes	20.00	21.59	108	70-130	1	25		
o-Xylene	10.00	10.86	109	70-130	0	25		
1,3,5-Trimethylbenzene	10.00	11.08	111	70-130	1	25		
1,2,4-Trimethylbenzene	10.00	11.40	114	70-130	3	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	100	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220207	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546620	Diln Fac:	1.000
Matrix:	Air	Batch#:	163528
Units (V):	ppbv	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	93	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220207 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220207 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200214065001 File : 148_001 Time : 28-MAY-2010 15:45

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	28541	11.70	
75	30% - 66% of mass 95	104378	42.77	
95		244044	100.00	
96	5% - 9% of mass 95	15302	6.27	
173	< 2% of mass 174	0	0.00	
174	50% - 120% of mass 95	183291	75.11	
175	4% - 9% of mass 174	13018	7.10	
176	93% - 101% of mass 174	181131	98.82	
177	5% - 9% of mass 176	9357	5.17	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220207 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m=manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

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1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220207 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220207 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546618 IDF : 1.0
 Seqnum : 1200214065002.2 File : 148_002 Time : 28-MAY-2010 16:51
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14715, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.8552	10.00	10.56	nL/L	6	30	0.0500	u
Chloroethane	0.0815	0.0856	10.00	10.51	nL/L	5	30	0.0500	u
1,1-Dichloroethene	1.9184	2.0287	10.00	10.58	nL/L	6	30	0.0500	u
1,1-Dichloroethane	2.2145	2.3700	10.00	10.70	nL/L	7	30	0.0500	u
MTBE	1.4577	1.6000	10.00	10.98	nL/L	10	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.7365	10.00	10.56	nL/L	6	30	0.0500	u
n-Hexane	0.9022	0.9742	10.00	10.80	nL/L	8	30	0.0500	u
Chloroform	2.4999	2.5087	10.00	10.04	nL/L	0	30	0.0500	u
Benzene	0.5014	0.5370	10.00	10.71	nL/L	7	30	0.0500	u
Trichloroethene	0.5169	0.4992	10.00	9.655	nL/L	-3	30	0.0500	u
Toluene	1.5032	1.6222	10.00	10.80	nL/L	8	30	0.0500	u
Tetrachloroethene	0.9425	0.9379	10.00	9.955	nL/L	0	30	0.0500	u
Ethylbenzene	1.8627	2.0516	10.00	11.02	nL/L	10	30	0.0500	u
m,p-Xylenes	1.6467	1.8010	20.00	21.88	nL/L	9	30	0.0500	u
o-Xylene	1.6921	1.8412	10.00	10.89	nL/L	9	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.3758	10.00	11.00	nL/L	10	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.1784	10.00	11.03	nL/L	10	30	0.0500	u
Bromofluorobenzene	0.8080	0.8042	6.667	6.637	nL/L	0	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	326865	-9.37	32.92	32.89	-0.03
1,4-Difluorobenzene	1294000	1173000	-9.35	36.90	36.88	-0.02
Chlorobenzene-d5	1155000	1020000	-11.69	48.03	48.01	-0.02

BO 06/01/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200214065

Date : 05/28/10
 Sequence : MSAIR01 148

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC546618	326865	32.89	1173000	36.88	1020000	48.01
003	BSD	QC546619	332524	32.89	1163000	36.88	1011000	48.01
004	BLANK	QC546620	309705	32.92	1030000	36.89	938068	48.02
005	SAMPLE	220207-004	323128	32.91	1070000	36.88	988103	48.02
006	SAMPLE	220207-002	311310	32.91	1043000	36.88	975482	48.02
007	SAMPLE	220207-006	313219	32.91	1040000	36.88	979599	48.02
008	SAMPLE	220207-008	327535	32.91	1048000	36.89	946247	48.02
009	SAMPLE	220207-009	308254	32.92	1052000	36.89	963838	48.02
010	SAMPLE	220207-011	305849	32.91	1029000	36.89	924874	48.02
011	SAMPLE	220207-012	301498	32.92	1022000	36.89	941916	48.02
012	SAMPLE	220207-001	314599	32.92	1011000	36.89	938198	48.02
013	SAMPLE	220207-003	307089	32.92	994353	36.89	945350	48.02
014	SAMPLE	220207-010	317702	32.92	1029000	36.89	960339	48.02
015	SAMPLE	220207-005	307569	32.93	1016000	36.89	920573	48.02
016	SAMPLE	220207-013	308840	32.92	991114	36.89	947210	48.02
017	SAMPLE	220207-007	326441	32.91	1073000	36.89	872903	48.02
018	SAMPLE	220208-003	326926	32.90	1158000	36.89	956384	48.02
019	SAMPLE	220208-001	305847	32.91	1091000	36.89	991626	48.02
020	SAMPLE	220208-002	305511	32.91	1042000	36.89	947054	48.02
021	SAMPLE	220208-004	299143	32.92	1069000	36.89	955560	48.02
022	SAMPLE	220207-013	307103	32.93	1024000	36.90	1009000	48.03
023	SAMPLE	220208-003	297649	32.91	1057000	36.89	901746	48.03

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200214065

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/28/10 15:45

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	148_001	TUN	BFB			05/28/10 15:45	1.0	1	
002	148_002	CCV/BS	QC546618	Air	163528	05/28/10 16:51	1.0	2 1	
003	148_003	BSD	QC546619	Air	163528	05/28/10 17:54	1.0	2 1	
004	148_004	BLANK	QC546620	Air	163528	05/28/10 18:58	1.0	1	
005	148_005	SAMPLE	220207-004	Air	163528	05/28/10 20:03	4.26	1	
006	148_006	SAMPLE	220207-002	Air	163528	05/28/10 21:07	6.03	1	
007	148_007	SAMPLE	220207-006	Air	163528	05/28/10 22:10	6.21	1	
008	148_008	SAMPLE	220207-008	Air	163528	05/28/10 23:14	6.300	1	
009	148_009	SAMPLE	220207-009	Air	163528	05/29/10 00:53	5.91	1	
010	148_010	SAMPLE	220207-011	Air	163528	05/29/10 01:57	6.27	1	
011	148_011	SAMPLE	220207-012	Air	163528	05/29/10 03:00	6.33	1	
012	148_012	SAMPLE	220207-001	Air	163528	05/29/10 04:03	12.18	1	
013	148_013	SAMPLE	220207-003	Air	163528	05/29/10 05:06	12.30	1	
014	148_014	SAMPLE	220207-010	Air	163528	05/29/10 06:09	12.18	1	
015	148_015	SAMPLE	220207-005	Air	163528	05/29/10 07:12	12.0	1	
016	148_016	SAMPLE	220207-013	Air	163528	05/29/10 08:16	12.18	1	
017	148_017	SAMPLE	220207-007	Air	163528	05/29/10 09:19	523.2	1	1:CYHEXANE=150
018	148_018	SAMPLE	220208-003	Air	163528	05/29/10 10:22	7.59	1	1:TCE=170
019	148_019	SAMPLE	220208-001	Air	163528	05/29/10 11:25	2.49	1	
020	148_020	SAMPLE	220208-002	Air	163528	05/29/10 12:29	2.200	1	
021	148_021	SAMPLE	220208-004	Air	163528	05/29/10 13:32	2.36	1	
022	148_022	SAMPLE	220207-013	Air	163528	05/29/10 14:35	6.09	1	
023	148_023	SAMPLE	220208-003	Air	163528	05/29/10 15:38	15.18	1	

BO 06/01/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 23.

Analyst: BO Date: 06/01/10 Reviewer: SJD Date: 06/02/10

Standards used: 1=S13547 2=S14715

Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments
Drs 5/10/10	219994-001	C00186	11.84	23.11	1.95x	
	-002	C00172	12.33	24.64	2.00x	
	-003	C00177	13.97	23.04	1.65x	
Pw 5/17/10	220069-004	C00253	12.70	23.25	1.83x	
	220070-001	C00062	11.08	23.51	2.12x	
	-002	C00182	12.31	23.87	1.87x	
	-003	C00109	8.64	23.36	2.70x	
	-004	C00125	9.54	23.30	2.44x	
	-005	C00072	9.60	23.62	2.46x	
	BLANK	C00017	—	—	1x	
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x
Aa 5/21/10	220069-001	C00076	11.63	23.13	1.99x	
	-002	C00251	12.03	23.35	1.94x	
	-003	C00083	12.95	23.55	1.82x	
	-004	—	—	—	—	already filled 5/17/10
	-005	C00069	11.84	23.43	1.98x	
	-006	C00113	11.78	24.30	2.06x	
	-007	C00130	11.35	24.09	2.12x	
	-008	C00057	10.26	23.12	2.25x	
	-009	C00107	10.40	23.02	2.21x	
	-010	C00288	8.99	23.44	2.61x	
	220071-001	C00150	10.84	23.64	2.19x	
	-002	C00142	10.71	23.29	2.18x	
	-003	C00286	10.98	23.46	2.14x	
	-004	C00166	10.98	23.53	2.14x	
	-005	C00120	11.08	23.17	2.09x	
	220211-001	C00144	11.62	23.35	2.01x	
-002	C00281	10.37	23.33	2.25x		
-003	C00285	11.42	23.02	2.02x		
-004	C00250	11.50	23.41	2.04x		
	BLANK	C00219	—	—	1x	
Aa 5/21/10	220207-001	C00087 C00143	11.40	23.09	2.03x	can ID C00087
	-002	C00260	11.63	23.38	2.01x	
	-003	C00241	11.26	23.08	2.05x	

Continued on Page 36

Read and Understood By

Signed

Date

Signed

Date

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (psig)	Final Pressure (psig)	Dilution Factor	Comments
R 5/21/10	220207-004	C00249	11.40	24.24	2.13x	
	-005	C00249	11.53	23.08	2.00x	
	-006	C00115	11.27	23.33	2.07x	
	-007	C00152	11.43	24.95	2.18x	
	-008	C00180	11.23	23.62	2.10x	
	-009	C00061	11.80	23.21	1.97x	
	-010	C00289	11.62	23.60	2.03x	
	-011	C00192	11.34	23.75	2.09x	
	-012	C00138	11.57	24.40	2.11x	
	-013	C00064	11.52	23.43	2.03x	
	220208-001	C00193	9.30	23.13	2.49x	
	-002	C00123	10.53	23.20	2.20x	
	-003	C00240	9.18	23.21	2.53x	
-004	C00267	9.82	23.18	2.36x		
-005	C00265	9.31	23.09	2.48x		
-006	C00255	9.63	23.36	2.43x		
	BANK	C00008	—	—	1x	
<hr/>						
5/23/10	219833-001	C00117				
	-002	C00167				
	-003	C00100				
	-004	C00127				
	-005	C00290				
	-006	C00097				
	-007	C00254				
5/23/10	219833-001	C00200	0.75 added	30.0 total added	70.8x	40x of 1.77x can C00117
	-002	C00019	1.5 added	30.0 total added	38.0x	20x of 1.90x can C00167
	-003	C00002	1.5 added	30.0 total added	37.2x	20x of 1.86x can C00100
	-004	C00203	0.75 added	30.0 total added	69.6x	40x of 1.74x can C00127
	-005	C00010	1.5 added	30.0 total added	34.4x	20x of 1.82x can C00290
	-006	C00213	1.5 added	30.0 total added	36.2x	20x of 1.81x can C00097
	-007	C00233	0.75 added	30.0 total added	36.2x	40x of 1.81x can C00254
	219905-003	C00229	0.75 added	30.0 total added	40.8x	40x of 2.04x can C00099
	CAN CHECK	C00040	—	—	1x	

Continued on Page

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Date

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Date

Prepared by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments
R 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00257	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
R 5/28/10	220209-001	C00346	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.57	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	BLANK	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.15x can C00152
S 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x can C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x can C00315
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.93x can C00119

Continued on Page

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Date

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Date



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220208
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
SMW-4-U-10Q2	220208-001
SMW-4-M-10Q2	220208-002
SMW-4-L-10Q2	220208-003
SMW-5-U-10Q2	220208-004
SMW-5-M-10Q2	220208-005
BSVE-SVM-10Q2-008	220208-006

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____
Project Manager

Date: 06/02/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220208
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/18/10
Samples Received: 05/18/10

This data package contains sample and QC results for six air samples, requested for the above referenced project on 05/18/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

A number of samples were diluted due to passive grab sampling.

No other analytical problems were encountered.

Volatile Organics in Air GC (EPA TO-3):

No analytical problems were encountered.

Chain of Custody

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 220208 Date Received 5-18-10 Number of coolers 1 BX
Client CH2M A2 Honeywell Project RSUE QTR SUM

Date Opened 5-18-10 By (print) S. EVANS (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info FEDERX# 7928 2743 1178

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 2 EA Name SIGNATURE Date 5-17-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)
Bubble Wrap Foam blocks Bags None
Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:
Type of ice used: Wet Blue/Gel None Temp(°C)
Samples Received on ice & cold without a temperature blank
Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Laboratory Job Number 220208

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-4-U-10Q2	Diln Fac:	2.490
Lab ID:	220208-001	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.2	ND	3.2	D2
Chloroethane	ND	1.2	ND	3.3	D2
1,1-Dichloroethene	ND	1.2	ND	4.9	D2
1,1-Dichloroethane	1.7	1.2	7.0	5.0	D2
MTBE	ND	1.2	ND	4.5	D2
cis-1,2-Dichloroethene	ND	1.2	ND	4.9	D2
n-Hexane	ND	1.2	ND	4.4	D2
Chloroform	1.9	1.2	9.3	6.1	D2
Benzene	ND	1.2	ND	4.0	D2
Trichloroethene	150	1.2	790	6.7	D2
Toluene	ND	1.2	ND	4.7	D2
Tetrachloroethene	3.7	1.2	25	8.4	D2
Ethylbenzene	ND	1.2	ND	5.4	D2
m,p-Xylenes	ND	1.2	ND	5.4	D2
o-Xylene	ND	1.2	ND	5.4	D2
1,3,5-Trimethylbenzene	1.5	1.2	7.1	6.1	D2
1,2,4-Trimethylbenzene	6.2	1.2	31	6.1	D2
Xylene (total)	ND	2.5	ND	11	D2

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	100	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-4-M-10Q2	Diln Fac:	2.200
Lab ID:	220208-002	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.8	D1
Chloroethane	ND	1.1	ND	2.9	D1
1,1-Dichloroethene	ND	1.1	ND	4.4	D1
1,1-Dichloroethane	ND	1.1	ND	4.5	D1
MTBE	ND	1.1	ND	4.0	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.4	D1
n-Hexane	ND	1.1	ND	3.9	D1
Chloroform	3.3	1.1	16	5.4	D1
Benzene	ND	1.1	ND	3.5	D1
Trichloroethene	37	1.1	200	5.9	D1
Toluene	ND	1.1	ND	4.1	D1
Tetrachloroethene	ND	1.1	ND	7.5	D1
Ethylbenzene	ND	1.1	ND	4.8	D1
m,p-Xylenes	ND	1.1	ND	4.8	D1
o-Xylene	ND	1.1	ND	4.8	D1
1,3,5-Trimethylbenzene	ND	1.1	ND	5.4	D1
1,2,4-Trimethylbenzene	1.8	1.1	8.7	5.4	D1
Xylene (total)	ND	2.2	ND	9.6	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	98	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-4-L-10Q2	Batch#:	163528
Lab ID:	220208-003	Sampled:	05/11/10
Matrix:	Air	Received:	05/18/10
Units (V):	ppbv	Analyzed:	05/29/10
Units (M):	ug/m3		

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac	ADEQ Flags
Vinyl Chloride	ND	3.8	ND	9.7	7.590	D2
Chloroethane	ND	3.8	ND	10	7.590	D2
1,1-Dichloroethene	14	3.8	57	15	7.590	D2
1,1-Dichloroethane	180	3.8	750	15	7.590	D2
MTBE	ND	3.8	ND	14	7.590	D2
cis-1,2-Dichloroethene	ND	3.8	ND	15	7.590	D2
n-Hexane	ND	3.8	ND	13	7.590	D2
Chloroform	19	3.8	91	19	7.590	D2
Benzene	ND	3.8	ND	12	7.590	D2
Trichloroethene	1,400	7.6	7,700	41	15.18	D2
Toluene	ND	3.8	ND	14	7.590	D2
Tetrachloroethene	27	3.8	180	26	7.590	D2
Ethylbenzene	ND	3.8	ND	16	7.590	D2
m,p-Xylenes	ND	3.8	ND	16	7.590	D2
o-Xylene	ND	3.8	ND	16	7.590	D2
1,3,5-Trimethylbenzene	ND	3.8	ND	19	7.590	D2
1,2,4-Trimethylbenzene	ND	3.8	ND	19	7.590	D2
Xylene (total)	ND	7.6	ND	33	7.590	D2

Surrogate	%REC	Limits	Diln Fac	ADEQ Flags
Bromofluorobenzene	97	70-130	7.590	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-5-U-10Q2	Diln Fac:	2.360
Lab ID:	220208-004	Batch#:	163528
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/29/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.2	ND	3.0	D1
Chloroethane	ND	1.2	ND	3.1	D1
1,1-Dichloroethene	ND	1.2	ND	4.7	D1
1,1-Dichloroethane	ND	1.2	ND	4.8	D1
MTBE	ND	1.2	ND	4.3	D1
cis-1,2-Dichloroethene	ND	1.2	ND	4.7	D1
n-Hexane	ND	1.2	ND	4.2	D1
Chloroform	ND	1.2	ND	5.8	D1
Benzene	ND	1.2	ND	3.8	D1
Trichloroethene	3.7	1.2	20	6.3	D1
Toluene	ND	1.2	ND	4.4	D1
Tetrachloroethene	ND	1.2	ND	8.0	D1
Ethylbenzene	4.1	1.2	18	5.1	D1
m,p-Xylenes	11	1.2	47	5.1	D1
o-Xylene	2.1	1.2	9.0	5.1	D1
1,3,5-Trimethylbenzene	7.9	1.2	39	5.8	D1
1,2,4-Trimethylbenzene	33	1.2	160	5.8	D1
Xylene (total)	13	2.4	56	10	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	126	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-5-M-10Q2	Diln Fac:	2.480
Lab ID:	220208-005	Batch#:	163538
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/30/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.2	ND	3.2	D1
Chloroethane	ND	1.2	ND	3.3	D1
1,1-Dichloroethene	ND	1.2	ND	4.9	D1
1,1-Dichloroethane	ND	1.2	ND	5.0	D1
MTBE	ND	1.2	ND	4.5	D1
cis-1,2-Dichloroethene	ND	1.2	ND	4.9	D1
n-Hexane	ND	1.2	ND	4.4	D1
Chloroform	ND	1.2	ND	6.1	D1
Benzene	ND	1.2	ND	4.0	D1
Trichloroethene	15	1.2	81	6.7	D1
Toluene	ND	1.2	ND	4.7	D1
Tetrachloroethene	100	1.2	700	8.4	D1
Ethylbenzene	ND	1.2	ND	5.4	D1
m,p-Xylenes	ND	1.2	ND	5.4	D1
o-Xylene	ND	1.2	ND	5.4	D1
1,3,5-Trimethylbenzene	ND	1.2	ND	6.1	D1
1,2,4-Trimethylbenzene	2.5	1.2	12	6.1	D1
Xylene (total)	ND	2.5	ND	11	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	96	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BSVE-SVM-10Q2-008	Diln Fac:	2.430
Lab ID:	220208-006	Batch#:	163538
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/30/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.2	ND	3.1	D1
Chloroethane	ND	1.2	ND	3.2	D1
1,1-Dichloroethene	ND	1.2	ND	4.8	D1
1,1-Dichloroethane	ND	1.2	ND	4.9	D1
MTBE	ND	1.2	ND	4.4	D1
cis-1,2-Dichloroethene	ND	1.2	ND	4.8	D1
n-Hexane	ND	1.2	ND	4.3	D1
Chloroform	3.4	1.2	17	5.9	D1
Benzene	ND	1.2	ND	3.9	D1
Trichloroethene	35	1.2	190	6.5	D1
Toluene	ND	1.2	ND	4.6	D1
Tetrachloroethene	ND	1.2	ND	8.2	D1
Ethylbenzene	ND	1.2	ND	5.3	D1
m,p-Xylenes	ND	1.2	ND	5.3	D1
o-Xylene	ND	1.2	ND	5.3	D1
1,3,5-Trimethylbenzene	ND	1.2	ND	6.0	D1
1,2,4-Trimethylbenzene	1.7	1.2	8.6	6.0	D1
Xylene (total)	ND	2.4	ND	11	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	100	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163528
Units (V):	ppbv	Analyzed:	05/28/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546618

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	10.56	106	70-130		
Chloroethane	10.00	10.51	105	70-130		
1,1-Dichloroethene	10.00	10.58	106	66-139		
1,1-Dichloroethane	10.00	10.70	107	61-134		
MTBE	10.00	10.98	110	70-130		
cis-1,2-Dichloroethene	10.00	10.56	106	70-130		
n-Hexane	10.00	10.80	108	70-130		
Chloroform	10.00	10.04	100	70-130		
Benzene	10.00	10.71	107	70-130		
Trichloroethene	10.00	9.655	97	70-130		
Toluene	10.00	10.80	108	70-130		
Tetrachloroethene	10.00	9.955	100	70-130		
Ethylbenzene	10.00	11.02	110	70-130		
m,p-Xylenes	20.00	21.88	109	70-130		
o-Xylene	10.00	10.89	109	70-130		
1,3,5-Trimethylbenzene	10.00	11.00	110	70-130		
1,2,4-Trimethylbenzene	10.00	11.03	110	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	100	70-130		

Type: BSD Lab ID: QC546619

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.50	105	70-130	1	25		
Chloroethane	10.00	10.55	106	70-130	0	25		
1,1-Dichloroethene	10.00	10.54	105	66-139	0	10		
1,1-Dichloroethane	10.00	10.66	107	61-134	0	15		
MTBE	10.00	11.29	113	70-130	3	25		
cis-1,2-Dichloroethene	10.00	10.38	104	70-130	2	25		
n-Hexane	10.00	10.75	107	70-130	1	25		
Chloroform	10.00	9.823	98	70-130	2	25		
Benzene	10.00	11.07	111	70-130	3	25		
Trichloroethene	10.00	9.784	98	70-130	1	25		
Toluene	10.00	10.99	110	70-130	2	25		
Tetrachloroethene	10.00	10.25	103	70-130	3	25		
Ethylbenzene	10.00	11.31	113	70-130	3	25		
m,p-Xylenes	20.00	21.59	108	70-130	1	25		
o-Xylene	10.00	10.86	109	70-130	0	25		
1,3,5-Trimethylbenzene	10.00	11.08	111	70-130	1	25		
1,2,4-Trimethylbenzene	10.00	11.40	114	70-130	3	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	100	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546620	Diln Fac:	1.000
Matrix:	Air	Batch#:	163528
Units (V):	ppbv	Analyzed:	05/28/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	93	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546660	Diln Fac:	1.000
Matrix:	Air	Batch#:	163538
Units (V):	ppbv	Analyzed:	05/30/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	93	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163538
Units (V):	ppbv	Analyzed:	05/30/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546661

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	10.67	107	70-130		
Chloroethane	10.00	10.43	104	70-130		
1,1-Dichloroethene	10.00	10.65	106	66-139		
1,1-Dichloroethane	10.00	10.68	107	61-134		
MTBE	10.00	11.01	110	70-130		
cis-1,2-Dichloroethene	10.00	10.65	107	70-130		
n-Hexane	10.00	10.81	108	70-130		
Chloroform	10.00	10.14	101	70-130		
Benzene	10.00	11.28	113	70-130		
Trichloroethene	10.00	10.19	102	70-130		
Toluene	10.00	10.97	110	70-130		
Tetrachloroethene	10.00	10.03	100	70-130		
Ethylbenzene	10.00	11.16	112	70-130		
m,p-Xylenes	20.00	21.59	108	70-130		
o-Xylene	10.00	10.83	108	70-130		
1,3,5-Trimethylbenzene	10.00	10.98	110	70-130		
1,2,4-Trimethylbenzene	10.00	11.53	115	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	96	70-130		

Type: BSD Lab ID: QC546662

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.52	105	70-130	1	25		
Chloroethane	10.00	10.16	102	70-130	3	25		
1,1-Dichloroethene	10.00	11.03	110	66-139	4	10		
1,1-Dichloroethane	10.00	10.83	108	61-134	1	15		
MTBE	10.00	11.13	111	70-130	1	25		
cis-1,2-Dichloroethene	10.00	10.58	106	70-130	1	25		
n-Hexane	10.00	10.85	109	70-130	0	25		
Chloroform	10.00	10.24	102	70-130	1	25		
Benzene	10.00	11.07	111	70-130	2	25		
Trichloroethene	10.00	10.29	103	70-130	1	25		
Toluene	10.00	10.75	108	70-130	2	25		
Tetrachloroethene	10.00	9.964	100	70-130	1	25		
Ethylbenzene	10.00	10.88	109	70-130	3	25		
m,p-Xylenes	20.00	21.70	109	70-130	1	25		
o-Xylene	10.00	10.45	105	70-130	3	25		
1,3,5-Trimethylbenzene	10.00	10.77	108	70-130	2	25		
1,2,4-Trimethylbenzene	10.00	11.03	110	70-130	4	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220208 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220208 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200214065001 File : 148_001 Time : 28-MAY-2010 15:45

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	28541	11.70	
75	30% - 66% of mass 95	104378	42.77	
95		244044	100.00	
96	5% - 9% of mass 95	15302	6.27	
173	< 2% of mass 174	0	0.00	
174	50% - 120% of mass 95	183291	75.11	
175	4% - 9% of mass 174	13018	7.10	
176	93% - 101% of mass 174	181131	98.82	
177	5% - 9% of mass 176	9357	5.17	

CURTIS & TOMPKINS BFB TUNE FOR 220208 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200216128005 File : 149_005 Time : 30-MAY-2010 02:08

Standards: S13547 (150X)

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	29854	12.71	
75	30% - 66% of mass 95	89310	38.01	
95		234972	100.00	
96	5% - 9% of mass 95	12381	5.27	
173	< 2% of mass 174	212	0.12	
174	50% - 120% of mass 95	178549	75.99	
175	4% - 9% of mass 174	10772	6.03	
176	93% - 101% of mass 174	175685	98.40	
177	5% - 9% of mass 176	10627	6.05	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220208 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Sample ID	Analyzed	Std
L1	141_003	1200204767003	NONE	21-MAY-2010	05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010	06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010	07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010	08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010	09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010	10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010	11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010	12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

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1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220208 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220208 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546618 IDF : 1.0
 Seqnum : 1200214065002.3 File : 148_002 Time : 28-MAY-2010 16:51
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14715, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.8552	10.00	10.56	nL/L	6	30	0.0500	u
Chloroethane	0.0815	0.0856	10.00	10.51	nL/L	5	30	0.0500	u
1,1-Dichloroethene	1.9184	2.0287	10.00	10.58	nL/L	6	30	0.0500	u
1,1-Dichloroethane	2.2145	2.3700	10.00	10.70	nL/L	7	30	0.0500	u
MTBE	1.4577	1.6000	10.00	10.98	nL/L	10	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.7365	10.00	10.56	nL/L	6	30	0.0500	u
n-Hexane	0.9022	0.9742	10.00	10.80	nL/L	8	30	0.0500	u
Chloroform	2.4999	2.5087	10.00	10.04	nL/L	0	30	0.0500	u
Benzene	0.5014	0.5370	10.00	10.71	nL/L	7	30	0.0500	u
Trichloroethene	0.5169	0.4992	10.00	9.655	nL/L	-3	30	0.0500	u
Toluene	1.5032	1.6222	10.00	10.80	nL/L	8	30	0.0500	u
Tetrachloroethene	0.9425	0.9379	10.00	9.955	nL/L	0	30	0.0500	u
Ethylbenzene	1.8627	2.0516	10.00	11.02	nL/L	10	30	0.0500	u
m,p-Xylenes	1.6467	1.8010	20.00	21.88	nL/L	9	30	0.0500	u
o-Xylene	1.6921	1.8412	10.00	10.89	nL/L	9	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.3758	10.00	11.00	nL/L	10	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.1784	10.00	11.03	nL/L	10	30	0.0500	u
Bromofluorobenzene	0.8080	0.8042	6.667	6.637	nL/L	0	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	326865	-9.37	32.92	32.89	-0.03
1,4-Difluorobenzene	1294000	1173000	-9.35	36.90	36.88	-0.02
Chlorobenzene-d5	1155000	1020000	-11.69	48.03	48.01	-0.02

BO 06/01/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220208 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546661 IDF : 1.0
 Seqnum : 1200216128006.1 File : 149_006 Time : 30-MAY-2010 03:11
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14715, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.8639	10.00	10.67	nL/L	7	30	0.0500	u
Chloroethane	0.0815	0.0849	10.00	10.43	nL/L	4	30	0.0500	u
1,1-Dichloroethene	1.9184	2.0421	10.00	10.65	nL/L	6	30	0.0500	u
1,1-Dichloroethane	2.2145	2.3645	10.00	10.68	nL/L	7	30	0.0500	u
MTBE	1.4577	1.6037	10.00	11.01	nL/L	10	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.7521	10.00	10.65	nL/L	7	30	0.0500	u
n-Hexane	0.9022	0.9754	10.00	10.81	nL/L	8	30	0.0500	u
Chloroform	2.4999	2.5348	10.00	10.14	nL/L	1	30	0.0500	u
Benzene	0.5014	0.5658	10.00	11.28	nL/L	13	30	0.0500	u
Trichloroethene	0.5169	0.5266	10.00	10.19	nL/L	2	30	0.0500	u
Toluene	1.5032	1.6483	10.00	10.97	nL/L	10	30	0.0500	u
Tetrachloroethene	0.9425	0.9450	10.00	10.03	nL/L	0	30	0.0500	u
Ethylbenzene	1.8627	2.0779	10.00	11.16	nL/L	12	30	0.0500	u
m,p-Xylenes	1.6467	1.7773	20.00	21.59	nL/L	8	30	0.0500	u
o-Xylene	1.6921	1.8304	10.00	10.83	nL/L	8	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.3700	10.00	10.98	nL/L	10	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.2757	10.00	11.53	nL/L	15	30	0.0500	u
Bromofluorobenzene	0.8080	0.7749	6.667	6.396	nL/L	-4	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	328751	-8.84	32.92	32.94	0.03
1,4-Difluorobenzene	1294000	1137000	-12.13	36.90	36.92	0.02
Chlorobenzene-d5	1155000	1018000	-11.86	48.03	48.05	0.02

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200214065

Date : 05/28/10
 Sequence : MSAIR01 148

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC546618	326865	32.89	1173000	36.88	1020000	48.01
003	BSD	QC546619	332524	32.89	1163000	36.88	1011000	48.01
004	BLANK	QC546620	309705	32.92	1030000	36.89	938068	48.02
005	SAMPLE	220207-004	323128	32.91	1070000	36.88	988103	48.02
006	SAMPLE	220207-002	311310	32.91	1043000	36.88	975482	48.02
007	SAMPLE	220207-006	313219	32.91	1040000	36.88	979599	48.02
008	SAMPLE	220207-008	327535	32.91	1048000	36.89	946247	48.02
009	SAMPLE	220207-009	308254	32.92	1052000	36.89	963838	48.02
010	SAMPLE	220207-011	305849	32.91	1029000	36.89	924874	48.02
011	SAMPLE	220207-012	301498	32.92	1022000	36.89	941916	48.02
012	SAMPLE	220207-001	314599	32.92	1011000	36.89	938198	48.02
013	SAMPLE	220207-003	307089	32.92	994353	36.89	945350	48.02
014	SAMPLE	220207-010	317702	32.92	1029000	36.89	960339	48.02
015	SAMPLE	220207-005	307569	32.93	1016000	36.89	920573	48.02
016	SAMPLE	220207-013	308840	32.92	991114	36.89	947210	48.02
017	SAMPLE	220207-007	326441	32.91	1073000	36.89	872903	48.02
018	SAMPLE	220208-003	326926	32.90	1158000	36.89	956384	48.02
019	SAMPLE	220208-001	305847	32.91	1091000	36.89	991626	48.02
020	SAMPLE	220208-002	305511	32.91	1042000	36.89	947054	48.02
021	SAMPLE	220208-004	299143	32.92	1069000	36.89	955560	48.02
022	SAMPLE	220207-013	307103	32.93	1024000	36.90	1009000	48.03
023	SAMPLE	220208-003	297649	32.91	1057000	36.89	901746	48.03

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200216128

Date : 05/29/10
 Sequence : MSAIR01 149

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	IB	NONE	304916	32.95	1033000	36.93	883967	48.05
003	CCV/BS	QC546661	294334	32.98	992002	36.94	822665	48.05
006	CCV/BS	QC546661	328751	32.94	1137000	36.92	1018000	48.05
007	BSD	QC546662	329928	32.94	1130000	36.93	1026000	48.05
008	BLANK	QC546660	313555	32.96	975882	36.93	920053	48.05
009	SAMPLE	220208-005	313833	32.94	1072000	36.92	977082	48.05
010	SAMPLE	220208-006	291595	32.94	1042000	36.92	926718	48.05
011	SAMPLE	220185-004	344068	32.93	1196000	36.92	1000000	48.04
012	SAMPLE	220243-003	326614	32.93	1135000	36.92	968771	48.04
013	SAMPLE	220243-004	318575	32.93	1139000	36.92	925862	48.04
014	SAMPLE	220243-005	320565	32.93	1128000	36.92	958745	48.04
015	SAMPLE	220185-005	318408	32.93	1169000	36.92	967135	48.05
016	SAMPLE	220185-001	313735	32.94	1082000	36.92	929542	48.05
017	SAMPLE	220185-003	317782	32.94	1164000	36.93	985361	48.05
018	SAMPLE	220243-006	324317	32.94	1108000	36.93	954465	48.05
019	SAMPLE	220243-001	316957	32.95	1106000	36.93	944787	48.05
020	SAMPLE	220185-002	309225	32.95	1088000	36.94	951403	48.06
021	SAMPLE	220243-002	325294	32.95	1140000	36.94	1005000	48.06
022	SAMPLE	220185-005	299591	32.95	1087000	36.93	958910	48.05
023	SAMPLE	220185-004	300456	32.95	1084000	36.93	903344	48.05
024	SAMPLE	220243-005	309201	32.95	1117000	36.92	946034	48.05
025	SAMPLE	220297-001	336362	32.94	1137000	36.92	951330	48.05
026	SAMPLE	220297-002	306436	32.95	1058000	36.93	949554	48.06
027	SAMPLE	220297-003	307529	32.95	1084000	36.93	949991	48.05

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200214065

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/28/10 15:45

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	148_001	TUN	BFB			05/28/10 15:45	1.0	1	
002	148_002	CCV/BS	QC546618	Air	163528	05/28/10 16:51	1.0	2 1	
003	148_003	BSD	QC546619	Air	163528	05/28/10 17:54	1.0	2 1	
004	148_004	BLANK	QC546620	Air	163528	05/28/10 18:58	1.0	1	
005	148_005	SAMPLE	220207-004	Air	163528	05/28/10 20:03	4.26	1	
006	148_006	SAMPLE	220207-002	Air	163528	05/28/10 21:07	6.03	1	
007	148_007	SAMPLE	220207-006	Air	163528	05/28/10 22:10	6.21	1	
008	148_008	SAMPLE	220207-008	Air	163528	05/28/10 23:14	6.300	1	
009	148_009	SAMPLE	220207-009	Air	163528	05/29/10 00:53	5.91	1	
010	148_010	SAMPLE	220207-011	Air	163528	05/29/10 01:57	6.27	1	
011	148_011	SAMPLE	220207-012	Air	163528	05/29/10 03:00	6.33	1	
012	148_012	SAMPLE	220207-001	Air	163528	05/29/10 04:03	12.18	1	
013	148_013	SAMPLE	220207-003	Air	163528	05/29/10 05:06	12.30	1	
014	148_014	SAMPLE	220207-010	Air	163528	05/29/10 06:09	12.18	1	
015	148_015	SAMPLE	220207-005	Air	163528	05/29/10 07:12	12.0	1	
016	148_016	SAMPLE	220207-013	Air	163528	05/29/10 08:16	12.18	1	
017	148_017	SAMPLE	220207-007	Air	163528	05/29/10 09:19	523.2	1	1:CYHEXANE=150
018	148_018	SAMPLE	220208-003	Air	163528	05/29/10 10:22	7.59	1	1:TCE=170
019	148_019	SAMPLE	220208-001	Air	163528	05/29/10 11:25	2.49	1	
020	148_020	SAMPLE	220208-002	Air	163528	05/29/10 12:29	2.200	1	
021	148_021	SAMPLE	220208-004	Air	163528	05/29/10 13:32	2.36	1	
022	148_022	SAMPLE	220207-013	Air	163528	05/29/10 14:35	6.09	1	
023	148_023	SAMPLE	220208-003	Air	163528	05/29/10 15:38	15.18	1	

BO 06/01/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 23.

Analyst: BO Date: 06/01/10 Reviewer: SJD Date: 06/02/10

Standards used: 1=S13547 2=S14715

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200216128

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/29/10 21:56

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	149_001	TUN	BFB			05/29/10 21:56	1.0	1	
002	149_002	IB	NONE			05/29/10 22:59	1.0	1	
003	149_003	CCV/BS	QC546661	Air	163538	05/30/10 00:02	1.0	2 1	
004	149_004	TUN	BFB			05/30/10 01:05	1.0	1	
005	149_005	TUN	BFB	Air		05/30/10 02:08	1.0	1	
006	149_006	CCV/BS	QC546661	Air	163538	05/30/10 03:11	1.0	2 1	
007	149_007	BSD	QC546662	Air	163538	05/30/10 04:14	1.0	2 1	
008	149_008	BLANK	QC546660	Air	163538	05/30/10 05:17	1.0	1	
009	149_009	SAMPLE	220208-005	Air	163538	05/30/10 06:20	2.48	1	
010	149_010	SAMPLE	220208-006	Air	163538	05/30/10 07:23	2.43	1	
011	149_011	SAMPLE	220185-004	Air	163538	05/30/10 08:26	1.95	1	1:TCE=250
012	149_012	SAMPLE	220243-003	Air	163538	05/30/10 09:29	1.92	1	
013	149_013	SAMPLE	220243-004	Air	163538	05/30/10 10:32	1.95	1	
014	149_014	SAMPLE	220243-005	Air	163538	05/30/10 11:36	1.83	1	3:PCE=370
015	149_015	SAMPLE	220185-005	Air	163538	05/30/10 12:41	3.66	1	2:PCE=410
016	149_016	SAMPLE	220185-001	Air	163538	05/30/10 13:46	5.31	1	
017	149_017	SAMPLE	220185-003	Air	163538	05/30/10 14:51	5.46	1	2:TCE=420
018	149_018	SAMPLE	220243-006	Air	163538	05/30/10 15:56	5.73	1	
019	149_019	SAMPLE	220243-001	Air	163538	05/30/10 17:02	21.24	1	2:PCE=250
020	149_020	SAMPLE	220185-002	Air	163538	05/30/10 18:07	11.04	1	
021	149_021	SAMPLE	220243-002	Air	163538	05/30/10 19:10	10.98	1	2:TCE=310
022	149_022	SAMPLE	220185-005	Air	163538	05/30/10 20:13	21.96	1	
023	149_023	SAMPLE	220185-004	Air	163538	05/30/10 21:17	11.70	1	
024	149_024	SAMPLE	220243-005	Air	163538	05/30/10 22:20	10.98	1	
025	149_025	SAMPLE	220297-001	Air	163538	05/30/10 23:23	1.88	1	1:ACE=110
026	149_026	SAMPLE	220297-002	Air	163538	05/31/10 00:26	3.72	1	
027	149_027	SAMPLE	220297-003	Air	163538	05/31/10 01:29	3.96	1	

BO 06/02/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

SJD 06/02/10 : adjusted tune prior to 149_004

Analyst: BO Date: 06/02/10 Reviewer: SJD Date: 06/02/10

Standards used: 1=S13547 2=S14715

Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments
Drs 5/10/10	219994-001	C00186	11.84	23.11	1.95x	
	-002	C00172	12.33	24.64	2.00x	
	-003	C00177	13.97	23.04	1.65x	
Pw 5/17/10	220069-004	C00253	12.70	23.25	1.83x	
	220070-001	C00062	11.08	23.51	2.12x	
	-002	C00182	12.31	23.87	1.87x	
	-003	C00109	8.64	23.36	2.70x	
	-004	C00125	9.54	23.30	2.44x	
	-005	C00072	9.60	23.62	2.46x	
	BLANK	C00017	—	—	1x	
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x
Aa 5/21/10	220069-001	C00076	11.63	23.13	1.99x	
	-002	C00251	12.03	23.35	1.94x	
	-003	C00083	12.95	23.55	1.82x	
	-004	—	—	—	—	already filled 5/17/10
	-005	C00069	11.84	23.43	1.98x	
	-006	C00113	11.78	24.30	2.06x	
	-007	C00130	11.35	24.09	2.12x	
	-008	C00057	10.26	23.12	2.25x	
	-009	C00107	10.40	23.02	2.21x	
	-010	C00288	8.99	23.44	2.61x	
	220071-001	C00150	10.84	23.64	2.19x	
	-002	C00142	10.71	23.29	2.18x	
	-003	C00286	10.98	23.46	2.14x	
	-004	C00166	10.98	23.53	2.14x	
	-005	C00120	11.08	23.17	2.09x	
	220211-001	C00144	11.62	23.35	2.01x	
-002	C00281	10.37	23.33	2.25x		
-003	C00285	11.42	23.02	2.02x		
-004	C00250	11.50	23.41	2.04x		
	BLANK	C00219	—	—	1x	
Aa 5/21/10	220207-001	C00087 C00143	11.40	23.09	2.03x	can ID C00087
	-002	C00260	11.63	23.38	2.01x	
	-003	C00241	11.26	23.08	2.05x	

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Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (psig)	Final Pressure (psig)	Dilution Factor	Comments
R 5/21/10	220207-004	C00249	11.40	24.24	2.13x	
	-005	C00049	11.53	23.08	2.00x	
	-006	C00115	11.27	23.33	2.07x	
	-007	C00152	11.43	24.95	2.18x	
	-008	C00180	11.23	23.62	2.10x	
	-009	C00061	11.80	23.21	1.97x	
	-010	C00289	11.62	23.60	2.03x	
	-011	C00192	11.34	23.75	2.09x	
	-012	C00138	11.57	24.40	2.11x	
	-013	C00064	11.52	23.43	2.03x	
	220208-001	C00193	9.30	23.13	2.49x	
	-002	C00123	10.53	23.20	2.20x	
	-003	C00240	9.18	23.21	2.53x	
-004	C00267	9.82	23.18	2.36x		
-005	C00265	9.31	23.09	2.48x		
-006	C00255	9.63	23.36	2.43x		
	BANK	C00008	—	—	1x	
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5/23/10	219833-001	C00117				
	-002	C00167				
	-003	C00100				
	-004	C00127				
	-005	C00290				
	-006	C00097				
	-007	C00254				
5/23/10	219833-001	C00200	0.75 added	30.0 total added	70.8x	40x of 1.77x can C00117
	-002	C00019	1.5 added	30.0 total added	38.0x	20x of 1.90x can C00167
	-003	C00002	1.5 added	30.0 total added	37.2x	20x of 1.86x can C00100
	-004	C00203	0.75 added	30.0 total added	69.6x	40x of 1.74x can C00127
	-005	C00010	1.5 added	30.0 total added	34.4x	20x of 1.82x can C00290
	-006	C00213	1.5 added	30.0 total added	36.2x	20x of 1.81x can C00097
	-007	C00233	0.75 added	30.0 total added	36.2x	40x of 1.81x can C00254
	219905-003	C00229	0.75 added	30.0 total added	40.8x	40x of 2.04x can C00099
	CAN CHECK	C00040	—	—	1x	

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Prepared by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments
R. S/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00257	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
R. S/28/10	220209-001	C00346	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.57	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	BLANK	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.15x can C00152
S. S/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x can C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x can C00315
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.93x can C00119

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PROJECT Air Sample Prep Log

Notebook No. BK2875

Continued From Page

Prepped by / Date	Sample ID	CAN ID	Initial Pressure (psf)	Final Pressure (psf)	Dilution Factor	Comments	2/5/2010	
Pr 5/24/10	220194 219 994	001 C00198 -002 C00231	0.75 added	30.0 total added	126.4	40x of 3.16x	CAN C00186	
	219 994	003 C00045			80.0x	40x of 2x	CAN C00172	
	219 994	-001 C00031			66x	40x of 1.65x	CAN C00177	
		-002 C00236			5056x	40x of 126.4x	CAN C00198	
		-003 C00022			3200x	40x of 80x	CAN C00231	
Pr 5/26/10	220194 BLANK	C00022			2640x	40x of 66x	CAN C00031	
Pr 5/26/10	220244	-001 C00235	9.82	23.10	2.35x			
	L	-002 C00020	9.10	24.06	2.64x			
	BLANK	C00218	-	-	1x			
Pr 5/27/10	220069	-003 C00215	1.5 added	30 total added	36.4x	20x of 1.82x	CAN C00083	
Pr 5/27/10	220211	-004 C00354	1.5 added	30.0 total added	40.8x	20x of 2.04x	CAN C00250	
Bo 5/28/10	220185	-001 C00056	13.21	23.35	1.77x			
		-002 C00268	12.95	23.84	1.84x			
		-003 C00266	12.69	23.15	1.82x			
		-004 C00189	12.11	23.67	1.95x			
		-005 C00176	12.71	23.32	1.83x			
		220297	-003 C00171	11.84	23.49	1.98x		
		-001 C00279	12.71	23.84	1.88x			
		-002 C00289	12.78	23.76	1.86x			
		220243	-001 C00079	13.11	23.23	1.77x		
		-002 C00159	12.96	23.73	1.83x			
		-003 C00148	12.50	24.01	1.92x			
		-004 C00287	11.99	23.40	1.95x			
		-005 C00126	12.99	23.76	1.83x			
		-006 C00136	12.33	23.57	1.91x			
		220211	-004 C00005	1.5 added	30.0 total added	728x	20x of 36.4x	CAN C00354
	BLANK	C00351	-	-	1x			
	220276	-001 C00272	14.81	23.15	1.56x			
	-002 C00114	12.34	23.38	1.89x				
	-003 C00096	12.58	23.72	1.89x				
	-004 C00197	12.77	23.38	1.83x				
	-005 C00074	12.47	23.42	1.88x				
	-006 C00154	12.13	23.43	1.93x				
	-007 C00170	12.16	23.61	1.94x				

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Date

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments
2/5/11/10	220207-004	C00249	11.40	24.24	2.13x	
	-005	C00249	11.53	23.08	2.06x	
	-006	C00115	11.27	23.33	2.07x	
	-007	C00152	11.43	24.95	2.18x	
	-008	C00180	11.23	23.62	2.10x	
	-009	C00061	11.80	23.21	1.97x	
	-010	C00269	11.62	23.60	2.03x	
	-011	C00192	11.34	23.75	2.09x	
	-012	C00138	11.57	24.46	2.11x	
	-013	C00064	11.52	23.43	2.03x	
	220208-001	C00193	9.30	23.13	2.49x	
	-002	C00123	10.53	23.20	2.20x	
	-003	C00246	9.18	23.21	2.53x	
-004	C00267	9.82	23.18	2.36x		
-005	C00265	9.31	23.04	2.48x		
-006	C00255	9.63	23.36	2.43x		
	BANK	C00008	—	—	1x	
<hr/>						
5/23/10	219833-001	C00117				
	-002	C00167				
	-003	C00100				
	-004	C00127				
	-005	C00290				
	-006	C00097				
	-007	C00254				
5/23/10	219833-001	C00200	0.75 added	30.0 total added	70.8x	40x of 1.77x can C00117
	-002	C00019	1.5 added	30.0 total added	38.0x	20x of 1.90x can C00167
	-003	C00002	1.5 added	30.0 total added	37.2x	20x of 1.86x can C00100
	-004	C00203	0.75 added	30.0 total added	69.6x	40x of 1.74x can C00127
	-005	C00010	1.5 added	30.0 total added	34.4x	20x of 1.82x can C00290
	-006	C00213	1.5 added	30.0 total added	36.2x	20x of 1.81x can C00097
	-007	C00233	0.75 added	30.0 total added	56.2x 72x	40x of 1.81x can C00254
	219905-003	C00229	0.75 added	30.0 total added	40.8x 70.8x	40x of 2.04x can C00099
	CAN CHECK	C00040	—	—	1x	

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Date

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Date

Laboratory Job Number 220208

ANALYTICAL REPORT

Volatile Organics in Air GC

Matrix: Air

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Units (M):	ug/L
Field ID:	SMW-4-U-10Q2	Diln Fac:	2.490
Lab ID:	220208-001	Batch#:	163466
Matrix:	Air	Sampled:	05/11/10
Result (M):	1.8	Received:	05/18/10
RL:	0.82	Analyzed:	05/27/10
Units:	ppmv		

Result	RL	ADEQ Flags
2.7	1.2	D1

RL= Reporting Limit

Result M= Result in Mass Units

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Units (M):	ug/L
Field ID:	SMW-4-M-10Q2	Diln Fac:	2.200
Lab ID:	220208-002	Batch#:	163466
Matrix:	Air	Sampled:	05/11/10
Result (M):	1.9	Received:	05/18/10
RL:	0.72	Analyzed:	05/27/10
Units:	ppmv		

Result	RL	ADEQ Flags
2.9	1.1	D1

RL= Reporting Limit

Result M= Result in Mass Units

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Units (M):	ug/L
Field ID:	SMW-4-L-10Q2	Diln Fac:	2.530
Lab ID:	220208-003	Batch#:	163466
Matrix:	Air	Sampled:	05/11/10
Result (M):	1.3	Received:	05/18/10
RL:	0.83	Analyzed:	05/27/10
Units:	ppmv		

Result	RL	ADEQ Flags
2.0	1.3	D1

RL= Reporting Limit

Result M= Result in Mass Units

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Units (M):	ug/L
Field ID:	BSVE-SVM-10Q2-008	Diln Fac:	2.430
Lab ID:	220208-006	Batch#:	163466
Matrix:	Air	Sampled:	05/11/10
Result (M):	1.7	Received:	05/18/10
RL:	0.80	Analyzed:	05/27/10
Units:	ppmv		

Result	RL	ADEQ Flags
2.6	1.2	D1

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Units:	ppmv
Type:	BLANK	Units (M):	ug/L
Lab ID:	QC546390	Diln Fac:	1.000
Matrix:	Air	Batch#:	163466
Result (M):	ND	Analyzed:	05/27/10
RL:	0.33		

Result	RL	ADEQ Flags
ND	0.50	

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Volatile Organics in Air			
Lab #:	220208	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Diln Fac:	1.000
Matrix:	Air	Batch#:	163466
Units:	ppmv	Analyzed:	05/27/10

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim ADEQ	Flags
BS	QC546391	100.0	97.84	98	70-130			
BSD	QC546392	100.0	97.78	98	70-130	0	20	

RPD= Relative Percent Difference

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220208 GCAIR Air: EPA TO-3

Inst : GC28
 Calnum : 1309497539003
 Units : uL/L

Date : 11-DEC-2009 12:37
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	345_002	1309497539002		11-DEC-2009 12:37	S13381
L2	345_003	1309497539003		11-DEC-2009 13:00	S13382
L3	345_004	1309497539004		11-DEC-2009 13:18	S13383
L4	345_005	1309497539005		11-DEC-2009 13:35	S13384
L5	345_006	1309497539006		11-DEC-2009 13:53	S13385
L6	345_007	1309497539007		11-DEC-2009 14:16	S13386
L7	345_008	1309497539008		11-DEC-2009 14:36	S13387
L8	345_009	1309497539009		11-DEC-2009 16:08	S13388

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Methane-TO3	A	0.1314	0.1225	0.1271	0.1208	0.1197	0.1183	0.1197	0.1242	AVRG		8.13190		0.1230	4	.99	30	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Methane-TO3	A	0.500	7	10.00	0	100.0	3	501.0	-2	1002	-3	9980	-4	2E+5	-3	5E+5	1

Instrument amount = a0 + response * a1 + response² * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220208 GCAIR Air
EPA TO-3

Inst : GC28

Calnum : 1309497539003

Cal Date : 11-DEC-2009

ICV 1309497539011 (345_011 11-DEC-2009) stds: S13375

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Methane-TO3	A	1000	1017	uL/L	2	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220208 GCAIR Air
EPA TO-3

Inst : GC28
 Seqnum : 1300212447009
 Cal : 1309497539003
 Standards: S14660

IDF : 1.0
 Time : 27-MAY-2010 18:56

File : 147_009
 Caldate : 11-DEC-2009

Analyte	Ch	Avg		Spiked	Quant	Units	%D	Max %D	Flags
		RF/CF	RF/CF						
Methane-TO3	A	0.1230	0.1219	100.0	99.13	uL/L	-1	30	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1300212447

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 05/27/10 12:47

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	147_001	X	IB			05/27/10 12:47	1.0	
002	147_002	CCV/BS	QC546391	Air	163466	05/27/10 13:08	1.0	1
003	147_003	BSD	QC546392	Air	163466	05/27/10 13:51	1.0	1
004	147_004	BLANK	QC546390	Air	163466	05/27/10 14:34	1.0	
005	147_005	SAMPLE	220208-001	Air	163466	05/27/10 16:02	2.49	
006	147_006	SAMPLE	220208-002	Air	163466	05/27/10 16:35	2.200	
007	147_007	SAMPLE	220208-006	Air	163466	05/27/10 17:05	2.43	
008	147_008	SAMPLE	220208-003	Air	163466	05/27/10 17:29	2.53	
009	147_009	CCV				05/27/10 18:56	1.0	1
010	147_010	SAMPLE	220244-001	Air	163466	05/27/10 19:21	2.35	
011	147_011	SAMPLE	220244-002	Air	163466	05/27/10 19:50	2.64	
012	147_012	CCV				05/27/10 20:12	1.0	1
013	147_013	X	IB			05/27/10 20:49	1.0	

SJD 06/01/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

Analyst: SJD Date: 06/01/10 Reviewer: BO Date: 06/01/10

Standards used: 1=S14660

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1309497539

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 12/11/09 12:19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	345_001	IB	IB			12/11/09 12:19	1.0	
002	345_002	ICAL				12/11/09 12:37	1.0	1
003	345_003	ICAL				12/11/09 13:00	1.0	2
004	345_004	ICAL				12/11/09 13:18	1.0	3
005	345_005	ICAL				12/11/09 13:35	1.0	4
006	345_006	ICAL				12/11/09 13:53	1.0	5
007	345_007	ICAL				12/11/09 14:16	1.0	6
008	345_008	ICAL				12/11/09 14:36	1.0	7
009	345_009	ICAL				12/11/09 16:08	1.0	8
010	345_010	IB	IB			12/11/09 16:29	1.0	
011	345_011	ICV				12/11/09 16:47	1.0	9

APP 12/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 011.

Analyst: APP Date: 12/14/09 Reviewer: SJD Date: 01/20/10

Standards used: 1=S13381 2=S13382 3=S13383 4=S13384 5=S13385 6=S13386 7=S13387 8=S13388 9=S13375

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (psig)	Final Pressure (psig)	Dilution Factor	Comments
R2 5/11/10	220207-004	C00249	11.40	24.24	2.13x	
	-005	C00249	11.53	23.08	2.00x	
	-006	C00115	11.27	23.33	2.07x	
	-007	C00152	11.43	24.95	2.18x	
	-008	C00180	11.23	23.62	2.10x	
	-009	C00001	11.80	23.21	1.97x	
	-010	C00289	11.62	23.60	2.03x	
	-011	C00192	11.34	23.75	2.09x	
	-012	C00138	11.57	24.42	2.11x	
	-013	C00064	11.52	23.43	2.03x	
	220208-001	C00193	9.30	23.13	2.49x	
	-002	C00123	10.53	23.20	2.20x	
	-003	C00246	9.18	23.21	2.53x	
-004	C00267	9.82	23.18	2.36x		
-005	C00265	9.31	23.09	2.48x		
-006	C00255	9.63	23.36	2.43x		
	BANK	C00008	—	—	1x	
2/9833-001						
-002						
-003						
-004						
-005						
-006						
-007						
S03 5/23/10	219833-001	C00200	0.75 added	30.0 total added	70.8x	40x of 1.77x can C00117
	-002	C00019	1.5 added	30.0 total added	38.0x	20x of 1.90x can C00167
	-003	C00002	1.5 added	30.0 total added	37.2x	20x of 1.86x can C00100
	-004	C00203	0.75 added	30.0 total added	69.6x	40x of 1.74x can C00127
	-005	C00010	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00290
	-006	C00213	1.5 added	30.0 total added	36.2x	20x of 1.81x can C00097
	-007	C00233	0.75 added	30.0 total added	36.2x	40x of 1.81x can C00254
	219905-003	C00229	0.75 added	30.0 total added	40.8x	40x of 2.04x can C00099
	CAN CHECK	C00040	—	—	1x	

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

Prepped by / Date	Sample ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments	2.52x10 ³	
As 5/24/10	220194-001	C00198	0.75 added	30.0 total added	126.4x	40x of 1.85x = 3.16x	CAN C00186	
	219 994-002	C00231			80.0x	40x of 2x	CAN C00172	
	219 994-003	C00045			66x	40x of 1.65x	CAN C00177	
		-001	C00031			5056x	40x of 126.4x	CAN C00198
		-002	C00236			3200x	40x of 80x	CAN C00231
		220194-003	C00022			2640x	40x of 66x	CAN C00031
		BLANK						
		220244-001	C00235	9.82	23.10	2.35x		
		-002	C00020	9.10	24.06	2.64x		
		BLANK	C00218			1x		
As 5/26/10	220069-003	C00215	1.5 added	30 total added	36.4x	20x of 1.82x, CAN C00053		
As 5/27/10	220211-004	C00354	1.5 added	30.0 total added	40.8x	20x of 2.04x, CAN C00250		
Bs 5/28/10	220185-001	C00056	13.21	23.35	1.77x			
	-002	C00268	12.95	23.84	1.84x			
	-003	C00266	12.69	23.15	1.82x			
	-004	C00189	12.11	23.67	1.95x			
	-005	C00176	12.71	23.32	1.83x			
	220297-003	C00171	11.84	23.49	1.98x			
	-001	C00279	12.71	23.84	1.88x			
	-002	C00289	12.78	23.76	1.86x			
	220243-001	C00079	13.11	23.23	1.77x			
	-002	C00159	12.96	23.73	1.83x			
	-003	C00148	12.50	24.01	1.92x			
	-004	C00287	11.99	23.40	1.95x			
	-005	C00126	12.99	23.76	1.83x			
	-006	C00136	12.33	23.57	1.91x			
	220211-004	C00005	1.5 added	30.0 total added	728x	20x of 36.4x	CAN C00354	
	BLANK	C00351			1x			
	220276-001	C00272	14.81	23.15	1.56x			
	-002	C00114	12.34	23.38	1.89x			
	-003	C00096	12.58	23.72	1.89x			
	-004	C00197	12.77	23.38	1.83x			
-005	C00074	12.47	23.42	1.88x				
-006	C00154	12.13	23.43	1.93x				
-007	C00170	12.16	23.61	1.94x				

Continued on Page 38

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220209
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
P-47-10Q2	220209-001
PL-2102-10Q2	220209-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: *Deviné N. Tetrault*
Project Manager

Date: 06/02/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220209
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/18/10
Samples Received: 05/18/10

This data package contains sample and QC results for two air samples, requested for the above referenced project on 05/18/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

High surrogate recovery was observed for bromofluorobenzene in PL-2102-10Q2 (lab # 220209-002).

P-47-10Q2 (lab # 220209-001) and PL-2102-10Q2 (lab # 220209-002) were diluted due to problematic matrix.

No other analytical problems were encountered.

Chain of Custody

220209

Curtis & Tompkins Laboratories

2323 5th St.
Berkeley, CA 94710
510-204-2221

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 40210.49633
COC# 37380

Privileged & Confidential

EDD To: Tuesdal Powers, Critigen
Melanie West, Critigen

Site Name: Sky Harbor AZ
Location of Site: Phoenix, AZ

Lab Proj # (SDG):
Lab ID: CTBERK
Site ID: SKYHARBOR

Client Contact: (name, co., address)

Sampler: **Laxmar Davis**

Phase: Sampling Program

Authorized User: Honeywell

CH2M HILL

PO # 5101516
Analysis Turnaround Time (TAT): 10

BSVE QTR SVM

Text & Excel File Drive
Excel & Text File Order

2625 South Plaza Drive, Suite 300

Consultant

Preservative

Copyright AESI: Version 8.0 Unauthorised use strictly prohibited.

Preliminary Data To

Tuesdal Powers, Critigen, Melanie West, Critigen

Field Filtered Sample ?

Canister Serial No. 306
315

Sample Receipt Acknowledgement To

Tuesdal Powers, Critigen, Melanie West, Critigen

Compos/Grab

Sampling Method (code)

Hard Copy To

Tuesdal Powers and Melanie West, Critigen

Units

Full Report TAT: 10

Invoice To:

Honeywell/Copy Barney Kidd

Sample Date

Sample Time

Sample Identification

Sample Date

Sample Type

Sample Matrix

Start Depth (ft)

Sample Purpose

Sample # of Cont.

Sample Date

End Depth (ft)

Field Sample ID

Sample Matrix

Sample Type

1 P-47 6 11 P-47 10QZ

051310 0938 SV AIR REG 1 X

051310 1027 SV AIR REG 1 X

051310 1042 PL-20210QZ

2 PL-2102 35 75 PL-20210QZ

051310 1027 SV AIR REG 1 X

051310 1042 PL-20210QZ

051310 1042 PL-20210QZ

3

4

5

6

7

8

9

10

11

12

12

12

Relinquished by

Received by

Condition

Custody Seals Intact

Relinquished by **Laxmar Davis**

Received by **Bill Esh/Barney Kidd**

Condition Cooler Temp.

Custody Seals Intact

Relinquished by **Barney Kidd**

Received by **Bill Esh**

Condition Cooler Temp.

Custody Seals Intact

Relinquished by **Laxmar Davis**

Received by **Bill Esh**

Condition Cooler Temp.

Custody Seals Intact

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Relinquished by **Laxmar Davis**

Received by **Bill Esh**

Condition Cooler Temp.

Custody Seals Intact

Relinquished by **Laxmar Davis**

Received by **Bill Esh**

Condition Cooler Temp.

Custody Seals Intact

Preservatives: (Other, Specify):
0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4 Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Bill Esh
Barney Kidd
5-18-10
1100

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 220209 Date Received 5-18-10 Number of coolers 1 BX
Client CH2M A2 Honeywell Project BSUE QTR SUM

Date Opened 5-18-10 By (print) S. EVANS (sign) [Signature]
Date Logged in J By (print) J (sign) J

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info FEDERX# 7928 2743 1178

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 2 EA Name SIGNATURE Date 5-17-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)
Bubble Wrap Foam blocks Bags None
Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:
Type of ice used: Wet Blue/Gel None Temp(C)
Samples Received on ice & cold without a temperature blank
Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Laboratory Job Number 220209

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air			
Lab #:	220209	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-47-10Q2	Diln Fac:	12.78
Lab ID:	220209-001	Batch#:	163541
Matrix:	Air	Sampled:	05/13/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.4	ND	16	D1
Chloroethane	ND	6.4	ND	17	D1
1,1-Dichloroethene	ND	6.4	ND	25	D1
1,1-Dichloroethane	ND	6.4	ND	26	D1
MTBE	ND	6.4	ND	23	D1
cis-1,2-Dichloroethene	ND	6.4	ND	25	D1
n-Hexane	ND	6.4	ND	23	D1
Chloroform	ND	6.4	ND	31	D1
Benzene	ND	6.4	ND	20	D1
Trichloroethene	ND	6.4	ND	34	D1
Toluene	ND	6.4	ND	24	D1
Tetrachloroethene	ND	6.4	ND	43	D1
Ethylbenzene	ND	6.4	ND	28	D1
m,p-Xylenes	ND	6.4	ND	28	D1
o-Xylene	ND	6.4	ND	28	D1
1,3,5-Trimethylbenzene	ND	6.4	ND	31	D1
1,2,4-Trimethylbenzene	12	6.4	59	31	D1
Xylene (total)	ND	13	ND	55	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	116	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220209	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PL-2102-10Q2	Diln Fac:	168.8
Lab ID:	220209-002	Batch#:	163541
Matrix:	Air	Sampled:	05/13/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	84	ND	220	D1
Chloroethane	ND	84	ND	220	D1
1,1-Dichloroethene	ND	84	ND	330	D1
1,1-Dichloroethane	ND	84	ND	340	D1
MTBE	ND	84	ND	300	D1
cis-1,2-Dichloroethene	ND	84	ND	330	D1
n-Hexane	190	84	670	300	D1
Chloroform	ND	84	ND	410	D1
Benzene	ND	84	ND	270	D1
Trichloroethene	130	84	710	450	D1
Toluene	ND	84	ND	320	D1
Tetrachloroethene	ND	84	ND	570	D1
Ethylbenzene	240	84	1,100	370	D1
m,p-Xylenes	160	84	680	370	D1
o-Xylene	ND	84	ND	370	D1
1,3,5-Trimethylbenzene	ND	84	ND	410	D1
1,2,4-Trimethylbenzene	ND	84	ND	410	D1
Xylene (total)	160	84	680	370	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	228 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220209	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546669	Diln Fac:	1.000
Matrix:	Air	Batch#:	163541
Units (V):	ppbv	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	95	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220209	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163541
Units (V):	ppbv	Analyzed:	05/31/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546670

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	11.27	113	70-130		
Chloroethane	10.00	11.18	112	70-130		
1,1-Dichloroethene	10.00	11.22	112	66-139		
1,1-Dichloroethane	10.00	11.37	114	61-134		
MTBE	10.00	11.83	118	70-130		
cis-1,2-Dichloroethene	10.00	11.15	112	70-130		
n-Hexane	10.00	11.57	116	70-130		
Chloroform	10.00	10.53	105	70-130		
Benzene	10.00	10.98	110	70-130		
Trichloroethene	10.00	10.02	100	70-130		
Toluene	10.00	11.79	118	70-130		
Tetrachloroethene	10.00	10.95	109	70-130		
Ethylbenzene	10.00	12.28	123	70-130		
m,p-Xylenes	20.00	23.61	118	70-130		
o-Xylene	10.00	11.68	117	70-130		
1,3,5-Trimethylbenzene	10.00	12.13	121	70-130		
1,2,4-Trimethylbenzene	10.00	12.31	123	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

Type: BSD Lab ID: QC546671

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.93	109	70-130	3	25		
Chloroethane	10.00	10.90	109	70-130	3	25		
1,1-Dichloroethene	10.00	10.88	109	66-139	3	10		
1,1-Dichloroethane	10.00	10.99	110	61-134	3	15		
MTBE	10.00	11.58	116	70-130	2	25		
cis-1,2-Dichloroethene	10.00	10.86	109	70-130	3	25		
n-Hexane	10.00	10.81	108	70-130	7	25		
Chloroform	10.00	10.24	102	70-130	3	25		
Benzene	10.00	11.18	112	70-130	2	25		
Trichloroethene	10.00	9.898	99	70-130	1	25		
Toluene	10.00	11.00	110	70-130	7	25		
Tetrachloroethene	10.00	10.47	105	70-130	4	25		
Ethylbenzene	10.00	11.41	114	70-130	7	25		
m,p-Xylenes	20.00	22.31	112	70-130	6	25		
o-Xylene	10.00	11.47	115	70-130	2	25		
1,3,5-Trimethylbenzene	10.00	11.33	113	70-130	7	25		
1,2,4-Trimethylbenzene	10.00	11.60	116	70-130	6	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	102	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220209 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220209 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200217655002 File : 150_002 Time : 31-MAY-2010 03:35

Standards: S13547 (150X)

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	29507	13.05	
75	30% - 66% of mass 95	90780	40.14	
95		226183	100.00	
96	5% - 9% of mass 95	15592	6.89	
173	< 2% of mass 174	289	0.16	
174	50% - 120% of mass 95	179195	79.23	
175	4% - 9% of mass 174	10878	6.07	
176	93% - 101% of mass 174	170150	94.95	
177	5% - 9% of mass 176	10256	6.03	

SJD 06/02/10 : Changed to tune

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220209 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m>manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor

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1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220209 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220209 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546670 IDF : 1.0
 Seqnum : 1200217655003.2 File : 150_003 Time : 31-MAY-2010 04:38
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14715, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.9127	10.00	11.27	nL/L	13	30	0.0500	u
Chloroethane	0.0815	0.0911	10.00	11.18	nL/L	12	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1513	10.00	11.22	nL/L	12	30	0.0500	u
1,1-Dichloroethane	2.2145	2.5170	10.00	11.37	nL/L	14	30	0.0500	u
MTBE	1.4577	1.7232	10.00	11.83	nL/L	18	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.8341	10.00	11.15	nL/L	12	30	0.0500	u
n-Hexane	0.9022	1.0440	10.00	11.57	nL/L	16	30	0.0500	u
Chloroform	2.4999	2.6331	10.00	10.53	nL/L	5	30	0.0500	u
Benzene	0.5014	0.5504	10.00	10.98	nL/L	10	30	0.0500	u
Trichloroethene	0.5169	0.5181	10.00	10.02	nL/L	0	30	0.0500	u
Toluene	1.5032	1.7721	10.00	11.79	nL/L	18	30	0.0500	u
Tetrachloroethene	0.9425	1.0316	10.00	10.95	nL/L	9	30	0.0500	u
Ethylbenzene	1.8627	2.2875	10.00	12.28	nL/L	23	30	0.0500	u
m,p-Xylenes	1.6467	1.9447	20.00	23.61	nL/L	18	30	0.0500	u
o-Xylene	1.6921	1.9753	10.00	11.68	nL/L	17	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.6187	10.00	12.13	nL/L	21	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.4309	10.00	12.31	nL/L	23	30	0.0500	u
Bromofluorobenzene	0.8080	0.7683	6.667	6.339	nL/L	-5	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	309897	-14.07	32.92	32.95	0.04
1,4-Difluorobenzene	1294000	1147000	-11.36	36.90	36.93	0.03
Chlorobenzene-d5	1155000	948054	-17.92	48.03	48.05	0.02

BO 06/02/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

BO 06/02/10 [Ethanol]: Combined split peak. [general version]

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200217655

Date : 05/31/10
 Sequence : MSAIR01 150

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
003	CCV/BS	QC546670	309897	32.95	1147000	36.93	948054	48.05
004	BSD	QC546671	319893	32.94	1153000	36.93	1000000	48.05
005	BLANK	QC546669	297554	32.97	996364	36.94	901188	48.05
006	SAMPLE	220297-001	339113	32.93	1144000	36.92	986048	48.05
007	SAMPLE	220210-004	312739	32.95	1054000	36.92	974244	48.05
008	SAMPLE	220210-006	303394	32.95	1055000	36.93	943493	48.05
009	SAMPLE	220210-007	285332	32.95	1001000	36.93	941805	48.05
011	SAMPLE	220210-005	277184	32.94	963870	36.93	918849	48.05
012	SAMPLE	220211-001	292795	32.96	977403	36.93	905429	48.05
013	SAMPLE	220211-002	300867	32.96	991279	36.93	894456	48.05
014	SAMPLE	220211-003	290655	32.95	1045000	36.92	891018	48.05
015	SAMPLE	220210-002	295517	32.95	1024000	36.93	937288	48.05
016	SAMPLE	220210-003	282140	32.95	979698	36.93	906482	48.05
017	SAMPLE	220209-001	293292	32.96	988684	36.93	907174	48.05
018	SAMPLE	220209-002	284121	32.96	1018000	36.93	886611	48.05
019	SAMPLE	220210-001	295819	32.95	1055000	36.93	877281	48.05
020	SAMPLE	220211-004	308611	32.96	1028000	36.93	910929	48.05
021	SAMPLE	220185-003	297510	32.94	1076000	36.92	935797	48.05
022	SAMPLE	220243-001	286392	32.94	1055000	36.92	900335	48.04

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200217655

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/31/10 02:32

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	150_001	X	IB			05/31/10 02:32	1.0	1
002	150_002	TUN	BFB	Air		05/31/10 03:35	1.0	1
003	150_003	CCV/BS	QC546670	Air	163541	05/31/10 04:38	1.0	2 1
004	150_004	BSD	QC546671	Air	163541	05/31/10 05:41	1.0	2 1
005	150_005	BLANK	QC546669	Air	163541	05/31/10 06:44	1.0	1
006	150_006	SAMPLE	220297-001	Air	163541	05/31/10 08:55	3.76	1
007	150_007	SAMPLE	220210-004	Air	163541	05/31/10 10:13	2.100	1
008	150_008	SAMPLE	220210-006	Air	163541	05/31/10 11:16	2.300	1
009	150_009	SAMPLE	220210-007	Air	163541	05/31/10 12:22	2.15	1
010	150_010	X	X	Air	163541	05/31/10 13:28	728.0	1
011	150_011	SAMPLE	220210-005	Air	163541	05/31/10 14:35	4.08	1
012	150_012	SAMPLE	220211-001	Air	163541	05/31/10 15:42	6.03	1
013	150_013	SAMPLE	220211-002	Air	163541	05/31/10 16:48	6.75	1
014	150_014	SAMPLE	220211-003	Air	163541	05/31/10 17:55	6.06	1
015	150_015	SAMPLE	220210-002	Air	163541	05/31/10 19:01	6.09	1
016	150_016	SAMPLE	220210-003	Air	163541	05/31/10 20:08	6.15	1
017	150_017	SAMPLE	220209-001	Air	163541	05/31/10 21:14	12.78	1
018	150_018	SAMPLE	220209-002	Air	163541	05/31/10 22:21	168.8	1
019	150_019	SAMPLE	220210-001	Air	163541	05/31/10 23:27	243.6	1
020	150_020	SAMPLE	220211-004	Air	163541	06/01/10 00:33	728.0	1
021	150_021	SAMPLE	220185-003	Air	163541	06/01/10 01:39	36.40	1
022	150_022	SAMPLE	220243-001	Air	163541	06/01/10 02:44	70.80	1

BO 06/02/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Analyst: BO Date: 06/02/10 Reviewer: SJD Date: 06/02/10

Standards used: 1=S13547 2=S14715

Prepared by / Date	Sample ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments	Asst/Checked	
B/S 5/24/10	220194-001	C00198	0.75 added	30.0 total added	126.4x	40x of 1.85x 2.16x	CAN C00186	
	219 994-002	C00231			80.0x	40x of 2x	CAN C00172	
	219 994-003	C00045			66x	40x of 1.65x	CAN C00177	
		-001	C00031			5056x	40x of 126.4x	CAN C00198
		-002	C00236			3200x	40x of 80x	CAN C00231
		220194-BLANK-003	C00022			2640x	40x of 66x	CAN C00031
	B/S 5/26/10	220244-001	C00235	9.82	23.10	2.35x		
	-002	C00020	9.10	24.06	2.64x			
	BLANK	C00218			1x			
	220069-003	C00215	1.5 added	30 total added	36.4x	20x of 1.82x	CAN C00083	
S/S 5/27/10	220211-004	C00354	1.5 added	30.0 total added	40.8x	20x of 2.04x	CAN C00250	
B/S 5/28/10	220185-001	C00056	13.21	23.85	1.77x			
		-002	C00268	12.95	23.84	1.84x		
		-003	C00266	12.69	23.15	1.82x		
		-004	C00189	12.11	23.67	1.95x		
		-005	C00176	12.71	23.32	1.83x		
		220297-003	C00171	11.84	23.49	1.98x		
		-001	C00279	12.71	23.84	1.88x		
		-002	C00289	12.78	23.76	1.86x		
		220243-001	C00079	13.11	23.23	1.77x		
		-002	C00159	12.96	23.73	1.83x		
		-003	C00148	12.50	24.01	1.92x		
		-004	C00287	11.99	23.40	1.95x		
		-005	C00126	12.99	23.76	1.83x		
		-006	C00136	12.33	23.57	1.91x		
	220211-004	C00005	1.5 added	30.0 total added	728x	20x of 36.4x	CAN C00354	
	BLANK	C00351			1x			
	220276-001	C00272	14.81	23.15	1.56x			
	-002	C00114	12.34	23.38	1.89x			
	-003	C00096	12.58	23.72	1.89x			
	-004	C00197	12.77	23.38	1.83x			
	-005	C00074	12.47	23.42	1.88x			
	-006	C00154	12.13	23.43	1.93x			
	-007	C00170	12.16	23.61	1.94x			

Continued on Page 38

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Date

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Date

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments
R 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00257	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
R 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.52	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	BLANK	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.18x CAN C00052
S 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x can C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x can C00119
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.93x can C00300
B 6/11/10	BLANK	C00355	—	—	1x	
	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x can C00280
	220278-007	C00360	0.75 added	30.0 total added	77.6x	40x of 1.94x can C00170
	220276-008	C0036	0.75 added	30.0 total added	75.6x	40x of 1.89x can C00270
S 6/1/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x can C00159
	220276-008	C00359	1.5 added	30.0 total added	157.2x	20x of 75.6x can C00361
	220380-002	C00263	10.21	23.16		
	-003	C00050	10.44	23.48		
	-004	C00183	10.38	23.65		
	-005	C00085	10.26	23.84		
	-006	C00060	9.16	23.63		
	-007	C00104	10.05	23.55		
	-008	C00108	9.61	23.32		

Continued on Page 39

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Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments	
Dns 5/10/10	219994-001	C00186	11.84	23.11	1.95x		
		-002 C00172	12.33	24.64	2.00x		
		-003 C00177	13.97	23.04	1.65x		
Pns 5/17/10	220069-004	C00283	12.70	23.25	1.83x		
	220070-001	C00062	11.08	23.51	2.12x		
		-002 C00182	12.31	23.87	1.87x		
		-003 C00109	8.64	23.36	2.70x		
		-004 C00125	9.54	23.30	2.44x		
		-005 C00072	9.60	23.62	2.46x		
	BLANK	C00017	—	—	1x		
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x	
Ans 5/21/10	220069-001	C00076	11.63	23.13	1.99x		
		-002 C00251	12.03	23.35	1.94x		
		-003 C00083	12.95	23.55	1.82x		
		-004 —	—	—	—	already filled 5/17/10	
		-005 C00069	11.84	23.43	1.98x		
		-006 C00113	11.78	24.30	2.06x		
		-007 C00130	11.35	24.09	2.12x		
		-008 C00057	10.26	23.12	2.25x		
		-009 C00107	10.40	23.02	2.21x		
		-010 C00288	8.99	23.44	2.61x		
		220071-001	C00150	10.84	23.64	2.19x	
		-002 C00142	10.71	23.29	2.18x		
		-003 C00286	10.98	23.46	2.14x		
		-004 C00166	10.98	23.53	2.14x		
		-005 C00120	11.08	23.17	2.09x		
		220211-001	C00144	11.62	23.35	2.01x	
	-002 C00281	10.37	23.33	2.25x			
	-003 C00285	11.42	23.02	2.02x			
	-004 C00250	11.50	23.41	2.04x			
	BLANK	C00219	—	—	1x		
Ans 5/21/10	220207-001	C00087 ^{5/21/10} C00142	11.40	23.09	2.03x	Can ID C00087	
		-002 C00260	11.63	23.38	2.01x		
		-003 C00241	11.26	23.08	2.05x		

Continued on Page 36

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Date



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220210
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
PMW-4-ML-10Q2	220210-001
PMW-4-U-10Q2	220210-002
PMW-4-M-10Q2	220210-003
PMW-7-U-10Q2	220210-004
PMW-7-M-10Q2	220210-005
PMW-8-U-10Q2	220210-006
PMW-8-M-10Q2	220210-007

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____
Project Manager

Date: 06/02/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220210
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/18/10
Samples Received: 05/18/10

This data package contains sample and QC results for seven air samples, requested for the above referenced project on 05/18/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

High surrogate recovery was observed for bromofluorobenzene in PMW-4-ML-10Q2 (lab # 220210-001).

A number of samples were diluted due to problematic matrix.

PMW-7-U-10Q2 (lab # 220210-004), PMW-8-U-10Q2 (lab # 220210-006), and PMW-8-M-10Q2 (lab # 220210-007) were diluted due to passive grab sampling.

No other analytical problems were encountered.

Chain of Custody

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 220210 Date Received 5-18-10 Number of coolers 1BX
Client CH2M AZ Honeywell Project BSUE QTR SUM

Date Opened 5-18-10 By (print) S. EVANS (sign) [Signature]
Date Logged in J By (print) J (sign) J

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info FEDERX# 7928 2743 1178

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many ZEA Name SIGNATURE Date 5-17-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)
Bubble Wrap Foam blocks Bags None
Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:
Type of ice used: Wet Blue/Gel None Temp(C)
Samples Received on ice & cold without a temperature blank
Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO
If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO
If YES, Who was called? By Date:

COMMENTS

Laboratory Job Number 220210

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air			
Lab #:	220210	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-4-ML-10Q2	Diln Fac:	243.6
Lab ID:	220210-001	Batch#:	163541
Matrix:	Air	Sampled:	05/13/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	120	ND	310	D1
Chloroethane	ND	120	ND	320	D1
1,1-Dichloroethene	ND	120	ND	480	D1
1,1-Dichloroethane	ND	120	ND	490	D1
MTBE	1,800	120	6,400	440	D1
cis-1,2-Dichloroethene	ND	120	ND	480	D1
n-Hexane	ND	120	ND	430	D1
Chloroform	ND	120	ND	590	D1
Benzene	860	120	2,700	390	D1
Trichloroethene	ND	120	ND	650	D1
Toluene	ND	120	ND	460	D1
Tetrachloroethene	ND	120	ND	830	D1
Ethylbenzene	ND	120	ND	530	D1
m,p-Xylenes	ND	120	ND	530	D1
o-Xylene	ND	120	ND	530	D1
1,3,5-Trimethylbenzene	ND	120	ND	600	D1
1,2,4-Trimethylbenzene	ND	120	ND	600	D1
Xylene (total)	ND	240	ND	1,100	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	160 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220210	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-4-U-10Q2	Diln Fac:	6.090
Lab ID:	220210-002	Batch#:	163541
Matrix:	Air	Sampled:	05/13/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.0	ND	7.8	D1
Chloroethane	ND	3.0	ND	8.0	D1
1,1-Dichloroethene	ND	3.0	ND	12	D1
1,1-Dichloroethane	ND	3.0	ND	12	D1
MTBE	ND	3.0	ND	11	D1
cis-1,2-Dichloroethene	ND	3.0	ND	12	D1
n-Hexane	ND	3.0	ND	11	D1
Chloroform	ND	3.0	ND	15	D1
Benzene	ND	3.0	ND	9.7	D1
Trichloroethene	ND	3.0	ND	16	D1
Toluene	ND	3.0	ND	11	D1
Tetrachloroethene	ND	3.0	ND	21	D1
Ethylbenzene	7.5	3.0	33	13	D1
m,p-Xylenes	21	3.0	89	13	D1
o-Xylene	ND	3.0	ND	13	D1
1,3,5-Trimethylbenzene	13	3.0	66	15	D1
1,2,4-Trimethylbenzene	66	3.0	320	15	D1
Xylene (total)	21	6.1	89	26	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	129	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220210	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-4-M-10Q2	Diln Fac:	6.150
Lab ID:	220210-003	Batch#:	163541
Matrix:	Air	Sampled:	05/13/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.1	ND	7.9	D1
Chloroethane	ND	3.1	ND	8.1	D1
1,1-Dichloroethene	ND	3.1	ND	12	D1
1,1-Dichloroethane	ND	3.1	ND	12	D1
MTBE	ND	3.1	ND	11	D1
cis-1,2-Dichloroethene	ND	3.1	ND	12	D1
n-Hexane	ND	3.1	ND	11	D1
Chloroform	29	3.1	140	15	D1
Benzene	ND	3.1	ND	9.8	D1
Trichloroethene	ND	3.1	ND	17	D1
Toluene	ND	3.1	ND	12	D1
Tetrachloroethene	ND	3.1	ND	21	D1
Ethylbenzene	ND	3.1	ND	13	D1
m,p-Xylenes	8.4	3.1	37	13	D1
o-Xylene	ND	3.1	ND	13	D1
1,3,5-Trimethylbenzene	7.6	3.1	38	15	D1
1,2,4-Trimethylbenzene	33	3.1	160	15	D1
Xylene (total)	8.4	6.2	37	27	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	112	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220210	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-7-U-10Q2	Diln Fac:	2.100
Lab ID:	220210-004	Batch#:	163541
Matrix:	Air	Sampled:	05/17/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.7	D1
Chloroethane	ND	1.1	ND	2.8	D1
1,1-Dichloroethene	ND	1.1	ND	4.2	D1
1,1-Dichloroethane	ND	1.1	ND	4.2	D1
MTBE	ND	1.1	ND	3.8	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.2	D1
n-Hexane	ND	1.1	ND	3.7	D1
Chloroform	ND	1.1	ND	5.1	D1
Benzene	ND	1.1	ND	3.4	D1
Trichloroethene	ND	1.1	ND	5.6	D1
Toluene	ND	1.1	ND	4.0	D1
Tetrachloroethene	ND	1.1	ND	7.1	D1
Ethylbenzene	ND	1.1	ND	4.6	D1
m,p-Xylenes	2.4	1.1	10	4.6	D1
o-Xylene	ND	1.1	ND	4.6	D1
1,3,5-Trimethylbenzene	2.2	1.1	11	5.2	D1
1,2,4-Trimethylbenzene	9.9	1.1	48	5.2	D1
Xylene (total)	2.4	2.1	10	9.1	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	111	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220210	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-7-M-10Q2	Diln Fac:	4.080
Lab ID:	220210-005	Batch#:	163541
Matrix:	Air	Sampled:	05/17/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.0	ND	5.2	D1
Chloroethane	ND	2.0	ND	5.4	D1
1,1-Dichloroethene	ND	2.0	ND	8.1	D1
1,1-Dichloroethane	ND	2.0	ND	8.3	D1
MTBE	ND	2.0	ND	7.4	D1
cis-1,2-Dichloroethene	ND	2.0	ND	8.1	D1
n-Hexane	ND	2.0	ND	7.2	D1
Chloroform	2.9	2.0	14	10	D1
Benzene	ND	2.0	ND	6.5	D1
Trichloroethene	ND	2.0	ND	11	D1
Toluene	ND	2.0	ND	7.7	D1
Tetrachloroethene	ND	2.0	ND	14	D1
Ethylbenzene	ND	2.0	ND	8.9	D1
m,p-Xylenes	6.0	2.0	26	8.9	D1
o-Xylene	ND	2.0	ND	8.9	D1
1,3,5-Trimethylbenzene	5.0	2.0	25	10	D1
1,2,4-Trimethylbenzene	22	2.0	110	10	D1
Xylene (total)	6.0	4.1	26	18	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	114	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220210	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-8-U-10Q2	Diln Fac:	2.300
Lab ID:	220210-006	Batch#:	163541
Matrix:	Air	Sampled:	05/17/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.2	ND	2.9	D1
Chloroethane	ND	1.2	ND	3.0	D1
1,1-Dichloroethene	ND	1.2	ND	4.6	D1
1,1-Dichloroethane	ND	1.2	ND	4.7	D1
MTBE	ND	1.2	ND	4.1	D1
cis-1,2-Dichloroethene	ND	1.2	ND	4.6	D1
n-Hexane	ND	1.2	ND	4.1	D1
Chloroform	ND	1.2	ND	5.6	D1
Benzene	ND	1.2	ND	3.7	D1
Trichloroethene	ND	1.2	ND	6.2	D1
Toluene	ND	1.2	ND	4.3	D1
Tetrachloroethene	ND	1.2	ND	7.8	D1
Ethylbenzene	ND	1.2	ND	5.0	D1
m,p-Xylenes	2.8	1.2	12	5.0	D1
o-Xylene	ND	1.2	ND	5.0	D1
1,3,5-Trimethylbenzene	2.3	1.2	11	5.7	D1
1,2,4-Trimethylbenzene	11	1.2	54	5.7	D1
Xylene (total)	2.8	2.3	12	10	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	108	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220210	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	PMW-8-M-10Q2	Diln Fac:	2.150
Lab ID:	220210-007	Batch#:	163541
Matrix:	Air	Sampled:	05/17/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.7	D1
Chloroethane	ND	1.1	ND	2.8	D1
1,1-Dichloroethene	ND	1.1	ND	4.3	D1
1,1-Dichloroethane	ND	1.1	ND	4.4	D1
MTBE	ND	1.1	ND	3.9	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.3	D1
n-Hexane	ND	1.1	ND	3.8	D1
Chloroform	ND	1.1	ND	5.2	D1
Benzene	ND	1.1	ND	3.4	D1
Trichloroethene	ND	1.1	ND	5.8	D1
Toluene	ND	1.1	ND	4.1	D1
Tetrachloroethene	ND	1.1	ND	7.3	D1
Ethylbenzene	ND	1.1	ND	4.7	D1
m,p-Xylenes	1.4	1.1	6.1	4.7	D1
o-Xylene	ND	1.1	ND	4.7	D1
1,3,5-Trimethylbenzene	1.2	1.1	5.7	5.3	D1
1,2,4-Trimethylbenzene	6.0	1.1	30	5.3	D1
Xylene (total)	1.4	1.1	6.1	4.7	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	107	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220210	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546669	Diln Fac:	1.000
Matrix:	Air	Batch#:	163541
Units (V):	ppbv	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	95	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220210	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163541
Units (V):	ppbv	Analyzed:	05/31/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546670

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	11.27	113	70-130		
Chloroethane	10.00	11.18	112	70-130		
1,1-Dichloroethene	10.00	11.22	112	66-139		
1,1-Dichloroethane	10.00	11.37	114	61-134		
MTBE	10.00	11.83	118	70-130		
cis-1,2-Dichloroethene	10.00	11.15	112	70-130		
n-Hexane	10.00	11.57	116	70-130		
Chloroform	10.00	10.53	105	70-130		
Benzene	10.00	10.98	110	70-130		
Trichloroethene	10.00	10.02	100	70-130		
Toluene	10.00	11.79	118	70-130		
Tetrachloroethene	10.00	10.95	109	70-130		
Ethylbenzene	10.00	12.28	123	70-130		
m,p-Xylenes	20.00	23.61	118	70-130		
o-Xylene	10.00	11.68	117	70-130		
1,3,5-Trimethylbenzene	10.00	12.13	121	70-130		
1,2,4-Trimethylbenzene	10.00	12.31	123	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

Type: BSD Lab ID: QC546671

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.93	109	70-130	3	25		
Chloroethane	10.00	10.90	109	70-130	3	25		
1,1-Dichloroethene	10.00	10.88	109	66-139	3	10		
1,1-Dichloroethane	10.00	10.99	110	61-134	3	15		
MTBE	10.00	11.58	116	70-130	2	25		
cis-1,2-Dichloroethene	10.00	10.86	109	70-130	3	25		
n-Hexane	10.00	10.81	108	70-130	7	25		
Chloroform	10.00	10.24	102	70-130	3	25		
Benzene	10.00	11.18	112	70-130	2	25		
Trichloroethene	10.00	9.898	99	70-130	1	25		
Toluene	10.00	11.00	110	70-130	7	25		
Tetrachloroethene	10.00	10.47	105	70-130	4	25		
Ethylbenzene	10.00	11.41	114	70-130	7	25		
m,p-Xylenes	20.00	22.31	112	70-130	6	25		
o-Xylene	10.00	11.47	115	70-130	2	25		
1,3,5-Trimethylbenzene	10.00	11.33	113	70-130	7	25		
1,2,4-Trimethylbenzene	10.00	11.60	116	70-130	6	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	102	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220210 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220210 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200217655002 File : 150_002 Time : 31-MAY-2010 03:35

Standards: S13547 (150X)

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	29507	13.05	
75	30% - 66% of mass 95	90780	40.14	
95		226183	100.00	
96	5% - 9% of mass 95	15592	6.89	
173	< 2% of mass 174	289	0.16	
174	50% - 120% of mass 95	179195	79.23	
175	4% - 9% of mass 174	10878	6.07	
176	93% - 101% of mass 174	170150	94.95	
177	5% - 9% of mass 176	10256	6.03	

SJD 06/02/10 : Changed to tune

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220210 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

Page 3 of 3

1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220210 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220210 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546670 IDF : 1.0
 Seqnum : 1200217655003.4 File : 150_003 Time : 31-MAY-2010 04:38
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14715, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.9127	10.00	11.27	nL/L	13	30	0.0500	u
Chloroethane	0.0815	0.0911	10.00	11.18	nL/L	12	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1513	10.00	11.22	nL/L	12	30	0.0500	u
1,1-Dichloroethane	2.2145	2.5170	10.00	11.37	nL/L	14	30	0.0500	u
MTBE	1.4577	1.7232	10.00	11.83	nL/L	18	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.8341	10.00	11.15	nL/L	12	30	0.0500	u
n-Hexane	0.9022	1.0440	10.00	11.57	nL/L	16	30	0.0500	u
Chloroform	2.4999	2.6331	10.00	10.53	nL/L	5	30	0.0500	u
Benzene	0.5014	0.5504	10.00	10.98	nL/L	10	30	0.0500	u
Trichloroethene	0.5169	0.5181	10.00	10.02	nL/L	0	30	0.0500	u
Toluene	1.5032	1.7721	10.00	11.79	nL/L	18	30	0.0500	u
Tetrachloroethene	0.9425	1.0316	10.00	10.95	nL/L	9	30	0.0500	u
Ethylbenzene	1.8627	2.2875	10.00	12.28	nL/L	23	30	0.0500	u
m,p-Xylenes	1.6467	1.9447	20.00	23.61	nL/L	18	30	0.0500	u
o-Xylene	1.6921	1.9753	10.00	11.68	nL/L	17	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.6187	10.00	12.13	nL/L	21	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.4309	10.00	12.31	nL/L	23	30	0.0500	u
Bromofluorobenzene	0.8080	0.7683	6.667	6.339	nL/L	-5	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	309897	-14.07	32.92	32.95	0.04
1,4-Difluorobenzene	1294000	1147000	-11.36	36.90	36.93	0.03
Chlorobenzene-d5	1155000	948054	-17.92	48.03	48.05	0.02

BO 06/02/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

BO 06/02/10 [Ethanol]: Combined split peak. [general version]

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200217655

Date : 05/31/10
 Sequence : MSAIR01 150

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
003	CCV/BS	QC546670	309897	32.95	1147000	36.93	948054	48.05
004	BSD	QC546671	319893	32.94	1153000	36.93	1000000	48.05
005	BLANK	QC546669	297554	32.97	996364	36.94	901188	48.05
006	SAMPLE	220297-001	339113	32.93	1144000	36.92	986048	48.05
007	SAMPLE	220210-004	312739	32.95	1054000	36.92	974244	48.05
008	SAMPLE	220210-006	303394	32.95	1055000	36.93	943493	48.05
009	SAMPLE	220210-007	285332	32.95	1001000	36.93	941805	48.05
011	SAMPLE	220210-005	277184	32.94	963870	36.93	918849	48.05
012	SAMPLE	220211-001	292795	32.96	977403	36.93	905429	48.05
013	SAMPLE	220211-002	300867	32.96	991279	36.93	894456	48.05
014	SAMPLE	220211-003	290655	32.95	1045000	36.92	891018	48.05
015	SAMPLE	220210-002	295517	32.95	1024000	36.93	937288	48.05
016	SAMPLE	220210-003	282140	32.95	979698	36.93	906482	48.05
017	SAMPLE	220209-001	293292	32.96	988684	36.93	907174	48.05
018	SAMPLE	220209-002	284121	32.96	1018000	36.93	886611	48.05
019	SAMPLE	220210-001	295819	32.95	1055000	36.93	877281	48.05
020	SAMPLE	220211-004	308611	32.96	1028000	36.93	910929	48.05
021	SAMPLE	220185-003	297510	32.94	1076000	36.92	935797	48.05
022	SAMPLE	220243-001	286392	32.94	1055000	36.92	900335	48.04

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200217655

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/31/10 02:32

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	150_001	X	IB			05/31/10 02:32	1.0	1
002	150_002	TUN	BFB	Air		05/31/10 03:35	1.0	1
003	150_003	CCV/BS	QC546670	Air	163541	05/31/10 04:38	1.0	2 1
004	150_004	BSD	QC546671	Air	163541	05/31/10 05:41	1.0	2 1
005	150_005	BLANK	QC546669	Air	163541	05/31/10 06:44	1.0	1
006	150_006	SAMPLE	220297-001	Air	163541	05/31/10 08:55	3.76	1
007	150_007	SAMPLE	220210-004	Air	163541	05/31/10 10:13	2.100	1
008	150_008	SAMPLE	220210-006	Air	163541	05/31/10 11:16	2.300	1
009	150_009	SAMPLE	220210-007	Air	163541	05/31/10 12:22	2.15	1
010	150_010	X	X	Air	163541	05/31/10 13:28	728.0	1
011	150_011	SAMPLE	220210-005	Air	163541	05/31/10 14:35	4.08	1
012	150_012	SAMPLE	220211-001	Air	163541	05/31/10 15:42	6.03	1
013	150_013	SAMPLE	220211-002	Air	163541	05/31/10 16:48	6.75	1
014	150_014	SAMPLE	220211-003	Air	163541	05/31/10 17:55	6.06	1
015	150_015	SAMPLE	220210-002	Air	163541	05/31/10 19:01	6.09	1
016	150_016	SAMPLE	220210-003	Air	163541	05/31/10 20:08	6.15	1
017	150_017	SAMPLE	220209-001	Air	163541	05/31/10 21:14	12.78	1
018	150_018	SAMPLE	220209-002	Air	163541	05/31/10 22:21	168.8	1
019	150_019	SAMPLE	220210-001	Air	163541	05/31/10 23:27	243.6	1
020	150_020	SAMPLE	220211-004	Air	163541	06/01/10 00:33	728.0	1
021	150_021	SAMPLE	220185-003	Air	163541	06/01/10 01:39	36.40	1
022	150_022	SAMPLE	220243-001	Air	163541	06/01/10 02:44	70.80	1

BO 06/02/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Analyst: BO Date: 06/02/10 Reviewer: SJD Date: 06/02/10

Standards used: 1=S13547 2=S14715

Prepared by / Date	Sample ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments	Asst/Checked	
BS 5/24/10	220194-001	C00198	0.75 added	30.0 total added	126.4x	40x of 1.85x	2.16x CAN C00186	
	219 994-002	C00231			80.0x	40x of 2x	CAN C00172	
	219 994-003	C00045			66x	40x of 1.65x	CAN C00177	
		-001	C00031			5056x	40x of 126.4x	CAN C00198
		-002	C00236			3200x	40x of 80x	CAN C00231
		220194-BLANK	-003 C00022			2640x	40x of 66x	CAN C00031
BS 5/26/10	220244-001	C00235	9.82	23.10	2.35x			
		-002 C00020	9.10	24.06	2.64x			
		BLANK			1x			
	220069-003	C00215	1.5 added	30 total added	36.4x	20x of 1.82x	CAN C00083	
SP 5/27/10	220211-004	C00354	1.5 added	30.0 total added	40.8x	20x of 2.04x	CAN C00250	
BS 5/28/10	220185-001	C00056	13.21	23.85	1.77x			
		-002 C00268	12.95	23.84	1.84x			
		-003 C00266	12.69	23.15	1.82x			
		-004 C00189	12.11	23.67	1.95x			
		-005 C00176	12.71	23.32	1.83x			
		220297-003	C00171	11.84	23.49	1.98x		
		-001 C00279	12.71	23.84	1.88x			
		-002 C00289	12.78	23.76	1.86x			
		220243-001	C00079	13.11	23.23	1.77x		
		-002 C00159	12.96	23.73	1.83x			
		-003 C00148	12.50	24.01	1.92x			
		-004 C00287	11.99	23.40	1.95x			
		-005 C00126	12.99	23.76	1.83x			
		-006 C00136	12.33	23.57	1.91x			
	220211-004	C00005	1.5 added	30.0 total added	728x	20x of 36.4x	CAN C00354	
	BLANK	C00351			1x			
	220276-001	C00272	14.81	23.15	1.56x			
	-002	C00114	12.34	23.38	1.89x			
	-003	C00096	12.58	23.72	1.89x			
	-004	C00197	12.77	23.38	1.83x			
	-005	C00074	12.47	23.42	1.88x			
	-006	C00154	12.13	23.43	1.93x			
	-007	C00170	12.16	23.61	1.94x			

Continued on Page 38

Read and Understood By

Signed

Date

Signed

Date

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments
R 5/28/10	220276-008	C00270	12.77	24.15	1.82x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00257	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
R 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.52	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	BLANK	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.18x CAN C00152
S 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x can C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x can C00119
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.93x can C00300
B 6/11/10	BLANK	C00355	—	—	1x	
	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x can C00280
	220278-007	C00360	0.75 added	30.0 total added	77.6x	40x of 1.94x can C00170
	220276-008	C0036	0.75 added	30.0 total added	75.6x	40x of 1.89x can C00270
S 6/1/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x can C00159
	220276-008	C00359	1.5 added	30.0 total added	157.2x	20x of 75.6x can C00361
	220380-002	C00263	10.21	23.16		
	-003	C00050	10.44	23.48		
	-004	C00183	10.38	23.65		
	-005	C00085	10.26	23.84		
	-006	C00060	9.16	23.63		
	-007	C00104	10.05	23.55		
	-008	C00108	9.61	23.32		

Continued on Page 39

Read and Understood By

Signed

Date

Signed

Date

Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments	
Dns 5/10/10	219994-001	C00186	11.84	23.11	1.95x		
		-002 C00172	12.33	24.64	2.00x		
		-003 C00177	13.97	23.04	1.65x		
Pns 5/17/10	220069-004	C00283	12.70	23.25	1.83x		
	220070-001	C00062	11.08	23.51	2.12x		
		-002 C00182	12.31	23.87	1.87x		
		-003 C00109	8.64	23.36	2.70x		
		-004 C00125	9.54	23.30	2.44x		
		-005 C00072	9.60	23.62	2.46x		
	BLANK	C00017	—	—	1x		
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x	
Ans 5/21/10	220069-001	C00076	11.63	23.13	1.99x		
		-002 C00251	12.03	23.35	1.94x		
		-003 C00083	12.95	23.55	1.82x		
		-004 —	—	—	—	already filled 5/17/10	
		-005 C00069	11.84	23.43	1.98x		
		-006 C00113	11.78	24.30	2.06x		
		-007 C00130	11.35	24.09	2.12x		
		-008 C00057	10.26	23.12	2.25x		
		-009 C00107	10.40	23.02	2.21x		
		-010 C00288	8.99	23.44	2.61x		
		220071-001	C00150	10.84	23.64	2.19x	
		-002 C00142	10.71	23.29	2.18x		
		-003 C00286	10.98	23.46	2.14x		
		-004 C00166	10.98	23.53	2.14x		
		-005 C00120	11.08	23.17	2.09x		
		220211-001	C00144	11.62	23.35	2.01x	
	-002 C00281	10.37	23.33	2.25x			
	-003 C00285	11.42	23.02	2.02x			
	-004 C00250	11.50	23.41	2.04x			
	BLANK	C00219	—	—	1x		
Ans 5/21/10	220207-001	C00087 ^{2/21/10} C00142	11.40	23.09	2.03x	Can ID C00087	
		-002 C00260	11.63	23.38	2.01x		
		-003 C00241	11.26	23.08	2.05x		

Continued on Page 36

Read and Understood By

Signed

Date

Signed

Date



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 220211
ANALYTICAL REPORT**

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
SMW-7-U-10Q2	220211-001
SMW-7-M-10Q2	220211-002
SMW-7-L-10Q2	220211-003
BV-10N-10Q2	220211-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: *Deviné N. Tetrault*
Project Manager

Date: 06/02/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220211
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/18/10
Samples Received: 05/18/10

This data package contains sample and QC results for four air samples, requested for the above referenced project on 05/18/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

High surrogate recovery was observed for bromofluorobenzene in SMW-7-U-10Q2 (lab # 220211-001).

A number of samples were diluted due to problematic matrix.

No other analytical problems were encountered.

Chain of Custody

22021

Curtis & Tompkins Laboratories		Honeywell Chain Of Custody / Analysis Request										AESI Ref: 40210.49633	
2323 5th St. Berkeley, CA 94710 510-204-2221		Privileged & Confidential Tuesdai Powers, Critigen Melanie West, Critigen Client Contact: (name, co., address) CH2M HILL 2025 South Plaza Drive, Suite 300 Tempe, AZ 85282 Preliminary Data To Tuesdai Powers, Critigen, Melanie West, Critigen Sample Receipt Tuesdai Powers, Critigen, Melanie West, Critigen Acknowledgement To Tuesdai Powers, Critigen, Melanie West, Critigen Hard Copy To Tuesdai Powers and Melanie West, Critigen Invoice To: Honeywell/Copy Berney Kidd										COG#: 37380	
Sampling Co.: CH2M HILL		Site Name: Sky Harbor AZ		Phase: Sampling Program		Lab ID		CTBERK		Lab Proj # (SDG):			
Client Contact: (name, co., address)		Location of Site: Phoenix, AZ		BSVE QTR SVM		Site ID		SKYHARBOR		Lab Job #			
CH2M HILL		Preservative: 0 0 0 0				Authorized User: Honeywell				Excel & Text File Order			
PO # 5101516		Field Filtered Sample ?		O2 and CO2 (ASTM 1946)		Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.				Sampling Method (code)		Canister Serial No.	
Analysis Turnaround Time (TAT): 10 Consultant		Composite/Grab		TPH (TO-3M)									
Full Report TAT: 10		Units		Melane (TO-3M)									
		Sample Date		Sample Time		Sample Type		Sample Matrix		Sample Purpose		# of Cont.	
		1 5/11/10 7:41		1348		SV		AIR		REG		1	
		2 5/11/10 7:41		1405		SV		AIR		REG		1	
		3 5/11/10 7:41		1473		SV		AIR		REG		1	
		4 5/11/10 7:41											
		5 5/11/10 7:41		1040		SV		AIR		REG		1	
		6											
		7											
		8											
		9											
		10											
		11											
		12											

Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact
<i>Amal Dawia</i>	1100	<i>Berney Kidd</i>	1100	Cooler Temp.	
<i>Berney Kidd</i>	1100	<i>Feed</i>	1100	Cooler Temp.	

Preservatives: (Other: Specify):
 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH, Zn Acetate); 6 (NaOH, Zn Acetate); 7 (H2SO4 pH<2); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2); 11 (4C NaOH (pH>12) Acetic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

REC'D BY *Berney Kidd*
 5.18.10
 1100

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 220211 Date Received 5-18-10 Number of coolers 1 BX
Client CH2M AZ HONEYWELL Project RSUE QTR SUM

Date Opened 5-18-10 By (print) S. EVANS (sign) [Signature]
Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info FEDERX# 7928 2743 0425 0458

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 2 EA Name SIGNATURE Date 5-17-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Cloth material, Foam blocks, Cardboard, Bags, Styrofoam, None, Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(C)

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.

Laboratory Job Number 220211

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air			
Lab #:	220211	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-7-U-10Q2	Diln Fac:	6.030
Lab ID:	220211-001	Batch#:	163541
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.0	ND	7.7	D1
Chloroethane	ND	3.0	ND	8.0	D1
1,1-Dichloroethene	ND	3.0	ND	12	D1
1,1-Dichloroethane	ND	3.0	ND	12	D1
MTBE	ND	3.0	ND	11	D1
cis-1,2-Dichloroethene	ND	3.0	ND	12	D1
n-Hexane	ND	3.0	ND	11	D1
Chloroform	ND	3.0	ND	15	D1
Benzene	ND	3.0	ND	9.6	D1
Trichloroethene	ND	3.0	ND	16	D1
Toluene	ND	3.0	ND	11	D1
Tetrachloroethene	ND	3.0	ND	20	D1
Ethylbenzene	ND	3.0	ND	13	D1
m,p-Xylenes	6.8	3.0	29	13	D1
o-Xylene	ND	3.0	ND	13	D1
1,3,5-Trimethylbenzene	4.9	3.0	24	15	D1
1,2,4-Trimethylbenzene	21	3.0	100	15	D1
Xylene (total)	6.8	6.0	29	26	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	132 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220211	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-7-M-10Q2	Diln Fac:	6.750
Lab ID:	220211-002	Batch#:	163541
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.4	ND	8.6	D1
Chloroethane	ND	3.4	ND	8.9	D1
1,1-Dichloroethene	ND	3.4	ND	13	D1
1,1-Dichloroethane	ND	3.4	ND	14	D1
MTBE	ND	3.4	ND	12	D1
cis-1,2-Dichloroethene	ND	3.4	ND	13	D1
n-Hexane	ND	3.4	ND	12	D1
Chloroform	ND	3.4	ND	16	D1
Benzene	ND	3.4	ND	11	D1
Trichloroethene	ND	3.4	ND	18	D1
Toluene	ND	3.4	ND	13	D1
Tetrachloroethene	ND	3.4	ND	23	D1
Ethylbenzene	ND	3.4	ND	15	D1
m,p-Xylenes	5.9	3.4	25	15	D1
o-Xylene	ND	3.4	ND	15	D1
1,3,5-Trimethylbenzene	3.5	3.4	17	17	D1
1,2,4-Trimethylbenzene	15	3.4	73	17	D1
Xylene (total)	5.9	3.4	25	15	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	124	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220211	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-7-L-10Q2	Diln Fac:	6.060
Lab ID:	220211-003	Batch#:	163541
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.0	ND	7.7	D1
Chloroethane	ND	3.0	ND	8.0	D1
1,1-Dichloroethene	69	3.0	280	12	D1
1,1-Dichloroethane	120	3.0	490	12	D1
MTBE	ND	3.0	ND	11	D1
cis-1,2-Dichloroethene	17	3.0	65	12	D1
n-Hexane	ND	3.0	ND	11	D1
Chloroform	3.1	3.0	15	15	D1
Benzene	ND	3.0	ND	9.7	D1
Trichloroethene	160	3.0	860	16	D1
Toluene	ND	3.0	ND	11	D1
Tetrachloroethene	7.1	3.0	48	21	D1
Ethylbenzene	ND	3.0	ND	13	D1
m,p-Xylenes	3.3	3.0	14	13	D1
o-Xylene	ND	3.0	ND	13	D1
1,3,5-Trimethylbenzene	ND	3.0	ND	15	D1
1,2,4-Trimethylbenzene	10	3.0	49	15	D1
Xylene (total)	3.3	3.0	14	13	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	113	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220211	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BV-10N-10Q2	Diln Fac:	728.0
Lab ID:	220211-004	Batch#:	163541
Matrix:	Air	Sampled:	05/11/10
Units (V):	ppbv	Received:	05/18/10
Units (M):	ug/m3	Analyzed:	06/01/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	360	ND	930	D1
Chloroethane	ND	360	ND	960	D1
1,1-Dichloroethene	ND	360	ND	1,400	D1
1,1-Dichloroethane	ND	360	ND	1,500	D1
MTBE	ND	360	ND	1,300	D1
cis-1,2-Dichloroethene	ND	360	ND	1,400	D1
n-Hexane	ND	360	ND	1,300	D1
Chloroform	ND	360	ND	1,800	D1
Benzene	ND	360	ND	1,200	D1
Trichloroethene	ND	360	ND	2,000	D1
Toluene	ND	360	ND	1,400	D1
Tetrachloroethene	ND	360	ND	2,500	D1
Ethylbenzene	370	360	1,600	1,600	D1
m,p-Xylenes	620	360	2,700	1,600	D1
o-Xylene	ND	360	ND	1,600	D1
1,3,5-Trimethylbenzene	ND	360	ND	1,800	D1
1,2,4-Trimethylbenzene	670	360	3,300	1,800	D1
Xylene (total)	620	360	2,700	1,600	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	129	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220211	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546669	Diln Fac:	1.000
Matrix:	Air	Batch#:	163541
Units (V):	ppbv	Analyzed:	05/31/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	95	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220211	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163541
Units (V):	ppbv	Analyzed:	05/31/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546670

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	11.27	113	70-130		
Chloroethane	10.00	11.18	112	70-130		
1,1-Dichloroethene	10.00	11.22	112	66-139		
1,1-Dichloroethane	10.00	11.37	114	61-134		
MTBE	10.00	11.83	118	70-130		
cis-1,2-Dichloroethene	10.00	11.15	112	70-130		
n-Hexane	10.00	11.57	116	70-130		
Chloroform	10.00	10.53	105	70-130		
Benzene	10.00	10.98	110	70-130		
Trichloroethene	10.00	10.02	100	70-130		
Toluene	10.00	11.79	118	70-130		
Tetrachloroethene	10.00	10.95	109	70-130		
Ethylbenzene	10.00	12.28	123	70-130		
m,p-Xylenes	20.00	23.61	118	70-130		
o-Xylene	10.00	11.68	117	70-130		
1,3,5-Trimethylbenzene	10.00	12.13	121	70-130		
1,2,4-Trimethylbenzene	10.00	12.31	123	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

Type: BSD Lab ID: QC546671

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.93	109	70-130	3	25		
Chloroethane	10.00	10.90	109	70-130	3	25		
1,1-Dichloroethene	10.00	10.88	109	66-139	3	10		
1,1-Dichloroethane	10.00	10.99	110	61-134	3	15		
MTBE	10.00	11.58	116	70-130	2	25		
cis-1,2-Dichloroethene	10.00	10.86	109	70-130	3	25		
n-Hexane	10.00	10.81	108	70-130	7	25		
Chloroform	10.00	10.24	102	70-130	3	25		
Benzene	10.00	11.18	112	70-130	2	25		
Trichloroethene	10.00	9.898	99	70-130	1	25		
Toluene	10.00	11.00	110	70-130	7	25		
Tetrachloroethene	10.00	10.47	105	70-130	4	25		
Ethylbenzene	10.00	11.41	114	70-130	7	25		
m,p-Xylenes	20.00	22.31	112	70-130	6	25		
o-Xylene	10.00	11.47	115	70-130	2	25		
1,3,5-Trimethylbenzene	10.00	11.33	113	70-130	7	25		
1,2,4-Trimethylbenzene	10.00	11.60	116	70-130	6	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	102	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220211 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220211 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200217655002 File : 150_002 Time : 31-MAY-2010 03:35

Standards: S13547 (150X)

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	29507	13.05	
75	30% - 66% of mass 95	90780	40.14	
95		226183	100.00	
96	5% - 9% of mass 95	15592	6.89	
173	< 2% of mass 174	289	0.16	
174	50% - 120% of mass 95	179195	79.23	
175	4% - 9% of mass 174	10878	6.07	
176	93% - 101% of mass 174	170150	94.95	
177	5% - 9% of mass 176	10256	6.03	

SJD 06/02/10 : Changed to tune

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220211 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

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1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220211 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220211 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546670 IDF : 1.0
 Seqnum : 1200217655003.3 File : 150_003 Time : 31-MAY-2010 04:38
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14715, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.9127	10.00	11.27	nL/L	13	30	0.0500	u
Chloroethane	0.0815	0.0911	10.00	11.18	nL/L	12	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1513	10.00	11.22	nL/L	12	30	0.0500	u
1,1-Dichloroethane	2.2145	2.5170	10.00	11.37	nL/L	14	30	0.0500	u
MTBE	1.4577	1.7232	10.00	11.83	nL/L	18	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.8341	10.00	11.15	nL/L	12	30	0.0500	u
n-Hexane	0.9022	1.0440	10.00	11.57	nL/L	16	30	0.0500	u
Chloroform	2.4999	2.6331	10.00	10.53	nL/L	5	30	0.0500	u
Benzene	0.5014	0.5504	10.00	10.98	nL/L	10	30	0.0500	u
Trichloroethene	0.5169	0.5181	10.00	10.02	nL/L	0	30	0.0500	u
Toluene	1.5032	1.7721	10.00	11.79	nL/L	18	30	0.0500	u
Tetrachloroethene	0.9425	1.0316	10.00	10.95	nL/L	9	30	0.0500	u
Ethylbenzene	1.8627	2.2875	10.00	12.28	nL/L	23	30	0.0500	u
m,p-Xylenes	1.6467	1.9447	20.00	23.61	nL/L	18	30	0.0500	u
o-Xylene	1.6921	1.9753	10.00	11.68	nL/L	17	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.6187	10.00	12.13	nL/L	21	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.4309	10.00	12.31	nL/L	23	30	0.0500	u
Bromofluorobenzene	0.8080	0.7683	6.667	6.339	nL/L	-5	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	309897	-14.07	32.92	32.95	0.04
1,4-Difluorobenzene	1294000	1147000	-11.36	36.90	36.93	0.03
Chlorobenzene-d5	1155000	948054	-17.92	48.03	48.05	0.02

BO 06/02/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

BO 06/02/10 [Ethanol]: Combined split peak. [general version]

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200217655

Date : 05/31/10
 Sequence : MSAIR01 150

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
003	CCV/BS	QC546670	309897	32.95	1147000	36.93	948054	48.05
004	BSD	QC546671	319893	32.94	1153000	36.93	1000000	48.05
005	BLANK	QC546669	297554	32.97	996364	36.94	901188	48.05
006	SAMPLE	220297-001	339113	32.93	1144000	36.92	986048	48.05
007	SAMPLE	220210-004	312739	32.95	1054000	36.92	974244	48.05
008	SAMPLE	220210-006	303394	32.95	1055000	36.93	943493	48.05
009	SAMPLE	220210-007	285332	32.95	1001000	36.93	941805	48.05
011	SAMPLE	220210-005	277184	32.94	963870	36.93	918849	48.05
012	SAMPLE	220211-001	292795	32.96	977403	36.93	905429	48.05
013	SAMPLE	220211-002	300867	32.96	991279	36.93	894456	48.05
014	SAMPLE	220211-003	290655	32.95	1045000	36.92	891018	48.05
015	SAMPLE	220210-002	295517	32.95	1024000	36.93	937288	48.05
016	SAMPLE	220210-003	282140	32.95	979698	36.93	906482	48.05
017	SAMPLE	220209-001	293292	32.96	988684	36.93	907174	48.05
018	SAMPLE	220209-002	284121	32.96	1018000	36.93	886611	48.05
019	SAMPLE	220210-001	295819	32.95	1055000	36.93	877281	48.05
020	SAMPLE	220211-004	308611	32.96	1028000	36.93	910929	48.05
021	SAMPLE	220185-003	297510	32.94	1076000	36.92	935797	48.05
022	SAMPLE	220243-001	286392	32.94	1055000	36.92	900335	48.04

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200217655

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/31/10 02:32

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	150_001	X	IB			05/31/10 02:32	1.0	1
002	150_002	TUN	BFB	Air		05/31/10 03:35	1.0	1
003	150_003	CCV/BS	QC546670	Air	163541	05/31/10 04:38	1.0	2 1
004	150_004	BSD	QC546671	Air	163541	05/31/10 05:41	1.0	2 1
005	150_005	BLANK	QC546669	Air	163541	05/31/10 06:44	1.0	1
006	150_006	SAMPLE	220297-001	Air	163541	05/31/10 08:55	3.76	1
007	150_007	SAMPLE	220210-004	Air	163541	05/31/10 10:13	2.100	1
008	150_008	SAMPLE	220210-006	Air	163541	05/31/10 11:16	2.300	1
009	150_009	SAMPLE	220210-007	Air	163541	05/31/10 12:22	2.15	1
010	150_010	X	X	Air	163541	05/31/10 13:28	728.0	1
011	150_011	SAMPLE	220210-005	Air	163541	05/31/10 14:35	4.08	1
012	150_012	SAMPLE	220211-001	Air	163541	05/31/10 15:42	6.03	1
013	150_013	SAMPLE	220211-002	Air	163541	05/31/10 16:48	6.75	1
014	150_014	SAMPLE	220211-003	Air	163541	05/31/10 17:55	6.06	1
015	150_015	SAMPLE	220210-002	Air	163541	05/31/10 19:01	6.09	1
016	150_016	SAMPLE	220210-003	Air	163541	05/31/10 20:08	6.15	1
017	150_017	SAMPLE	220209-001	Air	163541	05/31/10 21:14	12.78	1
018	150_018	SAMPLE	220209-002	Air	163541	05/31/10 22:21	168.8	1
019	150_019	SAMPLE	220210-001	Air	163541	05/31/10 23:27	243.6	1
020	150_020	SAMPLE	220211-004	Air	163541	06/01/10 00:33	728.0	1
021	150_021	SAMPLE	220185-003	Air	163541	06/01/10 01:39	36.40	1
022	150_022	SAMPLE	220243-001	Air	163541	06/01/10 02:44	70.80	1

BO 06/02/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Analyst: BO Date: 06/02/10 Reviewer: SJD Date: 06/02/10

Standards used: 1=S13547 2=S14715

Prepared by / Date	Sample ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments	Asst/Notes	
B/S 5/24/10	220194-001	C00198	0.75 added	30.0 total added	126.4x	40x of 1.85x	2.16x CAN C00186	
	219 994-002	C00231			80.0x	40x of 2x	CAN C00172	
	219 994-003	C00045			66x	40x of 1.65x	CAN C00177	
		-001	C00031			5056x	40x of 126.4x	CAN C00198
		-002	C00236			3200x	40x of 80x	CAN C00231
		220194-BLANK-003	C00022			2640x	40x of 66x	CAN C00031
B/S 5/26/10	220244-001	C00235	9.82	23.10	2.35x			
	L	-002 C00020	9.10	24.06	2.64x			
	BLANK	C00218			1x			
	220069-003	C00215	1.5 added	30 total added	36.4x	20x of 1.82x	CAN C00083	
S/S 5/27/10	220211-004	C00354	1.5 added	30.0 total added	40.8x	20x of 2.04x	CAN C00250	
B/S 5/28/10	220185-001	C00056	13.21	23.85	1.77x			
		-002 C00268	12.95	23.84	1.84x			
		-003 C00266	12.69	23.15	1.82x			
		-004 C00189	12.11	23.67	1.95x			
		-005 C00176	12.71	23.32	1.83x			
		220297-003	C00171	11.84	23.49	1.98x		
		-001 C00279	12.71	23.84	1.88x			
		-002 C00289	12.78	23.76	1.86x			
		220243-001	C00079	13.11	23.23	1.77x		
		-002 C00159	12.96	23.73	1.83x			
		-003 C00148	12.50	24.01	1.92x			
		-004 C00287	11.99	23.40	1.95x			
		-005 C00126	12.99	23.76	1.83x			
		-006 C00136	12.33	23.57	1.91x			
	220211-004	C00005	1.5 added	30.0 total added	728x	20x of 36.4x	CAN C00354	
	BLANK	C00351			1x			
	220276-001	C00272	14.81	23.15	1.56x			
	-002	C00114	12.34	23.38	1.89x			
	-003	C00096	12.58	23.72	1.89x			
	-004	C00197	12.77	23.38	1.83x			
	-005	C00074	12.47	23.42	1.88x			
	-006	C00154	12.13	23.43	1.93x			
	-007	C00170	12.16	23.61	1.94x			

Continued on Page 38

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Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments
R 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00257	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
R 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.52	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	BLANK	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.18x CAN C00052
S 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x can C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x can C00119
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.93x can C00300
B 6/11/10	BLANK	C00355	—	—	1x	
	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x can C00280
	220278-007	C00360	0.75 added	30.0 total added	77.6x	40x of 1.94x can C00170
	220276-008	C0036	0.75 added	30.0 total added	75.6x	40x of 1.89x can C00270
S 6/1/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x can C00159
	220276-008	C00359	1.5 added	30.0 total added	157.2x	20x of 75.6x can C00361
	220380-002	C00263	10.21	23.16		
	-003	C00050	10.44	23.48		
	-004	C00183	10.38	23.65		
	-005	C00085	10.26	23.84		
	-006	C00060	9.16	23.63		
	-007	C00104	10.05	23.55		
	-008	C00108	9.61	23.32		

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Prepared by/Date	Sample ID	Can ID	Initial Pressure	Final Pressure	Dilution Factor	Comments	
Dns 5/10/10	219994-001	C00186	11.84	23.11	1.95x		
		-002 C00172	12.33	24.64	2.00x		
		-003 C00177	13.97	23.04	1.65x		
Pns 5/17/10	220069-004	C00283	12.70	23.25	1.83x		
	220070-001	C00062	11.08	23.51	2.12x		
		-002 C00182	12.31	23.87	1.87x		
		-003 C00109	8.64	23.36	2.70x		
		-004 C00125	9.54	23.30	2.44x		
		-005 C00072	9.60	23.62	2.46x		
	BLANK	C00017	—	—	1x		
	219994-001	C00186	15.02	24.26	3.16x	1.62x of 1.95x	
Ans 5/21/10	220069-001	C00076	11.63	23.13	1.99x		
		-002 C00251	12.03	23.35	1.94x		
		-003 C00083	12.95	23.55	1.82x		
		-004 —	—	—	—	already filled 5/17/10	
		-005 C00069	11.84	23.43	1.98x		
		-006 C00113	11.78	24.30	2.06x		
		-007 C00130	11.35	24.09	2.12x		
		-008 C00057	10.26	23.12	2.25x		
		-009 C00107	10.40	23.02	2.21x		
		-010 C00288	8.99	23.44	2.61x		
		220071-001	C00150	10.84	23.64	2.19x	
		-002 C00142	10.71	23.29	2.18x		
		-003 C00286	10.98	23.46	2.14x		
		-004 C00166	10.98	23.53	2.14x		
		-005 C00120	11.08	23.17	2.09x		
		220211-001	C00144	11.62	23.35	2.01x	
	-002 C00281	10.37	23.33	2.25x			
	-003 C00285	11.42	23.02	2.02x			
	-004 C00250	11.50	23.41	2.04x			
	BLANK	C00219	—	—	1x		
Ans 5/21/10	220207-001	C00087 ^{2/21/10} C00192	11.40	23.09	2.03x	Can ID C00087	
		-002 C00260	11.63	23.38	2.01x		
		-003 C00241	11.26	23.08	2.05x		

Continued on Page 36

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Date



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220380
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

Table with 2 columns: Sample ID and Lab ID. Rows include ASE-46A-10Q2, P-41-10Q2, P-39-10Q2, SVV-1-10Q2, P-36-10Q2, P-32-10Q2, P-31 10Q2, and BSVE-SVM-10Q2-009.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Senior Program Manager

Date: 06/07/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220380
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/25/10
Samples Received: 05/25/10

This data package contains sample and QC results for eight air samples, requested for the above referenced project on 05/25/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

P-39-10Q2 (lab # 220380-003) was diluted due to high non-target analytes.

SVV-1-10Q2 (lab # 220380-004) was diluted due to problematic matrix.

No other analytical problems were encountered.

Volatile Organics in Air GC (ASTM D1946 and EPA TO-3):

No analytical problems were encountered.

Chain of Custody

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # Z20300 + Date Received 5-25-10 Number of coolers 10x
Client CHARM DAZ Project BSVE QTR SUM

Date Opened 5-25-10 By (print) S. EVANS (sign) [Signature]
Date Logged in ✓ By (print) M. J. Llanos (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) FedEx # YES NO
Shipping info 7994 5166 3660 / 7928 27996455

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 24 Name Signature Date 5-24-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are samples in the appropriate containers for indicated tests? _____ YES NO

11. Are sample labels present, in good condition and complete? _____ YES NO

12. Do the sample labels agree with custody papers? _____ YES NO

13. Was sufficient amount of sample sent for tests requested? _____ YES NO

14. Are the samples appropriately preserved? _____ YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

16. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Laboratory Job Number 220380

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-41-10Q2	Diln Fac:	2.270
Lab ID:	220380-002	Batch#:	163582
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/02/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.9	D1
Chloroethane	ND	1.1	ND	3.0	D1
1,1-Dichloroethene	ND	1.1	ND	4.5	D1
1,1-Dichloroethane	ND	1.1	ND	4.6	D1
MTBE	ND	1.1	ND	4.1	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.5	D1
n-Hexane	ND	1.1	ND	4.0	D1
Chloroform	ND	1.1	ND	5.5	D1
Benzene	1.2	1.1	3.8	3.6	D1
Trichloroethene	10	1.1	56	6.1	D1
Toluene	ND	1.1	ND	4.3	D1
Tetrachloroethene	ND	1.1	ND	7.7	D1
Ethylbenzene	1.8	1.1	7.9	4.9	D1
m,p-Xylenes	8.5	1.1	37	4.9	D1
o-Xylene	2.0	1.1	8.9	4.9	D1
1,3,5-Trimethylbenzene	4.5	1.1	22	5.6	D1
1,2,4-Trimethylbenzene	20	1.1	100	5.6	D1
Xylene (total)	11	2.3	46	9.9	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	128	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-39-10Q2	Diln Fac:	13.50
Lab ID:	220380-003	Batch#:	163644
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	6.8	ND	17	D1
Chloroethane	ND	6.8	ND	18	D1
1,1-Dichloroethene	ND	6.8	ND	27	D1
1,1-Dichloroethane	ND	6.8	ND	27	D1
MTBE	ND	6.8	ND	24	D1
cis-1,2-Dichloroethene	ND	6.8	ND	27	D1
n-Hexane	ND	6.8	ND	24	D1
Chloroform	ND	6.8	ND	33	D1
Benzene	ND	6.8	ND	22	D1
Trichloroethene	ND	6.8	ND	36	D1
Toluene	ND	6.8	ND	25	D1
Tetrachloroethene	ND	6.8	ND	46	D1
Ethylbenzene	ND	6.8	ND	29	D1
m,p-Xylenes	9.3	6.8	40	29	D1
o-Xylene	ND	6.8	ND	29	D1
1,3,5-Trimethylbenzene	ND	6.8	ND	33	D1
1,2,4-Trimethylbenzene	24	6.8	120	33	D1
Xylene (total)	9.3	6.8	40	29	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	101	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SVV-1-10Q2	Diln Fac:	6.840
Lab ID:	220380-004	Batch#:	163582
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.4	ND	8.7	D1
Chloroethane	ND	3.4	ND	9.0	D1
1,1-Dichloroethene	ND	3.4	ND	14	D1
1,1-Dichloroethane	ND	3.4	ND	14	D1
MTBE	ND	3.4	ND	12	D1
cis-1,2-Dichloroethene	ND	3.4	ND	14	D1
n-Hexane	ND	3.4	ND	12	D1
Chloroform	ND	3.4	ND	17	D1
Benzene	12	3.4	37	11	D1
Trichloroethene	ND	3.4	ND	18	D1
Toluene	ND	3.4	ND	13	D1
Tetrachloroethene	ND	3.4	ND	23	D1
Ethylbenzene	5.5	3.4	24	15	D1
m,p-Xylenes	19	3.4	85	15	D1
o-Xylene	ND	3.4	ND	15	D1
1,3,5-Trimethylbenzene	10	3.4	49	17	D1
1,2,4-Trimethylbenzene	46	3.4	220	17	D1
Xylene (total)	19	6.8	85	30	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	107	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-36-10Q2	Units (M):	ug/m3
Lab ID:	220380-005	Batch#:	163582
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac	Analyzed	ADEQ	Flags
Vinyl Chloride	ND	1.2	ND	3.0	2.320	06/02/10	D2	
Chloroethane	ND	1.2	ND	3.1	2.320	06/02/10	D2	
1,1-Dichloroethene	23	1.2	89	4.6	2.320	06/02/10	D2	
1,1-Dichloroethane	270	2.3	1,100	9.4	4.640	06/03/10	D2	
MTBE	ND	1.2	ND	4.2	2.320	06/02/10	D2	
cis-1,2-Dichloroethene	ND	1.2	ND	4.6	2.320	06/02/10	D2	
n-Hexane	ND	1.2	ND	4.1	2.320	06/02/10	D2	
Chloroform	ND	1.2	ND	5.7	2.320	06/02/10	D2	
Benzene	ND	1.2	ND	3.7	2.320	06/02/10	D2	
Trichloroethene	4.4	1.2	24	6.2	2.320	06/02/10	D2	
Toluene	ND	1.2	ND	4.4	2.320	06/02/10	D2	
Tetrachloroethene	2.5	1.2	17	7.9	2.320	06/02/10	D2	
Ethylbenzene	ND	1.2	ND	5.0	2.320	06/02/10	D2	
m,p-Xylenes	3.3	1.2	14	5.0	2.320	06/02/10	D2	
o-Xylene	ND	1.2	ND	5.0	2.320	06/02/10	D2	
1,3,5-Trimethylbenzene	3.2	1.2	16	5.7	2.320	06/02/10	D2	
1,2,4-Trimethylbenzene	14	1.2	68	5.7	2.320	06/02/10	D2	
Xylene (total)	3.3	2.3	14	10	2.320	06/02/10	D2	

Surrogate	%REC	Limits	Diln Fac	Analyzed	ADEQ	Flags
Bromofluorobenzene	105	70-130	2.320	06/02/10		

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-32-10Q2	Diln Fac:	2.580
Lab ID:	220380-006	Batch#:	163582
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/02/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.3	ND	3.3	D2
Chloroethane	ND	1.3	ND	3.4	D2
1,1-Dichloroethene	ND	1.3	ND	5.1	D2
1,1-Dichloroethane	ND	1.3	ND	5.2	D2
MTBE	ND	1.3	ND	4.7	D2
cis-1,2-Dichloroethene	ND	1.3	ND	5.1	D2
n-Hexane	ND	1.3	ND	4.5	D2
Chloroform	ND	1.3	ND	6.3	D2
Benzene	ND	1.3	ND	4.1	D2
Trichloroethene	200	1.3	1,100	6.9	D2
Toluene	ND	1.3	ND	4.9	D2
Tetrachloroethene	8.8	1.3	60	8.7	D2
Ethylbenzene	ND	1.3	ND	5.6	D2
m,p-Xylenes	1.8	1.3	8.0	5.6	D2
o-Xylene	ND	1.3	ND	5.6	D2
1,3,5-Trimethylbenzene	1.8	1.3	9.1	6.3	D2
1,2,4-Trimethylbenzene	8.5	1.3	42	6.3	D2
Xylene (total)	1.8	1.3	8.0	5.6	D2

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	99	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-31 10Q2	Diln Fac:	2.340
Lab ID:	220380-007	Batch#:	163582
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/02/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.2	ND	3.0	D1
Chloroethane	ND	1.2	ND	3.1	D1
1,1-Dichloroethene	ND	1.2	ND	4.6	D1
1,1-Dichloroethane	ND	1.2	ND	4.7	D1
MTBE	ND	1.2	ND	4.2	D1
cis-1,2-Dichloroethene	ND	1.2	ND	4.6	D1
n-Hexane	ND	1.2	ND	4.1	D1
Chloroform	ND	1.2	ND	5.7	D1
Benzene	ND	1.2	ND	3.7	D1
Trichloroethene	ND	1.2	ND	6.3	D1
Toluene	ND	1.2	ND	4.4	D1
Tetrachloroethene	ND	1.2	ND	7.9	D1
Ethylbenzene	ND	1.2	ND	5.1	D1
m,p-Xylenes	1.2	1.2	5.2	5.1	D1
o-Xylene	ND	1.2	ND	5.1	D1
1,3,5-Trimethylbenzene	1.3	1.2	6.4	5.8	D1
1,2,4-Trimethylbenzene	5.8	1.2	29	5.8	D1
Xylene (total)	1.2	1.2	5.2	5.1	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	101	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BSVE-SVM-10Q2-009	Diln Fac:	2.430
Lab ID:	220380-008	Batch#:	163582
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/02/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.2	ND	3.1	D1
Chloroethane	ND	1.2	ND	3.2	D1
1,1-Dichloroethene	ND	1.2	ND	4.8	D1
1,1-Dichloroethane	ND	1.2	ND	4.9	D1
MTBE	ND	1.2	ND	4.4	D1
cis-1,2-Dichloroethene	ND	1.2	ND	4.8	D1
n-Hexane	ND	1.2	ND	4.3	D1
Chloroform	ND	1.2	ND	5.9	D1
Benzene	ND	1.2	ND	3.9	D1
Trichloroethene	10	1.2	54	6.5	D1
Toluene	ND	1.2	ND	4.6	D1
Tetrachloroethene	ND	1.2	ND	8.2	D1
Ethylbenzene	2.0	1.2	8.9	5.3	D1
m,p-Xylenes	9.3	1.2	40	5.3	D1
o-Xylene	2.1	1.2	9.0	5.3	D1
1,3,5-Trimethylbenzene	5.6	1.2	28	6.0	D1
1,2,4-Trimethylbenzene	23	1.2	110	6.0	D1
Xylene (total)	11	2.4	49	11	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	123	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546818	Diln Fac:	1.000
Matrix:	Air	Batch#:	163582
Units (V):	ppbv	Analyzed:	06/02/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	92	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163582
Units (V):	ppbv	Analyzed:	06/02/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546819

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	10.63	106	70-130		
Chloroethane	10.00	10.40	104	70-130		
1,1-Dichloroethene	10.00	10.98	110	70-130		
1,1-Dichloroethane	10.00	10.74	107	70-130		
MTBE	10.00	11.00	110	70-130		
cis-1,2-Dichloroethene	10.00	10.69	107	70-130		
n-Hexane	10.00	10.66	107	70-130		
Chloroform	10.00	9.947	99	70-130		
Benzene	10.00	11.23	112	70-130		
Trichloroethene	10.00	10.14	101	70-130		
Toluene	10.00	10.90	109	70-130		
Tetrachloroethene	10.00	10.27	103	70-130		
Ethylbenzene	10.00	11.18	112	70-130		
m,p-Xylenes	20.00	21.57	108	70-130		
o-Xylene	10.00	10.55	105	70-130		
1,3,5-Trimethylbenzene	10.00	11.06	111	70-130		
1,2,4-Trimethylbenzene	10.00	10.82	108	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	96	70-130		

Type: BSD Lab ID: QC546820

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.55	106	70-130	1	25		
Chloroethane	10.00	10.70	107	70-130	3	25		
1,1-Dichloroethene	10.00	10.76	108	70-130	2	20		
1,1-Dichloroethane	10.00	10.70	107	70-130	0	20		
MTBE	10.00	11.20	112	70-130	2	25		
cis-1,2-Dichloroethene	10.00	10.74	107	70-130	0	25		
n-Hexane	10.00	10.64	106	70-130	0	25		
Chloroform	10.00	9.824	98	70-130	1	25		
Benzene	10.00	11.24	112	70-130	0	25		
Trichloroethene	10.00	10.16	102	70-130	0	25		
Toluene	10.00	10.92	109	70-130	0	25		
Tetrachloroethene	10.00	10.22	102	70-130	1	25		
Ethylbenzene	10.00	11.42	114	70-130	2	25		
m,p-Xylenes	20.00	22.40	112	70-130	4	25		
o-Xylene	10.00	11.09	111	70-130	5	25		
1,3,5-Trimethylbenzene	10.00	11.18	112	70-130	1	25		
1,2,4-Trimethylbenzene	10.00	11.20	112	70-130	3	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163644
Units (V):	ppbv	Analyzed:	06/03/10
Diln Fac:	1.000		

Type: BS Lab ID: QC547082

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	11.18	112	70-130		
Chloroethane	10.00	10.92	109	70-130		
1,1-Dichloroethene	10.00	11.35	114	70-130		
1,1-Dichloroethane	10.00	11.24	112	70-130		
MTBE	10.00	11.58	116	70-130		
cis-1,2-Dichloroethene	10.00	11.53	115	70-130		
n-Hexane	10.00	11.29	113	70-130		
Chloroform	10.00	10.49	105	70-130		
Benzene	10.00	10.89	109	70-130		
Trichloroethene	10.00	10.26	103	70-130		
Toluene	10.00	11.87	119	70-130		
Tetrachloroethene	10.00	10.73	107	70-130		
Ethylbenzene	10.00	11.98	120	70-130		
m,p-Xylenes	20.00	23.37	117	70-130		
o-Xylene	10.00	11.61	116	70-130		
1,3,5-Trimethylbenzene	10.00	11.97	120	70-130		
1,2,4-Trimethylbenzene	10.00	11.71	117	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

Type: BSD Lab ID: QC547083

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	11.31	113	70-130	1	25		
Chloroethane	10.00	11.10	111	70-130	2	25		
1,1-Dichloroethene	10.00	11.43	114	70-130	1	20		
1,1-Dichloroethane	10.00	11.46	115	70-130	2	20		
MTBE	10.00	11.92	119	70-130	3	25		
cis-1,2-Dichloroethene	10.00	11.25	112	70-130	2	25		
n-Hexane	10.00	11.44	114	70-130	1	25		
Chloroform	10.00	10.38	104	70-130	1	25		
Benzene	10.00	11.52	115	70-130	6	25		
Trichloroethene	10.00	9.998	100	70-130	3	25		
Toluene	10.00	11.78	118	70-130	1	25		
Tetrachloroethene	10.00	11.08	111	70-130	3	25		
Ethylbenzene	10.00	12.46	125	70-130	4	25		
m,p-Xylenes	20.00	22.66	113	70-130	3	25		
o-Xylene	10.00	11.86	119	70-130	2	25		
1,3,5-Trimethylbenzene	10.00	12.11	121	70-130	1	25		
1,2,4-Trimethylbenzene	10.00	11.99	120	70-130	2	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC547084	Diln Fac:	1.000
Matrix:	Air	Batch#:	163644
Units (V):	ppbv	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	91	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220380 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220380 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200220861001 File : 153_001 Time : 02-JUN-2010 09:01

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	21483	12.65	
75	30% - 66% of mass 95	74388	43.81	
95		169808	100.00	
96	5% - 9% of mass 95	11437	6.74	
173	< 2% of mass 174	95	0.07	
174	50% - 120% of mass 95	133018	78.33	
175	4% - 9% of mass 174	8917	6.70	
176	93% - 101% of mass 174	129248	97.17	
177	5% - 9% of mass 176	8170	6.32	

CURTIS & TOMPKINS BFB TUNE FOR 220380 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200222400001 File : 154_001 Time : 03-JUN-2010 10:40

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	24898	12.37	
75	30% - 66% of mass 95	95929	47.67	
95		201230	100.00	
96	5% - 9% of mass 95	13994	6.95	
173	< 2% of mass 174	269	0.17	
174	50% - 120% of mass 95	160400	79.71	
175	4% - 9% of mass 174	12239	7.63	
176	93% - 101% of mass 174	153261	95.55	
177	5% - 9% of mass 176	12116	7.91	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220380 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

Page 3 of 3

1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220380 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220380 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546819 IDF : 1.0
 Seqnum : 1200220861002.3 File : 153_002 Time : 02-JUN-2010 10:06
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14774, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.8611	10.00	10.63	nL/L	6	30	0.0500	u
Chloroethane	0.0815	0.0847	10.00	10.40	nL/L	4	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1055	10.00	10.98	nL/L	10	30	0.0500	u
1,1-Dichloroethane	2.2145	2.3768	10.00	10.74	nL/L	7	30	0.0500	u
MTBE	1.4577	1.6035	10.00	11.00	nL/L	10	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.7576	10.00	10.69	nL/L	7	30	0.0500	u
n-Hexane	0.9022	0.9610	10.00	10.66	nL/L	7	30	0.0500	u
Chloroform	2.4999	2.4862	10.00	9.947	nL/L	-1	30	0.0500	u
Benzene	0.5014	0.5628	10.00	11.23	nL/L	12	30	0.0500	u
Trichloroethene	0.5169	0.5239	10.00	10.14	nL/L	1	30	0.0500	u
Toluene	1.5032	1.6368	10.00	10.90	nL/L	9	30	0.0500	u
Tetrachloroethene	0.9425	0.9675	10.00	10.27	nL/L	3	30	0.0500	u
Ethylbenzene	1.8627	2.0810	10.00	11.18	nL/L	12	30	0.0500	u
m,p-Xylenes	1.6467	1.7752	20.00	21.57	nL/L	8	30	0.0500	u
o-Xylene	1.6921	1.7835	10.00	10.55	nL/L	5	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.3878	10.00	11.06	nL/L	11	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.1368	10.00	10.82	nL/L	8	30	0.0500	u
Bromofluorobenzene	0.8080	0.7721	6.667	6.373	nL/L	-4	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	329290	-8.69	32.92	32.91	-0.01
1,4-Difluorobenzene	1294000	1147000	-11.36	36.90	36.90	0.00
Chlorobenzene-d5	1155000	1004000	-13.07	48.03	48.03	0.00

BO 06/02/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220380 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC547082 IDF : 1.0
 Seqnum : 1200222400002.1 File : 154_002 Time : 03-JUN-2010 11:43
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14774, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.9056	10.00	11.18	nL/L	12	30	0.0500	u
Chloroethane	0.0815	0.0890	10.00	10.92	nL/L	9	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1766	10.00	11.35	nL/L	14	30	0.0500	u
1,1-Dichloroethane	2.2145	2.4891	10.00	11.24	nL/L	12	30	0.0500	u
MTBE	1.4577	1.6878	10.00	11.58	nL/L	16	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.8956	10.00	11.53	nL/L	15	30	0.0500	u
n-Hexane	0.9022	1.0179	10.00	11.29	nL/L	13	30	0.0500	u
Chloroform	2.4999	2.6217	10.00	10.49	nL/L	5	30	0.0500	u
Benzene	0.5014	0.5461	10.00	10.89	nL/L	9	30	0.0500	u
Trichloroethene	0.5169	0.5303	10.00	10.26	nL/L	3	30	0.0500	u
Toluene	1.5032	1.7837	10.00	11.87	nL/L	19	30	0.0500	u
Tetrachloroethene	0.9425	1.0111	10.00	10.73	nL/L	7	30	0.0500	u
Ethylbenzene	1.8627	2.2314	10.00	11.98	nL/L	20	30	0.0500	u
m,p-Xylenes	1.6467	1.9242	20.00	23.37	nL/L	17	30	0.0500	u
o-Xylene	1.6921	1.9640	10.00	11.61	nL/L	16	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.5842	10.00	11.97	nL/L	20	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.3133	10.00	11.71	nL/L	17	30	0.0500	u
Bromofluorobenzene	0.8080	0.7642	6.667	6.305	nL/L	-5	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	311497	-13.63	32.92	32.93	0.02
1,4-Difluorobenzene	1294000	1122000	-13.29	36.90	36.91	0.01
Chlorobenzene-d5	1155000	927678	-19.68	48.03	48.04	0.01

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200220861

Date : 06/02/10
 Sequence : MSAIR01 153

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC546819	329290	32.91	1147000	36.90	1004000	48.03
003	BSD	QC546820	314701	32.92	1136000	36.91	975851	48.03
004	BSD	QC546820	332132	32.91	1137000	36.90	990914	48.03
005	BLANK	QC546818	306540	32.94	1009000	36.91	903786	48.04
006	SAMPLE	220380-002	322403	32.93	1082000	36.91	951254	48.03
007	SAMPLE	220380-005	301373	32.93	1036000	36.91	885263	48.04
008	SAMPLE	220380-006	298434	32.94	1044000	36.91	905078	48.04
009	SAMPLE	220380-007	295654	32.95	987428	36.92	889723	48.04
010	SAMPLE	220380-008	305313	32.93	1030000	36.91	936964	48.04
011	SAMPLE	220426-004	296757	32.94	1009000	36.91	894136	48.04
012	SAMPLE	220426-005	288364	32.93	1020000	36.90	905390	48.03
013	SAMPLE	220426-006	296187	32.93	1005000	36.92	919178	48.04
014	SAMPLE	220426-007	294990	32.94	969614	36.92	896064	48.04
015	SAMPLE	220426-002	296022	32.95	946615	36.92	912772	48.04
016	SAMPLE	220426-003	289110	32.94	970300	36.92	894783	48.04
017	SAMPLE	220426-001	295301	32.94	984109	36.92	891309	48.04
018	SAMPLE	220380-004	277278	32.95	980493	36.92	848729	48.04
019	SAMPLE	220276-008	295370	32.94	979556	36.91	829382	48.04
020	SAMPLE	220380-003	302994	32.95	983055	36.92	849890	48.04
021	SAMPLE	220380-005	302155	32.94	956741	36.92	867169	48.04

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200222400

Date : 06/03/10
 Sequence : MSAIR01 154

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC547082	311497	32.93	1122000	36.91	927678	48.04
003	BSD	QC547083	312051	32.93	1119000	36.92	927506	48.04
004	BLANK	QC547084	302884	32.95	960512	36.92	832549	48.04
005	SAMPLE	220426-008	299795	32.94	1028000	36.92	882174	48.05
006	SAMPLE	220426-009	302729	32.95	989828	36.93	897323	48.05
007	SAMPLE	220426-010	316654	32.94	969810	36.92	897302	48.04
008	SAMPLE	220426-011	283135	32.94	1003000	36.92	837921	48.04
009	SAMPLE	220428-002	305091	32.94	1016000	36.91	879120	48.04
010	SAMPLE	220428-003	299290	32.94	1008000	36.92	902802	48.04
011	SAMPLE	220428-004	279278	32.94	982464	36.92	875834	48.04
012	SAMPLE	220428-005	290612	32.94	986959	36.92	872086	48.04
013	SAMPLE	220428-006	300360	32.94	1007000	36.92	864512	48.04
014	SAMPLE	220428-007	298212	32.94	984425	36.92	866089	48.04
015	SAMPLE	220428-008	292903	32.93	1029000	36.91	863501	48.04
016	SAMPLE	220428-009	300516	32.94	998997	36.92	879982	48.04
017	SAMPLE	220428-010	299067	32.94	979199	36.92	905302	48.04
018	SAMPLE	220428-011	299038	32.94	991561	36.92	803067	48.04
019	SAMPLE	220380-003	286978	32.95	1019000	36.91	810714	48.04
020	SAMPLE	220424-003	294760	32.93	1013000	36.91	874546	48.04
021	SAMPLE	220424-006	293208	32.94	1048000	36.92	923967	48.04

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200220861

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 06/02/10 09:01

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	153_001	TUN	BFB			06/02/10 09:01	1.0	1
002	153_002	CCV/BS	QC546819	Air	163582	06/02/10 10:06	1.0	2 1
003	153_003	BSD	QC546820	Air	163582	06/02/10 11:10	1.0	2 1
004	153_004	BSD	QC546820	Air	163582	06/02/10 12:20	1.0	2 1
005	153_005	BLANK	QC546818	Air	163582	06/02/10 13:25	1.0	1
006	153_006	SAMPLE	220380-002	Air	163582	06/02/10 15:50	2.27	1
007	153_007	SAMPLE	220380-005	Air	163582	06/02/10 16:53	2.32	1
008	153_008	SAMPLE	220380-006	Air	163582	06/02/10 17:58	2.58	1
009	153_009	SAMPLE	220380-007	Air	163582	06/02/10 19:02	2.34	1
010	153_010	SAMPLE	220380-008	Air	163582	06/02/10 20:24	2.43	1
011	153_011	SAMPLE	220426-004	Air	163582	06/02/10 21:27	2.09	1
012	153_012	SAMPLE	220426-005	Air	163582	06/02/10 22:30	2.25	1
013	153_013	SAMPLE	220426-006	Air	163582	06/02/10 23:33	2.17	1
014	153_014	SAMPLE	220426-007	Air	163582	06/03/10 00:36	2.16	1
015	153_015	SAMPLE	220426-002	Air	163582	06/03/10 01:41	4.36	1
016	153_016	SAMPLE	220426-003	Air	163582	06/03/10 02:46	4.14	1
017	153_017	SAMPLE	220426-001	Air	163582	06/03/10 03:51	6.39	1
018	153_018	SAMPLE	220380-004	Air	163582	06/03/10 04:56	6.84	1
019	153_019	SAMPLE	220276-008	Air	163582	06/03/10 06:01	453.6	1
020	153_020	SAMPLE	220380-003	Air	163582	06/03/10 07:06	45.0	1
021	153_021	SAMPLE	220380-005	Air	163582	06/03/10 08:11	4.64	1

2:FC11=120

1:ISOPROH=170

BO 06/02/10 : Adjusted tune prior to start of sequence

BO 06/03/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Analyst: BO Date: 06/03/10 Reviewer: SJD Date: 06/03/10

Standards used: 1=S13547 2=S14774

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200222400

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 06/03/10 10:40

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	154_001	TUN	BFB			06/03/10 10:40	1.0	1	
002	154_002	CCV/BS	QC547082	Air	163644	06/03/10 11:43	1.0	2 1	
003	154_003	BSD	QC547083	Air	163644	06/03/10 12:51	1.0	2 1	
004	154_004	BLANK	QC547084	Air	163644	06/03/10 13:59	1.0	1	
005	154_005	SAMPLE	220426-008	Air	163644	06/03/10 15:03	2.34	1	
006	154_006	SAMPLE	220426-009	Air	163644	06/03/10 16:06	1.99	1	
007	154_007	SAMPLE	220426-010	Air	163644	06/03/10 17:09	1.95	1	
008	154_008	SAMPLE	220426-011	Air	163644	06/03/10 18:13	2.07	1	
009	154_009	SAMPLE	220428-002	Air	163644	06/03/10 19:17	2.08	1	1:ISOPROH=120
010	154_010	SAMPLE	220428-003	Air	163644	06/03/10 20:20	2.06	1	1:ISOPROH=100
011	154_011	SAMPLE	220428-004	Air	163644	06/03/10 21:24	2.19	1	1:ISOPROH=120
012	154_012	SAMPLE	220428-005	Air	163644	06/03/10 22:28	2.23	1	1:ISOPROH=140
013	154_013	SAMPLE	220428-006	Air	163644	06/03/10 23:32	2.01	1	1:ISOPROH=110
014	154_014	SAMPLE	220428-007	Air	163644	06/04/10 00:36	2.06	1	
015	154_015	SAMPLE	220428-008	Air	163644	06/04/10 01:40	2.07	1	1:ISOPROH=170
016	154_016	SAMPLE	220428-009	Air	163644	06/04/10 02:44	2.06	1	
017	154_017	SAMPLE	220428-010	Air	163644	06/04/10 03:48	2.21	1	
018	154_018	SAMPLE	220428-011	Air	163644	06/04/10 04:52	3.98	1	
019	154_019	SAMPLE	220380-003	Air	163644	06/04/10 05:56	13.50	1	
020	154_020	SAMPLE	220424-003	Air	163644	06/04/10 08:05	2.07	1	
021	154_021	SAMPLE	220424-006	Air	163644	06/04/10 09:10	1.89	1	1:PCE=190

BO 06/04/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Analyst: BO Date: 06/04/10 Reviewer: SJD Date: 06/05/10

Standards used: 1=S13547 2=S14774

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments
B.S. 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00257	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
P.S. 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.52	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.15x CAN C00152
SOP 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x CAN C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x CAN C00079
	220209-002	C0042	0.75 added	30.0 total added	84.4x	40x of 2.11x CAN C00119 C00315
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.93x CAN C00300 C00119 60m
B.S. 6/11/10	BLANK	C00355	—	—	1x	
	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x CAN C00280
	220276-007	C00360	0.75 added	30.0 total added	77.6x	40x of 1.94x CAN C00170
	220276-008	C00361	0.75 added	30.0 total added	75.6x	40x of 1.89x CAN C00270
SOP 6/11/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x CAN C00119
	220276-008	C00359	1.5 added	30.0 total added	157.2x	20x of 75.6x CAN C00361
	220380-002	C00263	10.21	23.16	2.27x	
	-003	C00050	10.44	23.48	2.25x	
	-004	C00183	10.38	23.65	2.28x	
	-005	C00085	10.26	23.84	2.32x	
	-006	C00060	9.10	23.63	2.58x	
	-007	C00104	10.05	23.55	2.34x	
	-008	C00108	9.61	23.32	2.43x	

Continued on Page 39

Read and Understood By

Signed

Date

Signed

Date

Project by / date	SAMPLE ID	CAN ID	Initial (psig) Pressure	Final (psig) Pressure	Dilution Factor	Comments
500 6/10	220426-001	C00317 C00319	11.09	23.64	2.13x	
	-002	C00319	10.78	23.49	2.18x	
	-003	C00318	11.32	23.41	2.07x	
	-004	C00307	11.24	23.50	2.09x	
	-005	C00303	10.43	23.43	2.25x	
	-006	C00312	11.18	24.26	2.17x	
	-007	C00320	11.08	23.95	2.16x	
	-008	C00302	10.47	24.53	2.34x	
	-009	C00322	11.81	23.45	1.99x	
	-010	C00325	11.91	23.59 23.59	1.95x	Final pressure = 23.19
	-011	C00329	11.35	23.45	2.07x	
500 6/10	220424-001	C00378	10.48	23.36	2.23x	
	-002	C00146	11.43	23.40	2.05x	
	-003	C00340	11.42	23.69	2.07x	
	-004	C00118	12.36	23.36	1.89x	
	-005	C00054	10.63	23.45	2.21x	
	-008	C00106	10.90	23.47	2.15x	
	-009	C00191	10.27	23.42	2.28x	
	-013	C00309	11.04	23.55	2.13x	
	-014	C00334	11.32	23.41	2.07x	
	220428-002	C00318	11.30	23.54	2.08x	
	-003	C00314	11.30	23.33	2.06x	
	-004	C00308	10.78	23.64	2.19x	
	-005	C00321	10.58	23.57	2.23x	
	-006	C00328	11.68	23.51	2.01x	
	-007	C00326	11.44	23.54	2.06x	
	-008	C00323	11.32	23.45	2.07x	
	-009	C00337	11.47	23.66	2.06x	
-010	C00338	10.90	24.05	2.21x		
-011	C00310	11.84	23.54	1.99x		
BLANK	C00362	—	—	1x		
220380-003	C00373	1.5 added	30.0 ^{Final} added	45x	20x of 2.25x can C00050	

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

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5

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSi _g)	Final Pressure (PSi _g)	Dilution Factor	Comments
P. 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00297	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
P. 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.52	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	-007	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.18x can C00152
S. 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x can C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x can C00119 C00119 C00119 C00119
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.03x can C00119
B. 6/1/10	BLANK	C00355	—	—	1x	
	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x can C00280
	220278-007	C00360	0.75 added	30.0 total added	27.6x	40x of 1.94x can C00170
	220276-008	C00361	0.75 added	30.0 total added	25.6x	40x of 1.89x can C00270
S. 6/1/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x can C00159
	220276-008	C00359	1.5 added	30.0 total added	1512x	20x of 75.6x can C00361
	220380-002	C00263	10.21	23.16	2.27x	
	-003	C00050	10.44	23.48	2.25x	
	-004	C00183	10.38	23.65	2.28x	
	-005	C00085	10.26	23.84	2.32x	
	-006	C00060	9.16	23.63	2.58x	
	-007	C00104	10.05	23.55	2.34x	
	-008	C00108	9.61	23.32	2.43x	

Continued on Page 39

Read and Understood By

Signed

Date

Signed

Date

PROJECT Air Sample Prep Log

Notebook No. BK2875
Continued From Page 38

Prep by / date	SAMPLE ID	CAN ID	Initial (psig) Pressure	Final (psig) Pressure	Dilution Factor	Comments
500 6/1/10	220 426-001	C00327 C00319	11.09	23.64	2.13x	
	-002	C00319	10.78	23.49	2.18x	
	-003	C00313	11.32	23.41	2.07x	
	-004	C00307	11.24	23.50	2.09x	
	-005	C00303	10.43	23.43	2.25x	
	-006	C00312	11.18	24.26	2.17x	
	-007	C00320	11.08	23.95	2.16x	
	-008	C00302	10.47	24.53	2.34x	
	-009	C00322	11.81	23.45	1.99x	
	-010	C00325	11.91	23.19 23.19	1.95x	Final pressure = 23.19
	-011	C00329	11.35	23.45	2.07x	
500 6/2/10	220 424-001	C00378	10.48	23.36	2.23x	
	-002	C00146	11.43	23.40	2.05x	
	-003	C00340	11.42	23.69	2.07x	
	-004	C00118	12.36	23.36	1.89x	
	-005	C00054	10.63	23.45	2.21x	
	-008	C00106	10.90	23.47	2.15x	
	-009	C00194	10.27	23.42	2.28x	
	-013	C00309	11.04	23.55	2.13x	
	-014	C00334	11.32	23.41	2.07x	
	220 428-002	C00318	11.30	23.54	2.08x	
	-003	C00314	11.30	23.33	2.06x	
	-004	C00308	10.78	23.64	2.19x	
	-005	C00321	10.58	23.57	2.23x	
	-006	C00328	11.68	23.51	2.01x	
-007	C00326	11.44	23.54	2.06x		
-008	C00323	11.32	23.45	2.07x		
-009	C00337	11.47	23.66	2.06x		
-010	C00338	10.90	24.05	2.21x		
-011	C00310	11.84	23.54	1.99x		
	BLANK	C00362	—	—	1x	
✓	220 380-003	C00373	1.5 added	30.0 ^{final} added	45x	2oz of 2.25x can C00050

Continued on Page

Read and Understood By

Signed _____ Date _____ Signed _____ Date _____

Laboratory Job Number 220380

ANALYTICAL REPORT

Volatile Organics in Air GC

Matrix: Air

Analysis of Reformed Gas

Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	ASE-46A-10Q2	Diln Fac:	2.140
Lab ID:	220380-001	Batch#:	163704
Matrix:	Air	Sampled:	05/18/10
Units:	ppmv	Received:	05/25/10
Units (Mol %):	MOL %	Analyzed:	06/04/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	6,500	2,100	0.65	0.21	D2
Oxygen	190,000	2,100	19	0.21	D2

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Volatile Organics in Air

Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	ASE-46A-10Q2	Diln Fac:	2.140
Lab ID:	220380-001	Batch#:	163704
Matrix:	Air	Sampled:	05/18/10
Units:	ppmv	Received:	05/25/10
Units (M):	ug/L	Analyzed:	06/04/10

Analyte	Result	RL	Result (M)	RL	ADEQ Flags
Methane-TO3	13	1.1	8.6	0.70	D2
C1-C2 as Ethane	ND	2.1	ND	2.6	D2
C2-C3 as Propane	ND	2.1	ND	3.9	D2
C3-C4 as n-Butane	ND	2.1	ND	5.1	D2
C4-C5 as n-Pentane	ND	2.1	ND	6.3	D2
C5-C6 as n-Hexane	ND	2.1	ND	7.5	D2
C6+ as n-Hexane	ND	2.1	ND	7.5	D2

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Analyte:	Methane-TO3	Diln Fac:	2.580
Field ID:	P-32-10Q2	Batch#:	163704
Lab ID:	220380-006	Sampled:	05/20/10
Matrix:	Air	Received:	05/25/10
Units:	ppmv	Analyzed:	06/04/10
Units (M):	ug/L		

Result	RL	Result (M)	RL	ADEQ Flags
2.8	1.3	1.8	0.85	D1

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Analysis of Reformed Gas			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Type:	BLANK	Units (Mol %):	MOL %
Lab ID:	QC547324	Diln Fac:	1.000
Matrix:	Air	Batch#:	163704
Units:	ppmv	Analyzed:	06/04/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	ND	1,000	ND	0.10	
Oxygen	ND	1,000	ND	0.10	

ND= Not Detected

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Batch QC Report

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Type:	BLANK	Units (M):	ug/L
Lab ID:	QC547324	Diln Fac:	1.000
Matrix:	Air	Batch#:	163704
Result (M):	ND	Analyzed:	06/04/10
Units:	ppmv		

Analyte	Result	RL	RL	ADEQ Flags
Methane-TO3	ND	0.50	0.33	
C1-C2 as Ethane	ND	1.0	1.2	
C2-C3 as Propane	ND	1.0	1.8	
C3-C4 as n-Butane	ND	1.0	2.4	
C4-C5 as n-Pentane	ND	1.0	3.0	
C5-C6 as n-Hexane	ND	1.0	3.5	
C6+ as n-Hexane	ND	1.0	3.5	

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Matrix:	Air	Batch#:	163704
Units:	ppmv	Analyzed:	06/04/10
Diln Fac:	1.000		

Type: BS Lab ID: QC547325

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Methane-TO3	100.0	97.54	98	70-130		
C1-C2 as Ethane	100.0	97.67	98	70-130		
C2-C3 as Propane	100.0	96.06	96	70-130		
C3-C4 as n-Butane	100.0	95.16	95	70-130		
C4-C5 as n-Pentane	100.0	96.25	96	70-130		
C5-C6 as n-Hexane	100.0	95.80	96	70-130		

Type: BSD Lab ID: QC547326

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Methane-TO3	100.0	98.08	98	70-130	1	20		
C1-C2 as Ethane	100.0	98.30	98	70-130	1	20		
C2-C3 as Propane	100.0	96.61	97	70-130	1	20		
C3-C4 as n-Butane	100.0	95.77	96	70-130	1	20		
C4-C5 as n-Pentane	100.0	96.83	97	70-130	1	20		
C5-C6 as n-Hexane	100.0	96.31	96	70-130	1	20		

RPD= Relative Percent Difference

Batch QC Report

Analysis of Reformed Gas			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC547327	Batch#:	163704
Matrix:	Air	Analyzed:	06/04/10
Units:	ppmv		

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Carbon Dioxide	2,000	1,994	100	70-130		
Oxygen	2,000	1,910	96	70-130		

Batch QC Report

Analysis of Reformed Gas			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	ASE-46A-10Q2	Units (Mol %):	MOL %
Type:	SDUP	Diln Fac:	2.140
MSS Lab ID:	220380-001	Batch#:	163704
Lab ID:	QC547328	Sampled:	05/18/10
Matrix:	Air	Received:	05/25/10
Units:	ppmv	Analyzed:	06/05/10

Analyte	MSS Result	Result	RL	Result (Mol %)	RL	RPD	Lim	ADEQ	Flags
Carbon Dioxide	6,477	6,462	2,140	0.6462	0.2140	0	30	D2	
Oxygen	192,300	189,800	2,140	18.98	0.2140	1	30	D2	

RL= Reporting Limit

RPD= Relative Percent Difference

Result Mol %= Result in Mole Percent

Batch QC Report

Volatile Organics in Air			
Lab #:	220380	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	ASE-46A-10Q2	Units (M):	ug/L
Type:	SDUP	Diln Fac:	2.140
MSS Lab ID:	220380-001	Batch#:	163704
Lab ID:	QC547328	Sampled:	05/18/10
Matrix:	Air	Received:	05/25/10
Units:	ppmv	Analyzed:	06/05/10

Analyte	MSS Result	Result	RL	Result (M)	RL	RPD	Lim	ADEQ	Flags
Methane-TO3	13.13	13.11	1.070	8.599	0.7020	0	30	D2	
C1-C2 as Ethane	<2.140	ND	2.140	ND	2.632	NC	30	D2	
C2-C3 as Propane	<2.140	ND	2.140	ND	3.860	NC	30	D2	
C3-C4 as n-Butane	<2.140	ND	2.140	ND	5.087	NC	30	D2	
C4-C5 as n-Pentane	<2.140	ND	2.140	ND	6.315	NC	30	D2	
C5-C6 as n-Hexane	<2.140	2.627	2.140	9.258	7.543	NC	30	D2	
C6+ as n-Hexane	<2.140	ND	2.140	ND	7.543	NC	30	D2	

NC= Not Calculated

ND= Not Detected

RL= Reporting Limit

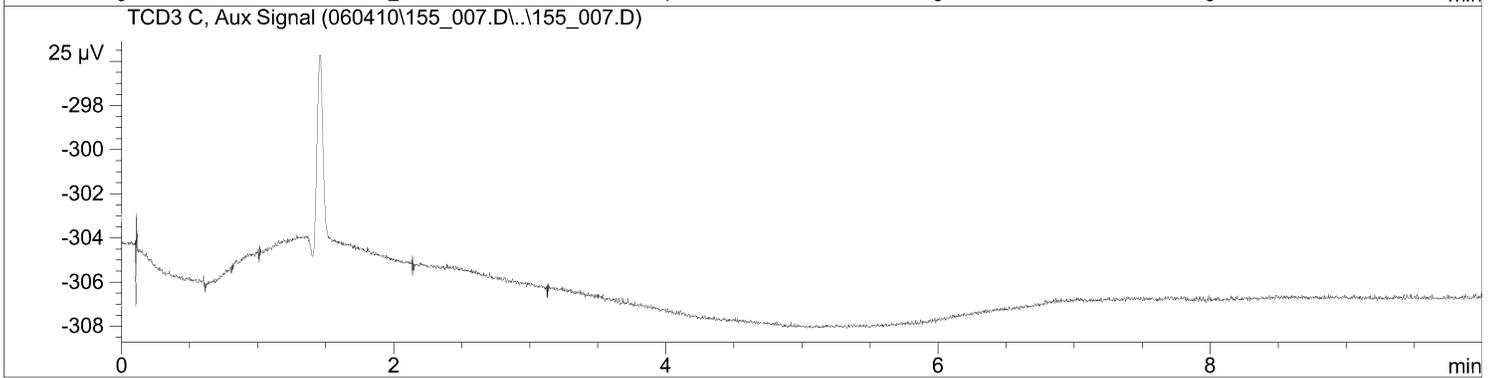
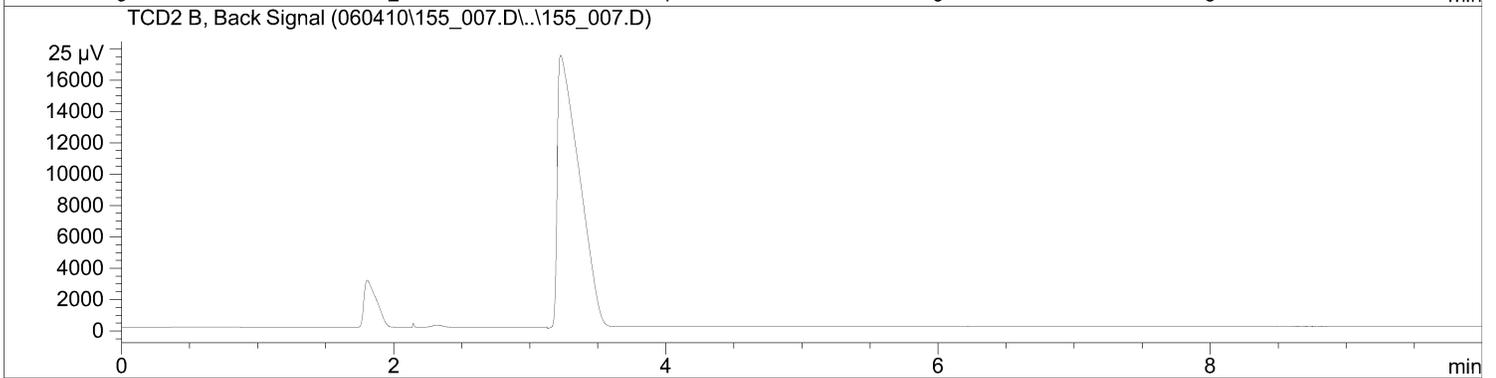
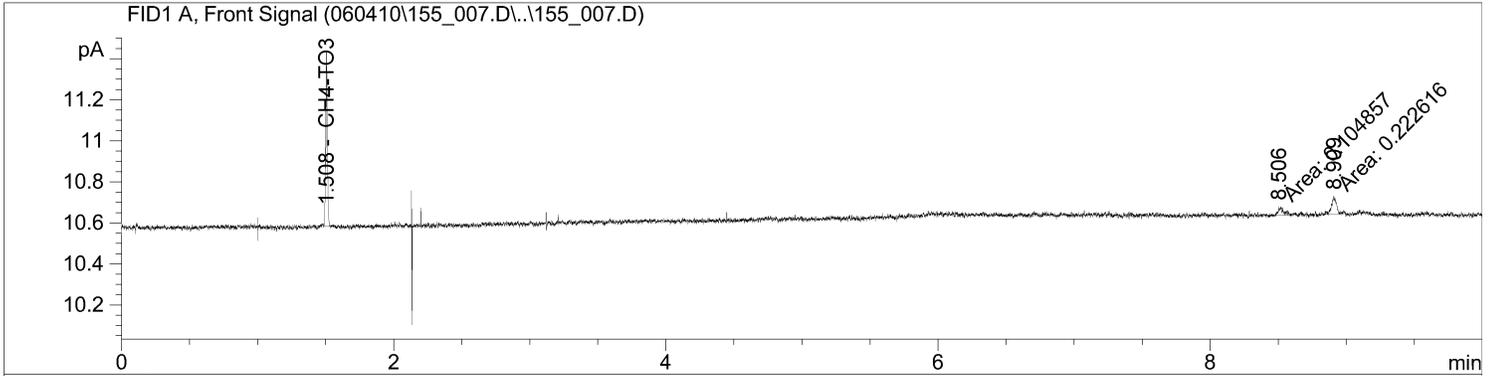
RPD= Relative Percent Difference

Result M= Result in Mass Units

Sample Name: 220380-001,163704,2.14,c00339

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 5
Injection Date  : 6/4/2010 05:07:33 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed    : 6/4/2010 03:18:58 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 6/5/2010 05:08:38 PM by GC28 RGA
    
```



External Standard Report

```

Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution       : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs
    
```

Signal 1: FID1 A, Front Signal

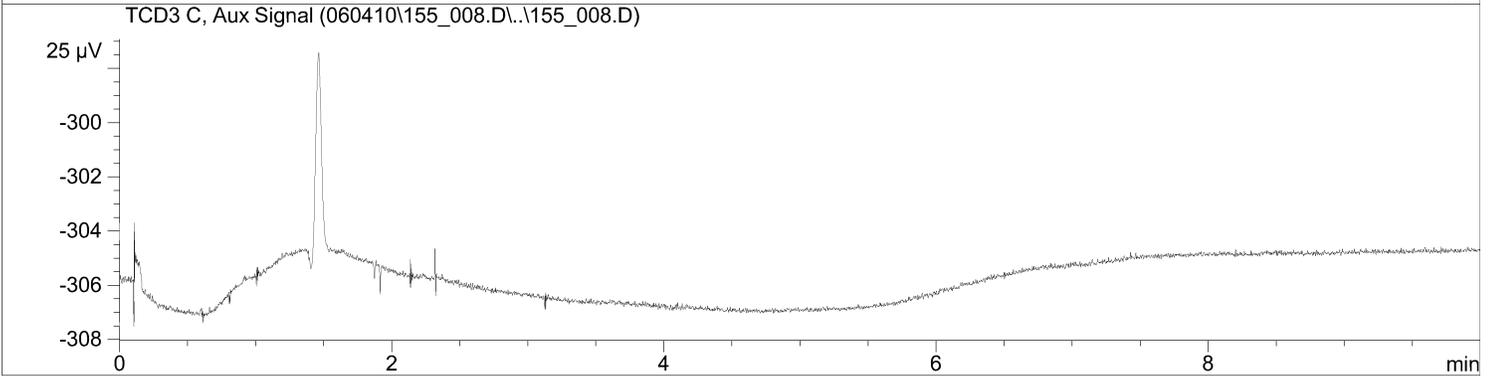
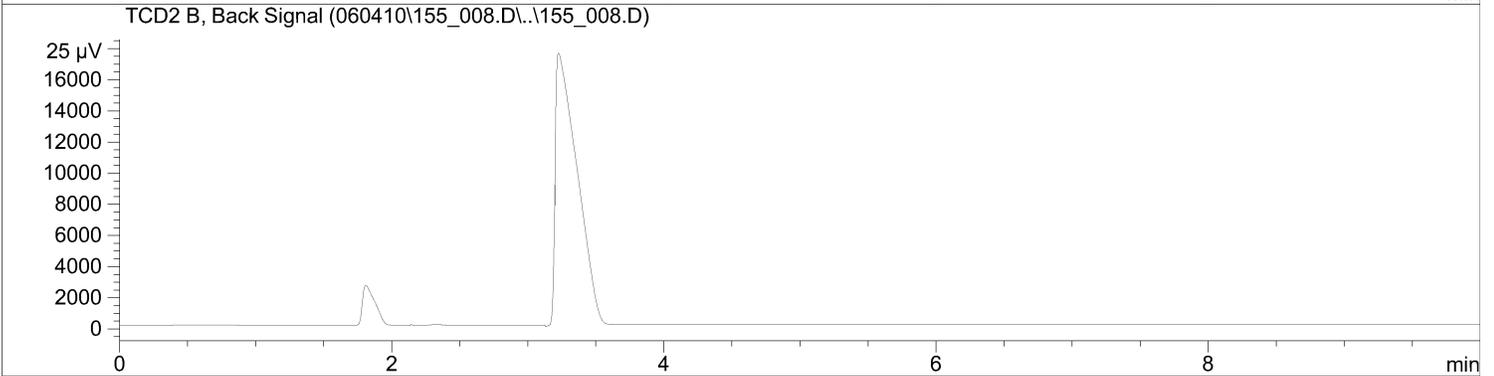
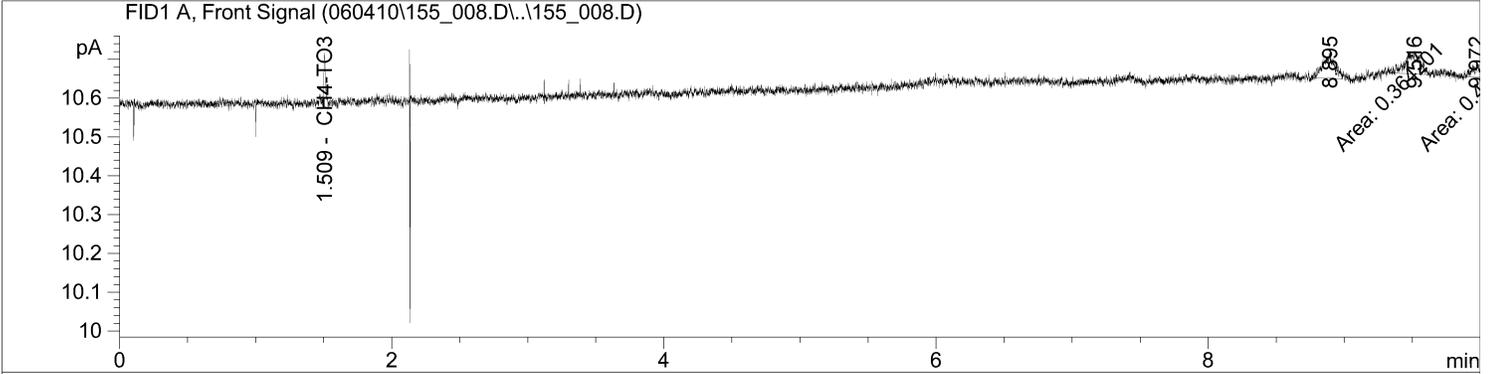
RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.508	BB	7.54350e-1	8.13190	6.13430		CH4-TO3

Sample Name: 220380-006,163704,2.58,c00060

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 5
Injection Date  : 6/4/2010 05:27:45 PM
                                           Inj Volume : Manually

Acq. Method     : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed    : 6/4/2010 05:22:34 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 6/5/2010 05:08:38 PM by GC28 RGA
    
```



External Standard Report

```

Sorted By      :      Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     :      1.0000
Dilution       :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
    
```

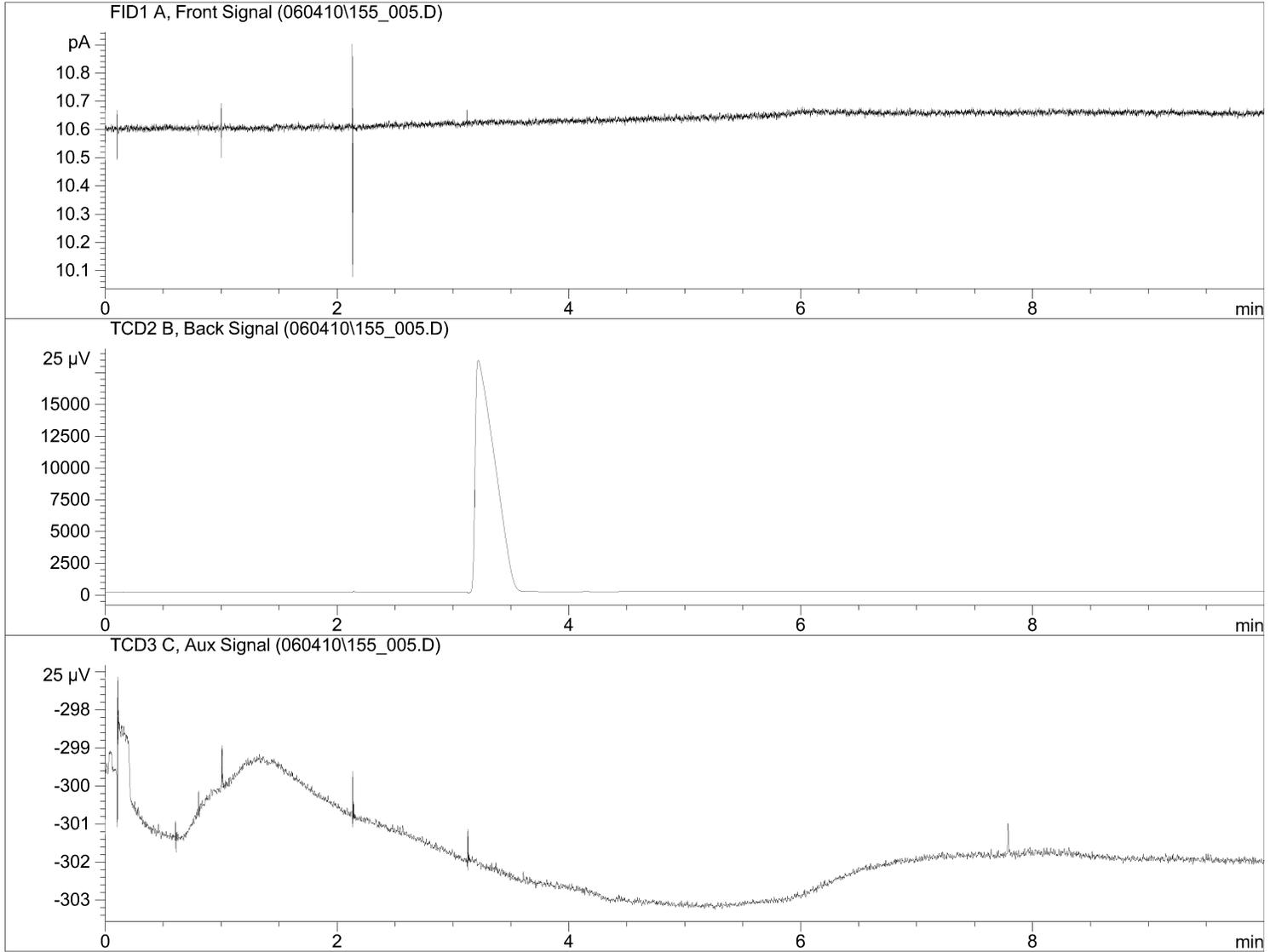
Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.509	BB	1.31603e-1	8.13190	1.07018		CH4-TO3

Sample Name: mb.qc547324.163704.1x

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 5
Injection Date  : 6/4/2010 03:03:55 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed    : 6/4/2010 02:42:47 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 6/5/2010 05:08:38 PM by GC28 RGA
    
```



External Standard Report

```

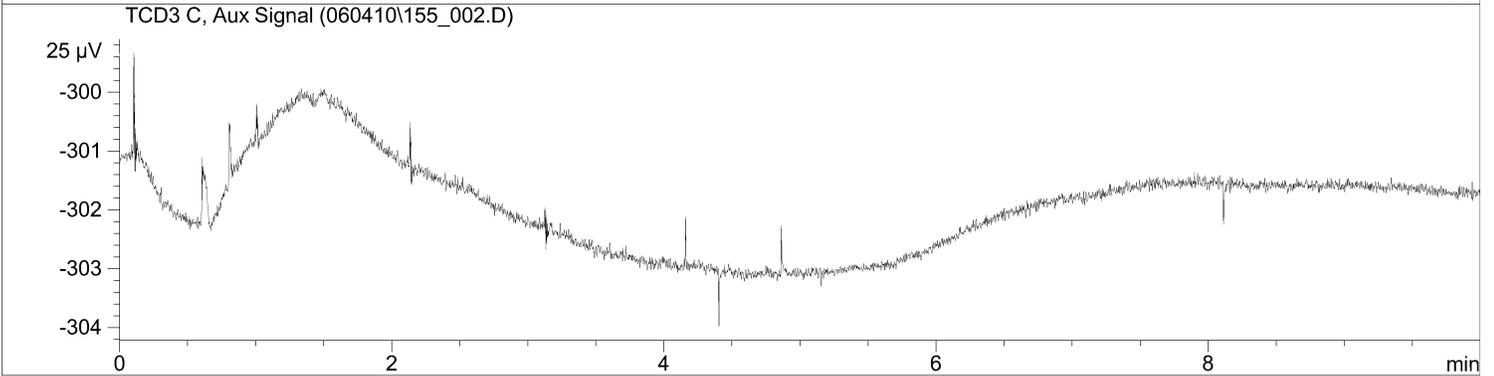
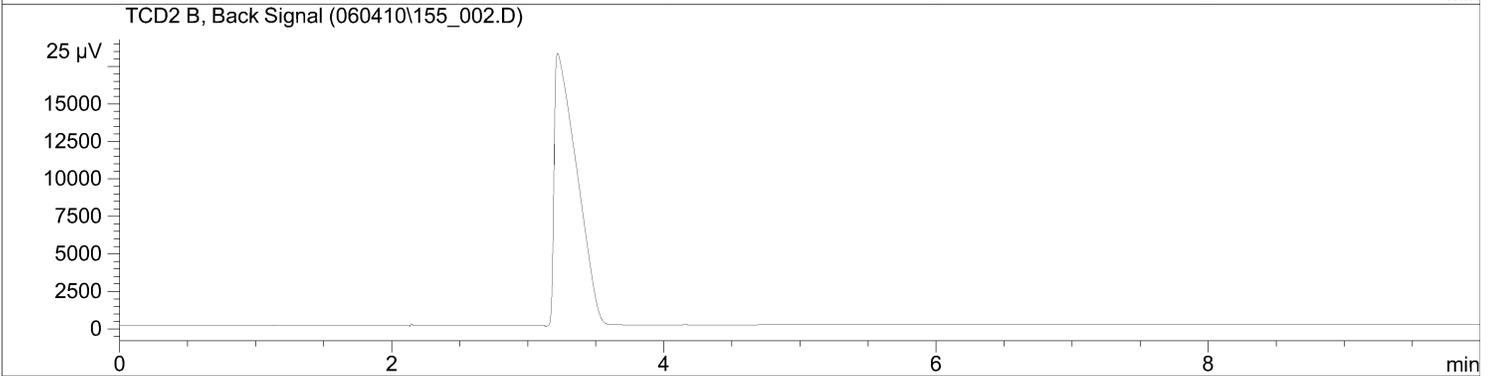
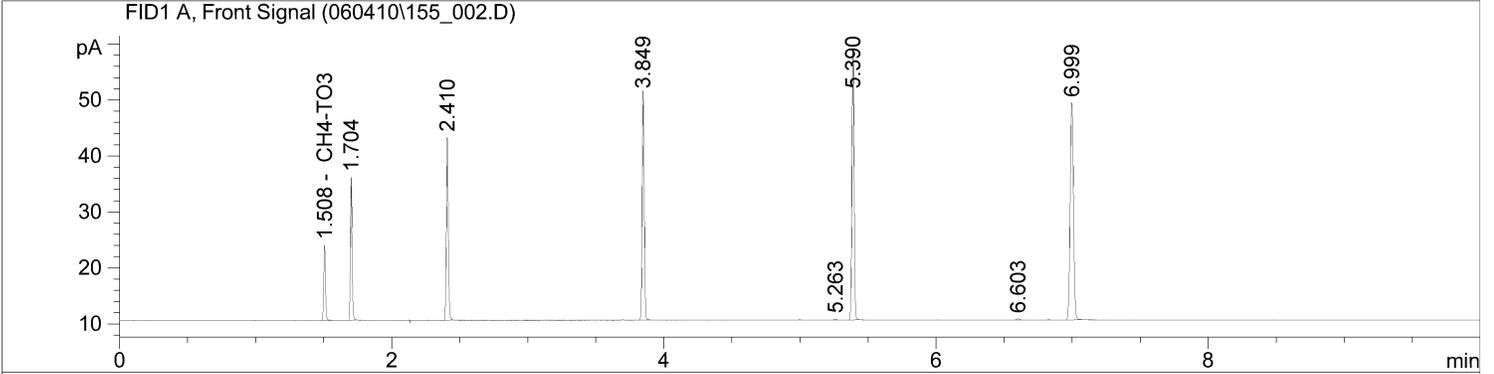
=====
Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution       : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs
    
```

Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.495	-	-	-	-	-	CH4-TO3

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 2
Injection Date  : 6/4/2010 01:27:25 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed    : 6/4/2010 01:20:46 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 3/15/2010 04:30:11 PM by GC28 RGA
  
```



External Standard Report

```

Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution       : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs
  
```

Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.508	BB	11.99495	8.13190	97.54171		CH4-TO3

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220380 GCAIR Air: ASTM D1946

Inst : GC28
 Calnum : 1309434246001
 Units : uL/L

Date : 28-OCT-2009 13:50
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	301_006	1309434246006		28-OCT-2009 13:50	S13246
L2	301_007	1309434246007		28-OCT-2009 14:17	S13247
L3	301_008	1309434246008		28-OCT-2009 14:50	S13248
L4	301_009	1309434246009		28-OCT-2009 15:11	S13249
L5	301_010	1309434246010		28-OCT-2009 15:33	S13250
L6	301_011	1309434246011		28-OCT-2009 16:02	S13251

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	Flg
Oxygen	B		0.2310	0.2147	0.2147	0.2063	0.1979	AVRG		4.69612		0.2129	6	.99	
Carbon Dioxide	B		0.2502	0.2589	0.2542	0.2539	0.2416m	AVRG		3.97217		0.2518	3	.99	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Oxygen	B			500.0	8	2000	1	5000	1	10000	-3	2E+5	-7
Carbon Dioxide	B			500.0	-1	2000	3	5000	1	10000	1	2E+5	-4

m>manual integration

Instrument amount = a0 + response * a1 + response² * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220380 GCAIR Air: EPA TO-3

Inst : GC28
 Calnum : 1309497539003
 Units : uL/L

Date : 11-DEC-2009 12:37
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	345_002	1309497539002		11-DEC-2009 12:37	S13381
L2	345_003	1309497539003		11-DEC-2009 13:00	S13382
L3	345_004	1309497539004		11-DEC-2009 13:18	S13383
L4	345_005	1309497539005		11-DEC-2009 13:35	S13384
L5	345_006	1309497539006		11-DEC-2009 13:53	S13385
L6	345_007	1309497539007		11-DEC-2009 14:16	S13386
L7	345_008	1309497539008		11-DEC-2009 14:36	S13387
L8	345_009	1309497539009		11-DEC-2009 16:08	S13388

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Methane-TO3	A	0.1314	0.1225	0.1271	0.1208	0.1197	0.1183	0.1197	0.1242	AVRG		8.13190		0.1230	4	.99	30	
C1-C2 as Ethane	A	0.2344	0.2246	0.2351	0.2214	0.2192				AVRG		4.40634		0.2269	3	.99	30	
C2-C3 as Propane	A	0.3733	0.3403	0.3520	0.3349	0.3314				AVRG		2.88691		0.3464	5	.99	30	
C3-C4 as n-Butane	A	0.5160	0.4525	0.4696	0.4450	0.4404				AVRG		2.15194		0.4647	7	.99	30	
C4-C5 as n-Pentane	A	0.6216	0.5643	0.5844	0.5569	0.5515				AVRG		1.73685		0.5758	5	.99	30	
C5-C6 as n-Hexane	A	0.7502	0.6699	0.6955	0.6640	0.6573				AVRG		1.45477		0.6874	6	.99	30	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Methane-TO3	A	0.500	7	10.00	0	100.0	3	501.0	-2	1002	-3	9980	-4	2E+5	-3	5E+5	1
C1-C2 as Ethane	A	0.500	3	10.00	-1	100.0	4	505.5	-2	1011	-3						
C2-C3 as Propane	A	0.500	8	10.00	-2	100.0	2	501.0	-3	1002	-4						
C3-C4 as n-Butane	A	0.500	11	10.00	-3	100.0	1	502.5	-4	1005	-5						
C4-C5 as n-Pentane	A	0.500	8	10.00	-2	100.0	2	500.0	-3	1000	-4						
C5-C6 as n-Hexane	A	0.500	9	10.00	-3	100.0	1	498.5	-3	997.0	-4						

Instrument amount = a0 + response * a1 + response² * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220380 GCAIR Air
EPA TO-3

Inst : GC28

Calnum : 1309497539003

Cal Date : 11-DEC-2009

ICV 1309497539011 (345_011 11-DEC-2009) stds: S13375

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Methane-TO3	A	1000	1017	uL/L	2	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220380 GCAIR Air
EPA TO-3

Inst : GC28
 Seqnum : 1300223985017
 Cal : 1309497539003
 Standards: S14660

IDF : 1.0
 Time : 05-JUN-2010 00:23

File : 155_017
 Caldate : 11-DEC-2009

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Methane-TO3	A	0.1230	0.1206	100.0	98.10	uL/L	-2	30	
C1-C2 as Ethane	A	0.2269	0.2231	100.0	98.32	uL/L	-2	30	
C2-C3 as Propane	A	0.3464	0.3348	100.0	96.66	uL/L	-3	30	
C3-C4 as n-Butane	A	0.4647	0.4460	100.0	95.97	uL/L	-4	30	
C4-C5 as n-Pentane	A	0.5758	0.5578	100.0	96.89	uL/L	-3	30	
C5-C6 as n-Hexane	A	0.6874	0.6624	100.0	96.36	uL/L	-4	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220380 GCAIR Air
ASTM D1946

Inst : GC28
 Seqnum : 1300223985018
 Cal : 1309434246001
 Standards: S14813

IDF : 1.0
 Time : 05-JUN-2010 00:50

File : 155_018
 Caldate : 28-OCT-2009

Analyte	Ch	Avg		Spiked	Quant	Units	%D	Max %D	Flags
		RF/CF	RF/CF						
Oxygen	B	0.2129	0.2013	2000	1891	uL/L	-5	30	
Carbon Dioxide	B	0.2518	0.2525	2000	2006	uL/L	0	30	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1300223985

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 06/04/10 13:05

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	155_001	X	IB			06/04/10 13:05	1.0	
002	155_002	CCV/BS	QC547325	Air	163704	06/04/10 13:27	1.0	1
003	155_003	BSD	QC547326	Air	163704	06/04/10 13:55	1.0	1
004	155_004	CCV/LCS	QC547327	Air	163704	06/04/10 14:27	1.0	2
005	155_005	BLANK	QC547324	Air	163704	06/04/10 15:03	1.0	
007	155_007	MSS	220380-001	Air	163704	06/04/10 17:07	2.14	
008	155_008	SAMPLE	220380-006	Air	163704	06/04/10 17:27	2.58	
009	155_009	X	IB			06/04/10 17:49	1.0	
010	155_010	SAMPLE	220424-004	Air	163704	06/04/10 19:54	2.200	
011	155_011	X	IB			06/04/10 20:44	1.0	
012	155_012	X	IB			06/04/10 21:05	1.0	
013	155_013	SAMPLE	220424-005	Air	163704	06/04/10 22:39	2.22	
014	155_014	X	IB			06/04/10 23:09	1.0	
015	155_015	X	IB			06/04/10 23:42	1.0	
016	155_016	SDUP	QC547328	Air	163704	06/05/10 00:01	2.14	
017	155_017	CCV				06/05/10 00:23	1.0	1
018	155_018	CCV				06/05/10 00:50	1.0	2

SJD 06/05/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Analyst: SJD Date: 06/05/10 Reviewer: BO Date: 06/07/10

Standards used: 1=S14660 2=S14813

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1309434246

Instrument : GC28
 Method : ASTM D1946

Begun : 10/28/09 11:55

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	301_001	IB	IB			10/28/09 11:55	1.0	
002	301_002	IB	IB			10/28/09 12:15	1.0	
003	301_003	IB	IB			10/28/09 12:40	1.0	
004	301_004	IB	HE BLANK			10/28/09 13:05	1.0	
005	301_005	ICAL	CALBLANK			10/28/09 13:26	1.0	
006	301_006	ICAL				10/28/09 13:50	1.0	1
007	301_007	ICAL				10/28/09 14:17	1.0	2
008	301_008	ICAL				10/28/09 14:50	1.0	3
009	301_009	ICAL				10/28/09 15:11	1.0	4
010	301_010	ICAL				10/28/09 15:33	1.0	5
011	301_011	ICAL				10/28/09 16:02	1.0	6

APP 11/12/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 011.

Analyst: APP Date: 11/12/09 Reviewer: SJD Date: 11/12/09

Standards used: 1=S13246 2=S13247 3=S13248 4=S13249 5=S13250 6=S13251

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1309497539

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 12/11/09 12:19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	345_001	IB	IB			12/11/09 12:19	1.0	
002	345_002	ICAL				12/11/09 12:37	1.0	1
003	345_003	ICAL				12/11/09 13:00	1.0	2
004	345_004	ICAL				12/11/09 13:18	1.0	3
005	345_005	ICAL				12/11/09 13:35	1.0	4
006	345_006	ICAL				12/11/09 13:53	1.0	5
007	345_007	ICAL				12/11/09 14:16	1.0	6
008	345_008	ICAL				12/11/09 14:36	1.0	7
009	345_009	ICAL				12/11/09 16:08	1.0	8
010	345_010	IB	IB			12/11/09 16:29	1.0	
011	345_011	ICV				12/11/09 16:47	1.0	9

APP 12/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 011.

Analyst: APP Date: 12/14/09 Reviewer: SJD Date: 01/20/10

Standards used: 1=S13381 2=S13382 3=S13383 4=S13384 5=S13385 6=S13386 7=S13387 8=S13388 9=S13375

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSI _g)	Final Pressure (PSI _g)	Dilution Factor	Comments
P. 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00257	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
P. 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.57	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	BLANK	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
S. 5/30/10	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.18x CAN C00152
	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x CAN C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x CAN C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x CAN C00119 C00315
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.93x CAN C00119 C00306
B. 6/11/10	BLANK	C00355	—	—	1x	
S. 6/11/10	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x CAN C00280
	220276-007	C00360	0.75 added	30.0 total added	77.6x	40x of 1.94x CAN C00170
	220276-008	C00361	0.75 added	30.0 total added	75.6x	40x of 1.89x CAN C00270
	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x CAN C00179
	220276-008	C00359	1.5 added	30.0 total added	157.2x	20x of 7.56x CAN C00361
	220380-002	C00263	10.21	23.16	2.27x	
	-003	C00050	10.44	23.48	2.25x	
	-004	C00183	10.38	23.65	2.28x	
	-005	C00085	10.26	23.84	2.32x	
	-006	C00060	9.16	23.63	2.58x	
	-007	C00104	10.05	23.55	2.34x	
	-008	C00108	9.61	23.32	2.43x	

Continued on Page 39

Read and Understood By

Signed

Date

Signed

Date



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220424
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
P-33-10Q2	220424-001
P-37-10Q2	220424-002
P-38-10Q2	220424-003
BSVE-INLET-10Q2	220424-004
BSVE-SVM-10Q2-001	220424-005
P-35-10Q2	220424-006
SVV-3-10Q2	220424-007
SVV-4-10Q2	220424-008
SVV-2-10Q2	220424-009
PMW-12-M-10Q2	220424-010
PMW-13-U-10Q2	220424-011
PMW-13-M-10Q2	220424-012
BSVE-SVM-10Q2-006	220424-013
BSVE-SVM-10Q2-005	220424-014

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____
Senior Program Manager

Date: 06/07/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220424
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/25/10
Samples Received: 05/25/10

This data package contains sample and QC results for eleven air samples, requested for the above referenced project on 05/25/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

High surrogate recovery was observed for bromofluorobenzene in BSVE-SVM-10Q2-005 (lab # 220424-014), due to matrix interference.

No other analytical problems were encountered.

Volatile Organics in Air GC (ASTM D1946 and EPA TO-3):

No analytical problems were encountered.

Chain of Custody

220424

220300

3/3

Amundsen 5/27 TW

Honeywell Chain Of Custody / Analysis Request

Customer: **Amundsen** | Job # **220300** | Lab # **0003**

Site Name: **City Harbor AZ** | Location of Site: **Phoenix, AZ**

Sample: **Tail containers kept**

Analysis Temperature Time (TAT): **10**

Hard Copy To: **Tunedal Powers and Helaris West, Oligon Honeywell Copy Binary 1000**

Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Sample Cont.	Units	Container Serial No.
30	00	05	PM10-12-M-1002	05/10/10	01:50	SV	AIR	REG	1	GM	00333
31	05	09	PM10-12-M-1002	05/10/10	03:00	SV	AIR	REG	1	GM	00299
32	09	13	PM10-12-M-1002	05/10/10	04:30	SV	AIR	REG	1	GM	00316
33	13	17	PM10-12-M-1002	05/10/10	06:00	SV	AIR	REG	1	GM	00301
34	17	21	PM10-12-M-1002	05/10/10	07:30	SV	AIR	REG	1	GM	00334

Notes: **DO NOT ANALYZE** (repeated for samples 30-34)

Preservatives: (Other, Specify):

Received by: **Carlin Hill** | Date/Time: **05/10/10 7:55**

Company: **Carlin Hill**

Signature: **Carlin Hill**

Rec'd by Carlin Hill 5/25/10

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # Z20380 + Date Received 5-25-10 Number of coolers 10x
Client CHARM DAZ Project BSUE QTR SUM

Date Opened 5-25-10 By (print) S. EVANS (sign) [Signature]
Date Logged in ✓ By (print) M. VILLONZA (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) FedEx # YES NO
Shipping info 7944 5166 3660 / 7928 27996455

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 24 Name Signature Date 5-24-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap
- Cloth material
- Foam blocks
- Cardboard
- Bags
- Styrofoam
- None
- Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are samples in the appropriate containers for indicated tests? _____ YES NO

11. Are sample labels present, in good condition and complete? _____ YES NO

12. Do the sample labels agree with custody papers? _____ YES NO

13. Was sufficient amount of sample sent for tests requested? _____ YES NO

14. Are the samples appropriately preserved? _____ YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

16. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Laboratory Job Number 220424

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-33-10Q2	Diln Fac:	4.460
Lab ID:	220424-001	Batch#:	163703
Matrix:	Air	Sampled:	05/19/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.2	ND	5.7	D1
Chloroethane	ND	2.2	ND	5.9	D1
1,1-Dichloroethene	ND	2.2	ND	8.8	D1
1,1-Dichloroethane	ND	2.2	ND	9.0	D1
MTBE	ND	2.2	ND	8.0	D1
cis-1,2-Dichloroethene	ND	2.2	ND	8.8	D1
n-Hexane	ND	2.2	ND	7.9	D1
Chloroform	ND	2.2	ND	11	D1
Benzene	ND	2.2	ND	7.1	D1
Trichloroethene	6.0	2.2	32	12	D1
Toluene	ND	2.2	ND	8.4	D1
Tetrachloroethene	7.4	2.2	50	15	D1
Ethylbenzene	ND	2.2	ND	9.7	D1
m,p-Xylenes	7.6	2.2	33	9.7	D1
o-Xylene	ND	2.2	ND	9.7	D1
1,3,5-Trimethylbenzene	6.7	2.2	33	11	D1
1,2,4-Trimethylbenzene	30	2.2	150	11	D1
Xylene (total)	7.6	4.5	33	19	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	111	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-37-10Q2	Diln Fac:	4.100
Lab ID:	220424-002	Batch#:	163703
Matrix:	Air	Sampled:	05/19/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.1	ND	5.2	D1
Chloroethane	ND	2.1	ND	5.4	D1
1,1-Dichloroethene	ND	2.1	ND	8.1	D1
1,1-Dichloroethane	ND	2.1	ND	8.3	D1
MTBE	ND	2.1	ND	7.4	D1
cis-1,2-Dichloroethene	ND	2.1	ND	8.1	D1
n-Hexane	ND	2.1	ND	7.2	D1
Chloroform	ND	2.1	ND	10	D1
Benzene	ND	2.1	ND	6.5	D1
Trichloroethene	2.6	2.1	14	11	D1
Toluene	ND	2.1	ND	7.7	D1
Tetrachloroethene	ND	2.1	ND	14	D1
Ethylbenzene	ND	2.1	ND	8.9	D1
m,p-Xylenes	3.4	2.1	15	8.9	D1
o-Xylene	ND	2.1	ND	8.9	D1
1,3,5-Trimethylbenzene	3.8	2.1	18	10	D1
1,2,4-Trimethylbenzene	17	2.1	84	10	D1
Xylene (total)	3.4	2.1	15	8.9	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	101	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-38-10Q2	Diln Fac:	2.070
Lab ID:	220424-003	Batch#:	163644
Matrix:	Air	Sampled:	05/19/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.6	D1
Chloroethane	ND	1.0	ND	2.7	D1
1,1-Dichloroethene	2.7	1.0	11	4.1	D1
1,1-Dichloroethane	ND	1.0	ND	4.2	D1
MTBE	ND	1.0	ND	3.7	D1
cis-1,2-Dichloroethene	ND	1.0	ND	4.1	D1
n-Hexane	ND	1.0	ND	3.6	D1
Chloroform	ND	1.0	ND	5.1	D1
Benzene	ND	1.0	ND	3.3	D1
Trichloroethene	13	1.0	73	5.6	D1
Toluene	ND	1.0	ND	3.9	D1
Tetrachloroethene	11	1.0	71	7.0	D1
Ethylbenzene	ND	1.0	ND	4.5	D1
m,p-Xylenes	2.4	1.0	10	4.5	D1
o-Xylene	ND	1.0	ND	4.5	D1
1,3,5-Trimethylbenzene	2.4	1.0	12	5.1	D1
1,2,4-Trimethylbenzene	12	1.0	57	5.1	D1
Xylene (total)	2.4	2.1	10	9.0	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	104	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	P-35-10Q2	Units (M):	ug/m3
Lab ID:	220424-006	Sampled:	05/20/10
Matrix:	Air	Received:	05/25/10
Units (V):	ppbv	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac	Batch#	ADEQ	Flags
Vinyl Chloride	ND	0.95	ND	2.4	1.890	163644	D2	
Chloroethane	ND	0.95	ND	2.5	1.890	163644	D2	
1,1-Dichloroethene	ND	0.95	ND	3.7	1.890	163644	D2	
1,1-Dichloroethane	ND	0.95	ND	3.8	1.890	163644	D2	
MTBE	ND	0.95	ND	3.4	1.890	163644	D2	
cis-1,2-Dichloroethene	ND	0.95	ND	3.7	1.890	163644	D2	
n-Hexane	ND	0.95	ND	3.3	1.890	163644	D2	
Chloroform	ND	0.95	ND	4.6	1.890	163644	D2	
Benzene	ND	0.95	ND	3.0	1.890	163644	D2	
Trichloroethene	30	0.95	160	5.1	1.890	163644	D2	
Toluene	ND	0.95	ND	3.6	1.890	163644	D2	
Tetrachloroethene	410	5.7	2,800	38	11.34	163703	D1	
Ethylbenzene	1.6	0.95	7.1	4.1	1.890	163644	D2	
m,p-Xylenes	5.0	0.95	22	4.1	1.890	163644	D2	
o-Xylene	1.0	0.95	4.4	4.1	1.890	163644	D2	
1,3,5-Trimethylbenzene	3.7	0.95	18	4.6	1.890	163644	D2	
1,2,4-Trimethylbenzene	19	0.95	92	4.6	1.890	163644	D2	
Xylene (total)	6.0	1.9	26	8.2	1.890	163644	D2	

Surrogate	%REC	Limits	Diln Fac	Batch#	ADEQ	Flags
Bromofluorobenzene	117	70-130	1.890	163644		

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SVV-3-10Q2	Diln Fac:	2.210
Lab ID:	220424-007	Batch#:	163703
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.8	D1
Chloroethane	ND	1.1	ND	2.9	D1
1,1-Dichloroethene	ND	1.1	ND	4.4	D1
1,1-Dichloroethane	ND	1.1	ND	4.5	D1
MTBE	ND	1.1	ND	4.0	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.4	D1
n-Hexane	ND	1.1	ND	3.9	D1
Chloroform	ND	1.1	ND	5.4	D1
Benzene	ND	1.1	ND	3.5	D1
Trichloroethene	ND	1.1	ND	5.9	D1
Toluene	ND	1.1	ND	4.2	D1
Tetrachloroethene	2.4	1.1	17	7.5	D1
Ethylbenzene	ND	1.1	ND	4.8	D1
m,p-Xylenes	3.4	1.1	15	4.8	D1
o-Xylene	ND	1.1	ND	4.8	D1
1,3,5-Trimethylbenzene	2.8	1.1	14	5.4	D1
1,2,4-Trimethylbenzene	14	1.1	67	5.4	D1
Xylene (total)	3.4	2.2	15	9.6	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	109	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SVV-4-10Q2	Diln Fac:	2.150
Lab ID:	220424-008	Batch#:	163703
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.7	D1
Chloroethane	ND	1.1	ND	2.8	D1
1,1-Dichloroethene	ND	1.1	ND	4.3	D1
1,1-Dichloroethane	ND	1.1	ND	4.4	D1
MTBE	ND	1.1	ND	3.9	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.3	D1
n-Hexane	ND	1.1	ND	3.8	D1
Chloroform	ND	1.1	ND	5.2	D1
Benzene	3.8	1.1	12	3.4	D1
Trichloroethene	1.1	1.1	6.0	5.8	D1
Toluene	ND	1.1	ND	4.1	D1
Tetrachloroethene	3.6	1.1	25	7.3	D1
Ethylbenzene	ND	1.1	ND	4.7	D1
m,p-Xylenes	3.3	1.1	14	4.7	D1
o-Xylene	ND	1.1	ND	4.7	D1
1,3,5-Trimethylbenzene	2.6	1.1	13	5.3	D1
1,2,4-Trimethylbenzene	13	1.1	64	5.3	D1
Xylene (total)	3.3	2.2	14	9.3	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	105	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SVV-2-10Q2	Diln Fac:	2.280
Lab ID:	220424-009	Batch#:	163703
Matrix:	Air	Sampled:	05/20/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.9	D1
Chloroethane	ND	1.1	ND	3.0	D1
1,1-Dichloroethene	ND	1.1	ND	4.5	D1
1,1-Dichloroethane	ND	1.1	ND	4.6	D1
MTBE	ND	1.1	ND	4.1	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.5	D1
n-Hexane	ND	1.1	ND	4.0	D1
Chloroform	ND	1.1	ND	5.6	D1
Benzene	1.3	1.1	4.2	3.6	D1
Trichloroethene	1.5	1.1	8.2	6.1	D1
Toluene	ND	1.1	ND	4.3	D1
Tetrachloroethene	ND	1.1	ND	7.7	D1
Ethylbenzene	ND	1.1	ND	5.0	D1
m,p-Xylenes	3.4	1.1	15	5.0	D1
o-Xylene	ND	1.1	ND	5.0	D1
1,3,5-Trimethylbenzene	2.7	1.1	13	5.6	D1
1,2,4-Trimethylbenzene	14	1.1	69	5.6	D1
Xylene (total)	3.4	2.3	15	9.9	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	106	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BSVE-SVM-10Q2-006	Diln Fac:	2.130
Lab ID:	220424-013	Batch#:	163703
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.7	D1
Chloroethane	ND	1.1	ND	2.8	D1
1,1-Dichloroethene	1.3	1.1	5.2	4.2	D1
1,1-Dichloroethane	8.8	1.1	36	4.3	D1
MTBE	ND	1.1	ND	3.8	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.2	D1
n-Hexane	ND	1.1	ND	3.8	D1
Chloroform	ND	1.1	ND	5.2	D1
Benzene	ND	1.1	ND	3.4	D1
Trichloroethene	14	1.1	75	5.7	D1
Toluene	ND	1.1	ND	4.0	D1
Tetrachloroethene	7.0	1.1	47	7.2	D1
Ethylbenzene	1.1	1.1	4.8	4.6	D1
m,p-Xylenes	2.8	1.1	12	4.6	D1
o-Xylene	ND	1.1	ND	4.6	D1
1,3,5-Trimethylbenzene	1.9	1.1	9.5	5.2	D1
1,2,4-Trimethylbenzene	9.8	1.1	48	5.2	D1
Xylene (total)	2.8	2.1	12	9.2	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	106	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BSVE-SVM-10Q2-005	Diln Fac:	2.070
Lab ID:	220424-014	Batch#:	163703
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.6	D2
Chloroethane	ND	1.0	ND	2.7	D2
1,1-Dichloroethene	8.4	1.0	33	4.1	D2
1,1-Dichloroethane	150	1.0	600	4.2	D2
MTBE	1.3	1.0	4.6	3.7	D2
cis-1,2-Dichloroethene	6.8	1.0	27	4.1	D2
n-Hexane	1.1	1.0	4.0	3.6	D2
Chloroform	12	1.0	58	5.1	D2
Benzene	1.5	1.0	4.9	3.3	D2
Trichloroethene	71	1.0	380	5.6	D2
Toluene	6.3	1.0	24	3.9	D2
Tetrachloroethene	10	1.0	68	7.0	D2
Ethylbenzene	2.5	1.0	11	4.5	D2
m,p-Xylenes	5.7	1.0	25	4.5	D2
o-Xylene	2.3	1.0	9.8	4.5	D2
1,3,5-Trimethylbenzene	1.5	1.0	7.6	5.1	D2
1,2,4-Trimethylbenzene	7.9	1.0	39	5.1	D2
Xylene (total)	7.9	2.1	34	9.0	D2

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	184 *	70-130	S1

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163644
Units (V):	ppbv	Analyzed:	06/03/10
Diln Fac:	1.000		

Type: BS Lab ID: QC547082

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	11.18	112	70-130		
Chloroethane	10.00	10.92	109	70-130		
1,1-Dichloroethene	10.00	11.35	114	70-130		
1,1-Dichloroethane	10.00	11.24	112	70-130		
MTBE	10.00	11.58	116	70-130		
cis-1,2-Dichloroethene	10.00	11.53	115	70-130		
n-Hexane	10.00	11.29	113	70-130		
Chloroform	10.00	10.49	105	70-130		
Benzene	10.00	10.89	109	70-130		
Trichloroethene	10.00	10.26	103	70-130		
Toluene	10.00	11.87	119	70-130		
Tetrachloroethene	10.00	10.73	107	70-130		
Ethylbenzene	10.00	11.98	120	70-130		
m,p-Xylenes	20.00	23.37	117	70-130		
o-Xylene	10.00	11.61	116	70-130		
1,3,5-Trimethylbenzene	10.00	11.97	120	70-130		
1,2,4-Trimethylbenzene	10.00	11.71	117	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

Type: BSD Lab ID: QC547083

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	11.31	113	70-130	1	25		
Chloroethane	10.00	11.10	111	70-130	2	25		
1,1-Dichloroethene	10.00	11.43	114	70-130	1	20		
1,1-Dichloroethane	10.00	11.46	115	70-130	2	20		
MTBE	10.00	11.92	119	70-130	3	25		
cis-1,2-Dichloroethene	10.00	11.25	112	70-130	2	25		
n-Hexane	10.00	11.44	114	70-130	1	25		
Chloroform	10.00	10.38	104	70-130	1	25		
Benzene	10.00	11.52	115	70-130	6	25		
Trichloroethene	10.00	9.998	100	70-130	3	25		
Toluene	10.00	11.78	118	70-130	1	25		
Tetrachloroethene	10.00	11.08	111	70-130	3	25		
Ethylbenzene	10.00	12.46	125	70-130	4	25		
m,p-Xylenes	20.00	22.66	113	70-130	3	25		
o-Xylene	10.00	11.86	119	70-130	2	25		
1,3,5-Trimethylbenzene	10.00	12.11	121	70-130	1	25		
1,2,4-Trimethylbenzene	10.00	11.99	120	70-130	2	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC547084	Diln Fac:	1.000
Matrix:	Air	Batch#:	163644
Units (V):	ppbv	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	91	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163703
Units (V):	ppbv	Analyzed:	06/04/10
Diln Fac:	1.000		

Type: BS Lab ID: QC547321

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	11.26	113	70-130		
Chloroethane	10.00	11.13	111	70-130		
1,1-Dichloroethene	10.00	11.21	112	70-130		
1,1-Dichloroethane	10.00	11.35	113	70-130		
MTBE	10.00	11.62	116	70-130		
cis-1,2-Dichloroethene	10.00	11.12	111	70-130		
n-Hexane	10.00	11.18	112	70-130		
Chloroform	10.00	10.24	102	70-130		
Benzene	10.00	11.60	116	70-130		
Trichloroethene	10.00	10.11	101	70-130		
Toluene	10.00	11.27	113	70-130		
Tetrachloroethene	10.00	10.75	107	70-130		
Ethylbenzene	10.00	11.72	117	70-130		
m,p-Xylenes	20.00	22.59	113	70-130		
o-Xylene	10.00	11.60	116	70-130		
1,3,5-Trimethylbenzene	10.00	11.13	111	70-130		
1,2,4-Trimethylbenzene	10.00	11.63	116	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

Type: BSD Lab ID: QC547322

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	11.34	113	70-130	1	25		
Chloroethane	10.00	11.14	111	70-130	0	25		
1,1-Dichloroethene	10.00	11.20	112	70-130	0	20		
1,1-Dichloroethane	10.00	11.27	113	70-130	1	20		
MTBE	10.00	11.72	117	70-130	1	25		
cis-1,2-Dichloroethene	10.00	10.96	110	70-130	1	25		
n-Hexane	10.00	11.29	113	70-130	1	25		
Chloroform	10.00	10.56	106	70-130	3	25		
Benzene	10.00	11.53	115	70-130	1	25		
Trichloroethene	10.00	10.14	101	70-130	0	25		
Toluene	10.00	12.09	121	70-130	7	25		
Tetrachloroethene	10.00	10.88	109	70-130	1	25		
Ethylbenzene	10.00	12.21	122	70-130	4	25		
m,p-Xylenes	20.00	23.80	119	70-130	5	25		
o-Xylene	10.00	11.55	115	70-130	0	25		
1,3,5-Trimethylbenzene	10.00	11.80	118	70-130	6	25		
1,2,4-Trimethylbenzene	10.00	12.29	123	70-130	6	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	98	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC547323	Diln Fac:	1.000
Matrix:	Air	Batch#:	163703
Units (V):	ppbv	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	93	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220424 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220424 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200222400001 File : 154_001 Time : 03-JUN-2010 10:40

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	24898	12.37	
75	30% - 66% of mass 95	95929	47.67	
95		201230	100.00	
96	5% - 9% of mass 95	13994	6.95	
173	< 2% of mass 174	269	0.17	
174	50% - 120% of mass 95	160400	79.71	
175	4% - 9% of mass 174	12239	7.63	
176	93% - 101% of mass 174	153261	95.55	
177	5% - 9% of mass 176	12116	7.91	

CURTIS & TOMPKINS BFB TUNE FOR 220424 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200223915001 File : 155_001 Time : 04-JUN-2010 11:55

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	22448	10.06	
75	30% - 66% of mass 95	90379	40.50	
95		223150	100.00	
96	5% - 9% of mass 95	13270	5.95	
173	< 2% of mass 174	168	0.10	
174	50% - 120% of mass 95	173033	77.54	
175	4% - 9% of mass 174	10516	6.08	
176	93% - 101% of mass 174	164151	94.87	
177	5% - 9% of mass 176	10549	6.43	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220424 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

Page 3 of 3

1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220424 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220424 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC547082 IDF : 1.0
 Seqnum : 1200222400002.2 File : 154_002 Time : 03-JUN-2010 11:43
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14774, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.9056	10.00	11.18	nL/L	12	30	0.0500	u
Chloroethane	0.0815	0.0890	10.00	10.92	nL/L	9	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1766	10.00	11.35	nL/L	14	30	0.0500	u
1,1-Dichloroethane	2.2145	2.4891	10.00	11.24	nL/L	12	30	0.0500	u
MTBE	1.4577	1.6878	10.00	11.58	nL/L	16	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.8956	10.00	11.53	nL/L	15	30	0.0500	u
n-Hexane	0.9022	1.0179	10.00	11.29	nL/L	13	30	0.0500	u
Chloroform	2.4999	2.6217	10.00	10.49	nL/L	5	30	0.0500	u
Benzene	0.5014	0.5461	10.00	10.89	nL/L	9	30	0.0500	u
Trichloroethene	0.5169	0.5303	10.00	10.26	nL/L	3	30	0.0500	u
Toluene	1.5032	1.7837	10.00	11.87	nL/L	19	30	0.0500	u
Tetrachloroethene	0.9425	1.0111	10.00	10.73	nL/L	7	30	0.0500	u
Ethylbenzene	1.8627	2.2314	10.00	11.98	nL/L	20	30	0.0500	u
m,p-Xylenes	1.6467	1.9242	20.00	23.37	nL/L	17	30	0.0500	u
o-Xylene	1.6921	1.9640	10.00	11.61	nL/L	16	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.5842	10.00	11.97	nL/L	20	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.3133	10.00	11.71	nL/L	17	30	0.0500	u
Bromofluorobenzene	0.8080	0.7642	6.667	6.305	nL/L	-5	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	311497	-13.63	32.92	32.93	0.02
1,4-Difluorobenzene	1294000	1122000	-13.29	36.90	36.91	0.01
Chlorobenzene-d5	1155000	927678	-19.68	48.03	48.04	0.01

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220424 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC547321 IDF : 1.0
 Seqnum : 1200223915002.1 File : 155_002 Time : 04-JUN-2010 13:01
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14774, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.9124	10.00	11.26	nL/L	13	30	0.0500	u
Chloroethane	0.0815	0.0907	10.00	11.13	nL/L	11	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1492	10.00	11.21	nL/L	12	30	0.0500	u
1,1-Dichloroethane	2.2145	2.5120	10.00	11.35	nL/L	13	30	0.0500	u
MTBE	1.4577	1.6934	10.00	11.62	nL/L	16	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.8286	10.00	11.12	nL/L	11	30	0.0500	u
n-Hexane	0.9022	1.0086	10.00	11.18	nL/L	12	30	0.0500	u
Chloroform	2.4999	2.5590	10.00	10.24	nL/L	2	30	0.0500	u
Benzene	0.5014	0.5812	10.00	11.60	nL/L	16	30	0.0500	u
Trichloroethene	0.5169	0.5222	10.00	10.11	nL/L	1	30	0.0500	u
Toluene	1.5032	1.6945	10.00	11.27	nL/L	13	30	0.0500	u
Tetrachloroethene	0.9425	1.0127	10.00	10.75	nL/L	7	30	0.0500	u
Ethylbenzene	1.8627	2.1831	10.00	11.72	nL/L	17	30	0.0500	u
m,p-Xylenes	1.6467	1.8602	20.00	22.59	nL/L	13	30	0.0500	u
o-Xylene	1.6921	1.9621	10.00	11.60	nL/L	16	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.4027	10.00	11.13	nL/L	11	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.2964	10.00	11.63	nL/L	16	30	0.0500	u
Bromofluorobenzene	0.8080	0.7700	6.667	6.353	nL/L	-5	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	312365	-13.39	32.92	32.92	0.01
1,4-Difluorobenzene	1294000	1104000	-14.68	36.90	36.90	0.00
Chlorobenzene-d5	1155000	959194	-16.95	48.03	48.03	0.00

BO 06/07/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200222400

Date : 06/03/10
 Sequence : MSAIR01 154

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC547082	311497	32.93	1122000	36.91	927678	48.04
003	BSD	QC547083	312051	32.93	1119000	36.92	927506	48.04
004	BLANK	QC547084	302884	32.95	960512	36.92	832549	48.04
005	SAMPLE	220426-008	299795	32.94	1028000	36.92	882174	48.05
006	SAMPLE	220426-009	302729	32.95	989828	36.93	897323	48.05
007	SAMPLE	220426-010	316654	32.94	969810	36.92	897302	48.04
008	SAMPLE	220426-011	283135	32.94	1003000	36.92	837921	48.04
009	SAMPLE	220428-002	305091	32.94	1016000	36.91	879120	48.04
010	SAMPLE	220428-003	299290	32.94	1008000	36.92	902802	48.04
011	SAMPLE	220428-004	279278	32.94	982464	36.92	875834	48.04
012	SAMPLE	220428-005	290612	32.94	986959	36.92	872086	48.04
013	SAMPLE	220428-006	300360	32.94	1007000	36.92	864512	48.04
014	SAMPLE	220428-007	298212	32.94	984425	36.92	866089	48.04
015	SAMPLE	220428-008	292903	32.93	1029000	36.91	863501	48.04
016	SAMPLE	220428-009	300516	32.94	998997	36.92	879982	48.04
017	SAMPLE	220428-010	299067	32.94	979199	36.92	905302	48.04
018	SAMPLE	220428-011	299038	32.94	991561	36.92	803067	48.04
019	SAMPLE	220380-003	286978	32.95	1019000	36.91	810714	48.04
020	SAMPLE	220424-003	294760	32.93	1013000	36.91	874546	48.04
021	SAMPLE	220424-006	293208	32.94	1048000	36.92	923967	48.04

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200223915

Date : 06/04/10
 Sequence : MSAIR01 155

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC547321	312365	32.92	1104000	36.90	959194	48.03
003	BSD	QC547322	317431	32.92	1104000	36.91	919899	48.03
004	BLANK	QC547323	307700	32.95	1006000	36.92	831517	48.04
005	SAMPLE	220424-001	305090	32.94	994601	36.91	844725	48.04
006	SAMPLE	220424-002	299513	32.94	959065	36.91	841962	48.04
007	SAMPLE	220424-007	303963	32.94	976411	36.91	875710	48.04
008	SAMPLE	220424-008	285501	32.94	1009000	36.91	861027	48.04
009	SAMPLE	220424-009	286465	32.95	978644	36.92	865605	48.04
010	SAMPLE	220424-013	298511	32.93	969812	36.91	888155	48.03
011	SAMPLE	220424-014	315519	32.92	1060000	36.91	876670	48.04
012	SAMPLE	220424-006	283400	32.94	991088	36.91	838502	48.04

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200222400

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 06/03/10 10:40

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	154_001	TUN	BFB			06/03/10 10:40	1.0	1
002	154_002	CCV/BS	QC547082	Air	163644	06/03/10 11:43	1.0	2 1
003	154_003	BSD	QC547083	Air	163644	06/03/10 12:51	1.0	2 1
004	154_004	BLANK	QC547084	Air	163644	06/03/10 13:59	1.0	1
005	154_005	SAMPLE	220426-008	Air	163644	06/03/10 15:03	2.34	1
006	154_006	SAMPLE	220426-009	Air	163644	06/03/10 16:06	1.99	1
007	154_007	SAMPLE	220426-010	Air	163644	06/03/10 17:09	1.95	1
008	154_008	SAMPLE	220426-011	Air	163644	06/03/10 18:13	2.07	1
009	154_009	SAMPLE	220428-002	Air	163644	06/03/10 19:17	2.08	1
010	154_010	SAMPLE	220428-003	Air	163644	06/03/10 20:20	2.06	1
011	154_011	SAMPLE	220428-004	Air	163644	06/03/10 21:24	2.19	1
012	154_012	SAMPLE	220428-005	Air	163644	06/03/10 22:28	2.23	1
013	154_013	SAMPLE	220428-006	Air	163644	06/03/10 23:32	2.01	1
014	154_014	SAMPLE	220428-007	Air	163644	06/04/10 00:36	2.06	1
015	154_015	SAMPLE	220428-008	Air	163644	06/04/10 01:40	2.07	1
016	154_016	SAMPLE	220428-009	Air	163644	06/04/10 02:44	2.06	1
017	154_017	SAMPLE	220428-010	Air	163644	06/04/10 03:48	2.21	1
018	154_018	SAMPLE	220428-011	Air	163644	06/04/10 04:52	3.98	1
019	154_019	SAMPLE	220380-003	Air	163644	06/04/10 05:56	13.50	1
020	154_020	SAMPLE	220424-003	Air	163644	06/04/10 08:05	2.07	1
021	154_021	SAMPLE	220424-006	Air	163644	06/04/10 09:10	1.89	1

BO 06/04/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Analyst: BO Date: 06/04/10 Reviewer: SJD Date: 06/05/10

Standards used: 1=S13547 2=S14774

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200223915

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 06/04/10 11:55

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	155_001	TUN	BFB			06/04/10 11:55	1.0	1
002	155_002	CCV/BS	QC547321	Air	163703	06/04/10 13:01	1.0	2 1
003	155_003	BSD	QC547322	Air	163703	06/04/10 14:04	1.0	2 1
004	155_004	BLANK	QC547323	Air	163703	06/04/10 15:10	1.0	1
005	155_005	SAMPLE	220424-001	Air	163703	06/04/10 16:14	4.46	1
006	155_006	SAMPLE	220424-002	Air	163703	06/04/10 17:18	4.100	1
007	155_007	SAMPLE	220424-007	Air	163703	06/04/10 18:22	2.21	1
008	155_008	SAMPLE	220424-008	Air	163703	06/04/10 19:27	2.15	1
009	155_009	SAMPLE	220424-009	Air	163703	06/04/10 20:32	2.28	1
010	155_010	SAMPLE	220424-013	Air	163703	06/04/10 21:37	2.13	1
011	155_011	SAMPLE	220424-014	Air	163703	06/04/10 22:41	2.07	1
012	155_012	SAMPLE	220424-006	Air	163703	06/04/10 23:45	11.34	1
013	155_013	X	CAN CHECK			06/05/10 00:49	1.0	1
014	155_014	X	10PPB_TEST			06/05/10 01:53	1.0	1

BO 06/07/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

Analyst: BO Date: 06/07/10 Reviewer: SJD Date: 06/07/10

Standards used: 1=S13547 2=S14774

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSi _g)	Final Pressure (PSi _g)	Dilution Factor	Comments
P. 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00297	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
P. 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.52	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	-007	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.18x can C00152
S. 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x can C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x can C00119 C00119 C00119 C00119
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.03x can C00119
B. 6/1/10	BLANK	C00355	—	—	1x	
	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x can C00280
	220278-007	C00360	0.75 added	30.0 total added	27.6x	40x of 1.94x can C00170
	220276-008	C00361	0.75 added	30.0 total added	25.6x	40x of 1.89x can C00270
S. 6/1/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x can C00159
	220276-008	C00359	1.5 added	30.0 total added	1512x	20x of 75.6x can C00361
	220380-002	C00263	10.21	23.16	2.27x	
	-003	C00050	10.44	23.48	2.25x	
	-004	C00183	10.38	23.65	2.28x	
	-005	C00085	10.26	23.84	2.32x	
	-006	C00060	9.16	23.63	2.58x	
	-007	C00104	10.05	23.55	2.34x	
	-008	C00108	9.61	23.32	2.43x	

Continued on Page 39

Read and Understood By

Signed

Date

Signed

Date

PROJECT Air Sample Prep Log

Notebook No. BK2875
Continued From Page 38

Prep by / date	SAMPLE ID	CAN ID	Initial (psig) Pressure	Final (psig) Pressure	Dilution Factor	Comments
500 6/11/0	220 426-001	C00327 C00319	11.09	23.64	2.13x	
	-002	C00319	10.78	23.49	2.18x	
	-003	C00313	11.32	23.41	2.07x	
	-004	C00307	11.24	23.50	2.09x	
	-005	C00303	10.43	23.43	2.25x	
	-006	C00312	11.18	24.26	2.17x	
	-007	C00320	11.08	23.95	2.16x	
	-008	C00302	10.47	24.53	2.34x	
	-009	C00322	11.81	23.45	1.99x	
	-010	C00325	11.91	23.19 23.19	1.95x	Final pressure = 23.19
	-011	C00329	11.35	23.45	2.07x	
500 6/11/0	220 424-001	C00378	10.48	23.36	2.23x	
	-002	C00146	11.43	23.40	2.05x	
	-003	C00340	11.42	23.69	2.07x	
	-004	C00118	12.36	23.36	1.89x	
	-005	C00054	10.63	23.45	2.21x	
	-008	C00106	10.90	23.47	2.15x	
	-009	C00194	10.27	23.42	2.28x	
	-013	C00309	11.04	23.55	2.13x	
	-014	C00334	11.32	23.41	2.07x	
	220 428-002	C00318	11.30	23.54	2.08x	
	-003	C00314	11.30	23.33	2.06x	
	-004	C00308	10.78	23.64	2.19x	
	-005	C00321	10.58	23.57	2.23x	
	-006	C00328	11.68	23.51	2.01x	
-007	C00326	11.44	23.54	2.06x		
-008	C00323	11.32	23.45	2.07x		
-009	C00337	11.47	23.66	2.06x		
-010	C00338	10.90	24.05	2.21x		
-011	C00310	11.84	23.54	1.99x		
BLANK	C00362	—	—	1x		
✓	220 380-003	C00373	1.5 added	30.0 ^{final} added	45x	2oz of 2.25x can C00050

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

PROJECT Air Sample Prep Log

Prep by / Date	SAMPLE ID	CAN ID	Initial (psig) Pressure	Final (psig) Pressure	Dilution Factor	Comments
500 6/1/10	220 426-001	C00317 C00319	11.09	23.64	2.13x	
	-002	C00319	10.78	23.49	2.18x	
	-003	C00313	11.32	23.41	2.07x	
	-004	C00307	11.24	23.50	2.09x	
	-005	C00303	10.43	23.43	2.25x	
	-006	C00312	11.18	24.26	2.17x	
	-007	C00320	11.08	23.95	2.16x	
	-008	C00302	10.47	24.53	2.34x	
	-009	C00322	11.81	23.45	1.99x	
	-010	C00325	11.91	23.59 23.19	1.95x	Final pressure = 23.19
	-011	C00329	11.35	23.45	2.07x	
500 6/2/10	220 424-001	C00078	10.48	23.36	2.23x	
	-002	C00146	11.43	23.40	2.05x	
	-003	C00340	11.42	23.69	2.07x	
	806 807 808	C00118	12.36	23.36	1.89x	
	809 810	C00054	10.63	23.45	2.21x	
	-008	C00106	10.90	23.47	2.15x	
	-009	C00191	10.27	23.42	2.28x	
	-013	C00309	11.04	23.55	2.13x	
	-014	C00334	11.32	23.41	2.07x	
	220 428-002	C00318	11.30	23.54	2.08x	
	-003	C00314	11.30	23.33	2.06x	
	-004	C00308	10.78	23.64	2.19x	
	-005	C00321	10.58	23.52	2.23x	
	-006	C00328	11.68	23.51	2.01x	
	-007	C00326	11.44	23.54	2.06x	
	-008	C00323	11.32	23.45	2.07x	
	-009	C00337	11.47	23.66	2.06x	
	-010	C00338	10.90	24.05	2.21x	
	-011	C00310	11.84	23.54	1.99x	
	BLANK	C00362	—	—	1x	
	220 380-003	C00373	1.5 added	30.0 ^{psig} added	45x	20x of 2.25x can C00050

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

Laboratory Job Number 220424

ANALYTICAL REPORT

Volatile Organics in Air GC

Matrix: Air

Analysis of Reformed Gas

Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	BSVE-INLET-10Q2	Diln Fac:	2.200
Lab ID:	220424-004	Batch#:	163704
Matrix:	Air	Sampled:	05/20/10
Units:	ppmv	Received:	05/25/10
Units (Mol %):	MOL %	Analyzed:	06/04/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	20,000	2,200	2.0	0.22	D1
Oxygen	170,000	2,200	17	0.22	D1

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	BSVE-INLET-10Q2	Diln Fac:	2.200
Lab ID:	220424-004	Batch#:	163704
Matrix:	Air	Sampled:	05/20/10
Units:	ppmv	Received:	05/25/10
Units (M):	ug/L	Analyzed:	06/04/10

Analyte	Result	RL	Result (M)	RL	ADEQ Flags
Methane-TO3	300	1.1	190	0.72	D1
C1-C2 as Ethane	ND	2.2	ND	2.7	D1
C2-C3 as Propane	ND	2.2	ND	4.0	D1
C3-C4 as n-Butane	ND	2.2	ND	5.2	D1
C4-C5 as n-Pentane	ND	2.2	ND	6.5	D1
C5-C6 as n-Hexane	14	2.2	50	7.8	D1
C6+ as n-Hexane	43	2.2	150	7.8	D1

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Analysis of Reformed Gas

Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	BSVE-SVM-10Q2-001	Diln Fac:	2.220
Lab ID:	220424-005	Batch#:	163704
Matrix:	Air	Sampled:	05/20/10
Units:	ppmv	Received:	05/25/10
Units (Mol %):	MOL %	Analyzed:	06/04/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	20,000	2,200	2.0	0.22	D1
Oxygen	170,000	2,200	17	0.22	D1

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Volatile Organics in Air

Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	BSVE-SVM-10Q2-001	Diln Fac:	2.220
Lab ID:	220424-005	Batch#:	163704
Matrix:	Air	Sampled:	05/20/10
Units:	ppmv	Received:	05/25/10
Units (M):	ug/L	Analyzed:	06/04/10

Analyte	Result	RL	Result (M)	RL	ADEQ Flags
Methane-TO3	290	1.1	190	0.73	D1
C1-C2 as Ethane	ND	2.2	ND	2.7	D1
C2-C3 as Propane	ND	2.2	ND	4.0	D1
C3-C4 as n-Butane	ND	2.2	ND	5.3	D1
C4-C5 as n-Pentane	ND	2.2	ND	6.6	D1
C5-C6 as n-Hexane	14	2.2	50	7.8	D1
C6+ as n-Hexane	45	2.2	160	7.8	D1

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Analysis of Reformed Gas			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Type:	BLANK	Units (Mol %):	MOL %
Lab ID:	QC547324	Diln Fac:	1.000
Matrix:	Air	Batch#:	163704
Units:	ppmv	Analyzed:	06/04/10

Analyte	Result	RL	Result (Mol %)	RL	ADEQ Flags
Carbon Dioxide	ND	1,000	ND	0.10	
Oxygen	ND	1,000	ND	0.10	

ND= Not Detected

RL= Reporting Limit

Result Mol %= Result in Mole Percent

Batch QC Report

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Type:	BLANK	Units (M):	ug/L
Lab ID:	QC547324	Diln Fac:	1.000
Matrix:	Air	Batch#:	163704
Result (M):	ND	Analyzed:	06/04/10
Units:	ppmv		

Analyte	Result	RL	RL	ADEQ Flags
Methane-TO3	ND	0.50	0.33	
C1-C2 as Ethane	ND	1.0	1.2	
C2-C3 as Propane	ND	1.0	1.8	
C3-C4 as n-Butane	ND	1.0	2.4	
C4-C5 as n-Pentane	ND	1.0	3.0	
C5-C6 as n-Hexane	ND	1.0	3.5	
C6+ as n-Hexane	ND	1.0	3.5	

ND= Not Detected

RL= Reporting Limit

Result M= Result in Mass Units

Batch QC Report

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Matrix:	Air	Batch#:	163704
Units:	ppmv	Analyzed:	06/04/10
Diln Fac:	1.000		

Type: BS Lab ID: QC547325

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Methane-TO3	100.0	97.54	98	70-130		
C1-C2 as Ethane	100.0	97.67	98	70-130		
C2-C3 as Propane	100.0	96.06	96	70-130		
C3-C4 as n-Butane	100.0	95.16	95	70-130		
C4-C5 as n-Pentane	100.0	96.25	96	70-130		
C5-C6 as n-Hexane	100.0	95.80	96	70-130		

Type: BSD Lab ID: QC547326

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Methane-TO3	100.0	98.08	98	70-130	1	20		
C1-C2 as Ethane	100.0	98.30	98	70-130	1	20		
C2-C3 as Propane	100.0	96.61	97	70-130	1	20		
C3-C4 as n-Butane	100.0	95.77	96	70-130	1	20		
C4-C5 as n-Pentane	100.0	96.83	97	70-130	1	20		
C5-C6 as n-Hexane	100.0	96.31	96	70-130	1	20		

RPD= Relative Percent Difference

Batch QC Report

Analysis of Reformed Gas			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC547327	Batch#:	163704
Matrix:	Air	Analyzed:	06/04/10
Units:	ppmv		

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Carbon Dioxide	2,000	1,994	100	70-130		
Oxygen	2,000	1,910	96	70-130		

Batch QC Report

Analysis of Reformed Gas			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	ASTM D1946
Field ID:	ASE-46A-10Q2	Units (Mol %):	MOL %
Type:	SDUP	Diln Fac:	2.140
MSS Lab ID:	220380-001	Batch#:	163704
Lab ID:	QC547328	Sampled:	05/18/10
Matrix:	Air	Received:	05/25/10
Units:	ppmv	Analyzed:	06/05/10

Analyte	MSS Result	Result	RL	Result (Mol %)	RL	RPD	Lim	ADEQ	Flags
Carbon Dioxide	6,477	6,462	2,140	0.6462	0.2140	0	30	D2	
Oxygen	192,300	189,800	2,140	18.98	0.2140	1	30	D2	

RL= Reporting Limit

RPD= Relative Percent Difference

Result Mol %= Result in Mole Percent

Batch QC Report

Volatile Organics in Air			
Lab #:	220424	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-3
Field ID:	ASE-46A-10Q2	Units (M):	ug/L
Type:	SDUP	Diln Fac:	2.140
MSS Lab ID:	220380-001	Batch#:	163704
Lab ID:	QC547328	Sampled:	05/18/10
Matrix:	Air	Received:	05/25/10
Units:	ppmv	Analyzed:	06/05/10

Analyte	MSS Result	Result	RL	Result (M)	RL	RPD	Lim	ADEQ	Flags
Methane-TO3	13.13	13.11	1.070	8.599	0.7020	0	30	D2	
C1-C2 as Ethane	<2.140	ND	2.140	ND	2.632	NC	30	D2	
C2-C3 as Propane	<2.140	ND	2.140	ND	3.860	NC	30	D2	
C3-C4 as n-Butane	<2.140	ND	2.140	ND	5.087	NC	30	D2	
C4-C5 as n-Pentane	<2.140	ND	2.140	ND	6.315	NC	30	D2	
C5-C6 as n-Hexane	<2.140	2.627	2.140	9.258	7.543	NC	30	D2	
C6+ as n-Hexane	<2.140	ND	2.140	ND	7.543	NC	30	D2	

NC= Not Calculated

ND= Not Detected

RL= Reporting Limit

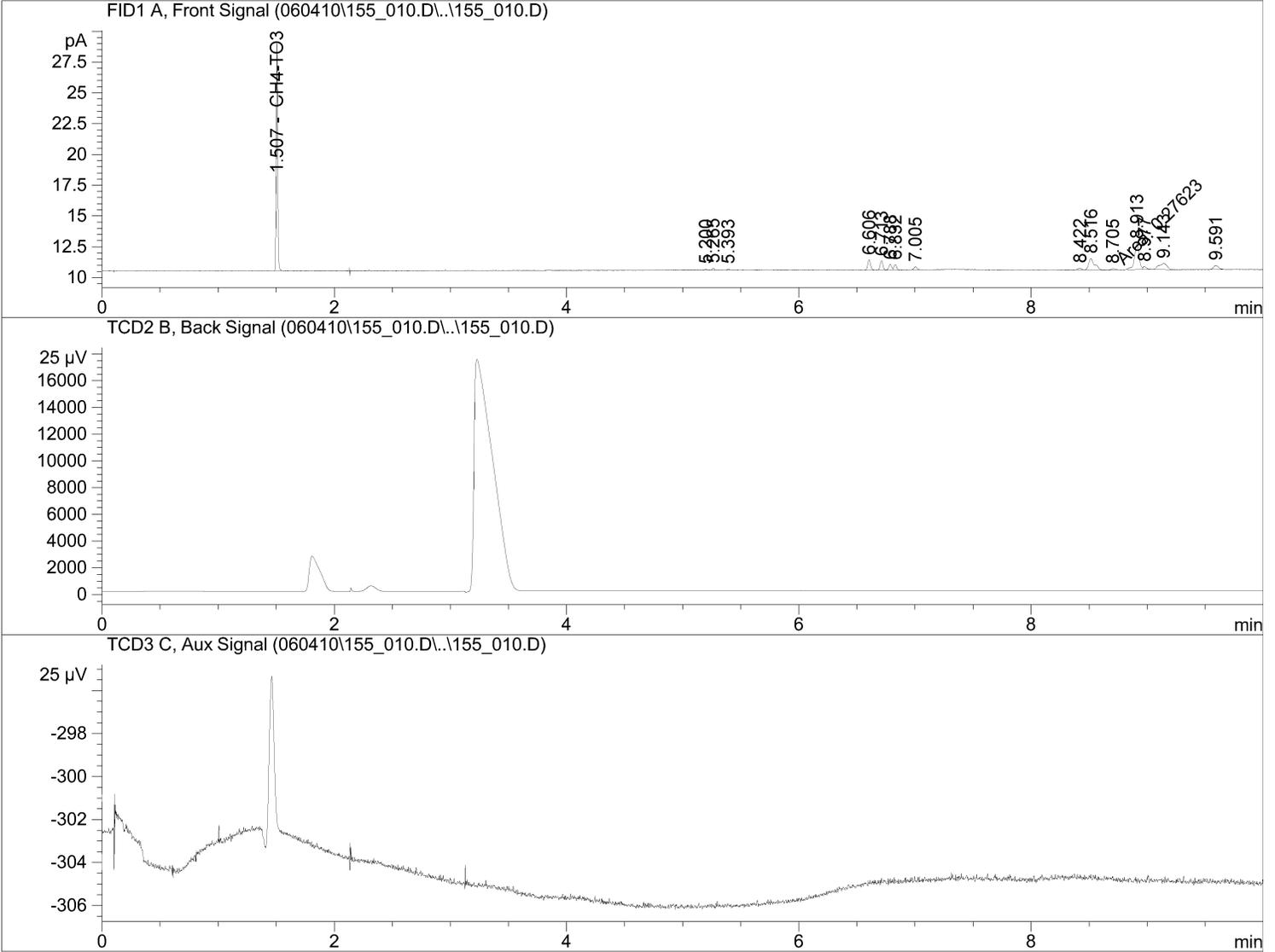
RPD= Relative Percent Difference

Result M= Result in Mass Units

Sample Name: 220424-004,163704,2.20,c00247

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 5
Injection Date  : 6/4/2010 07:54:49 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed    : 6/4/2010 06:04:57 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 6/5/2010 05:08:38 PM by GC28 RGA
    
```



External Standard Report

```

Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution       : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs
    
```

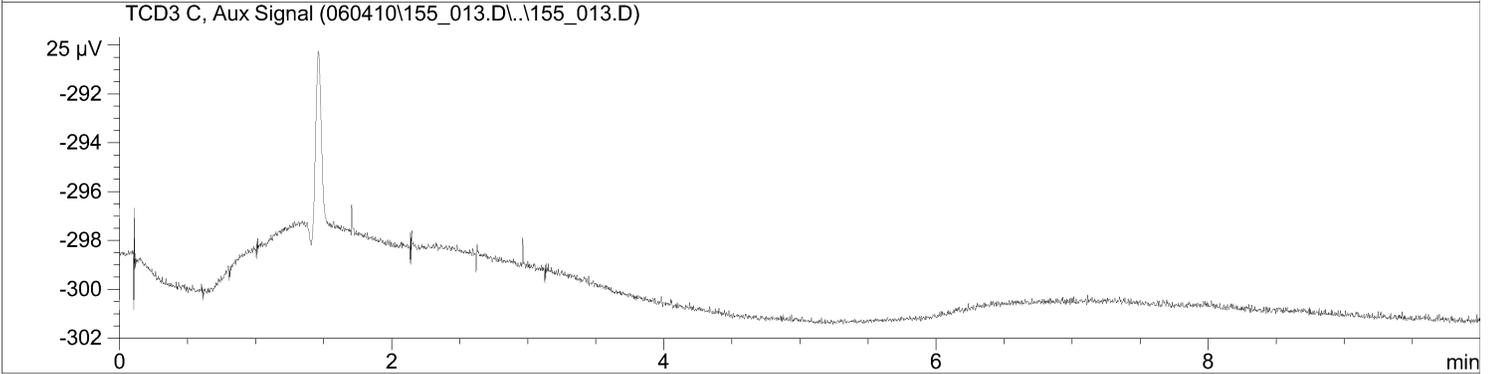
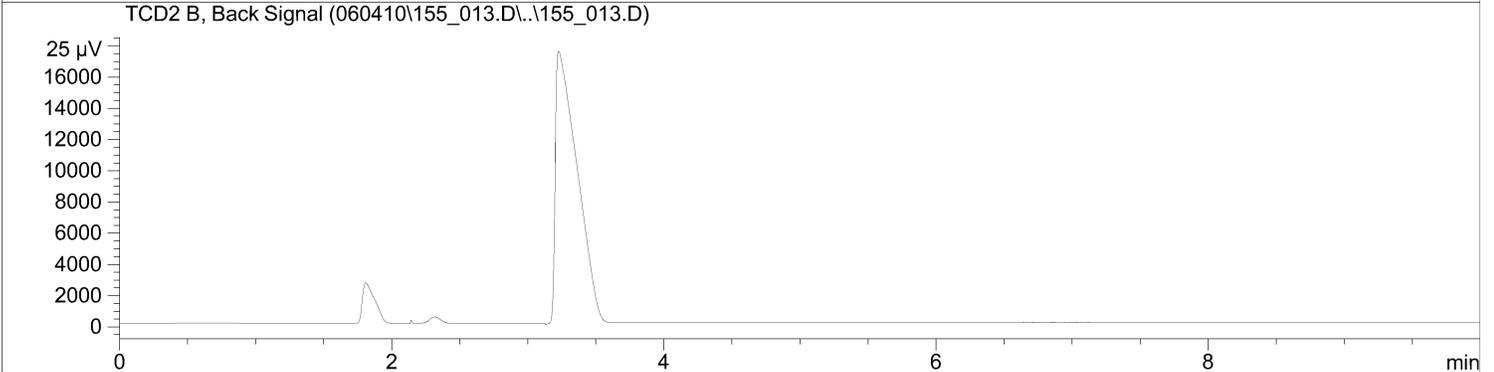
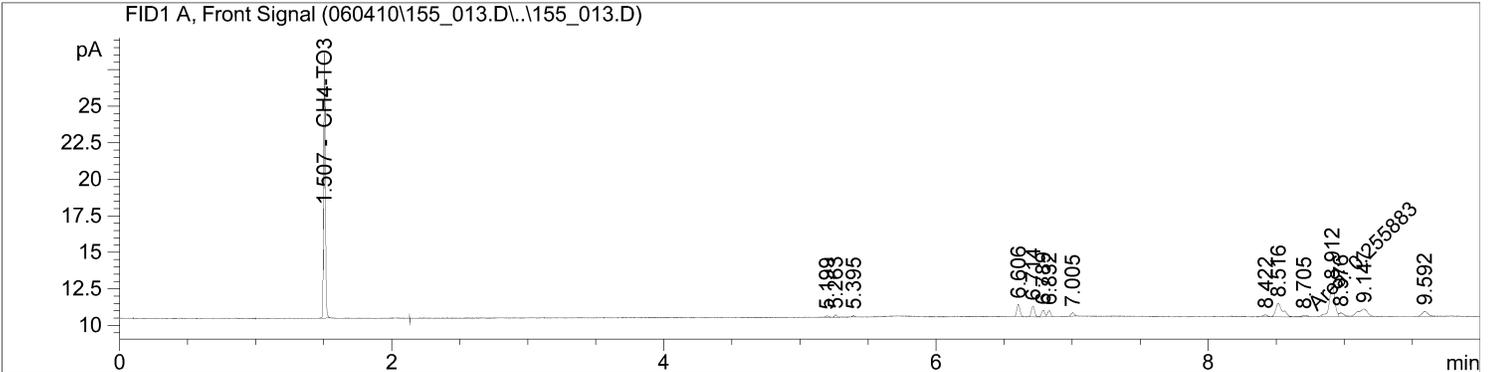
Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.507	BB	16.50157	8.13190	134.18907		CH4-TO3

Sample Name: 220424-005,163704,2.22,c0052

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 5
Injection Date  : 6/4/2010 10:39:52 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed    : 6/4/2010 09:20:20 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 6/5/2010 05:08:38 PM by GC28 RGA
    
```



External Standard Report

```

Sorted By      :      Signal
Calib. Data Modified :    3/15/2010 04:30:06 PM
Multiplier     :      1.0000
Dilution       :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
    
```

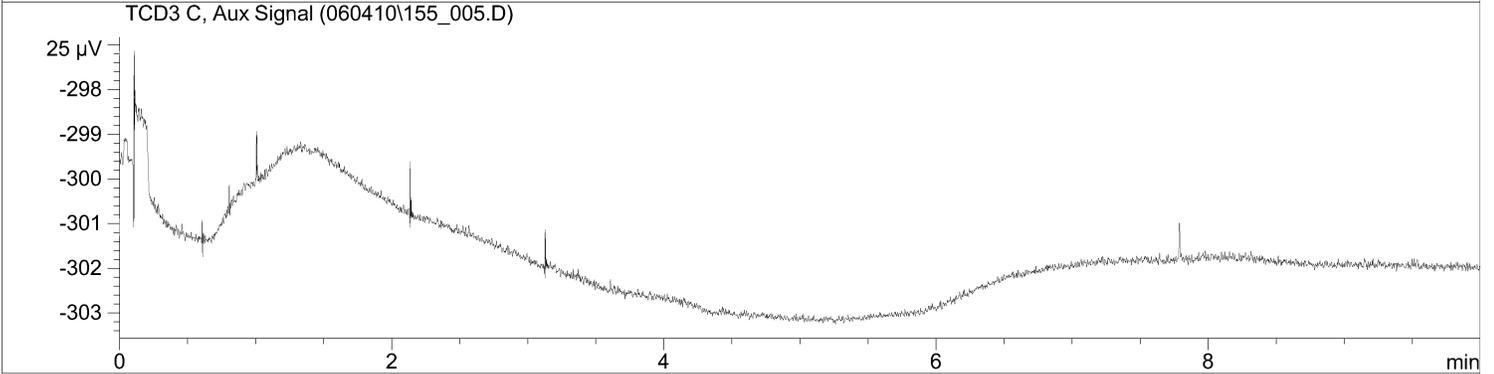
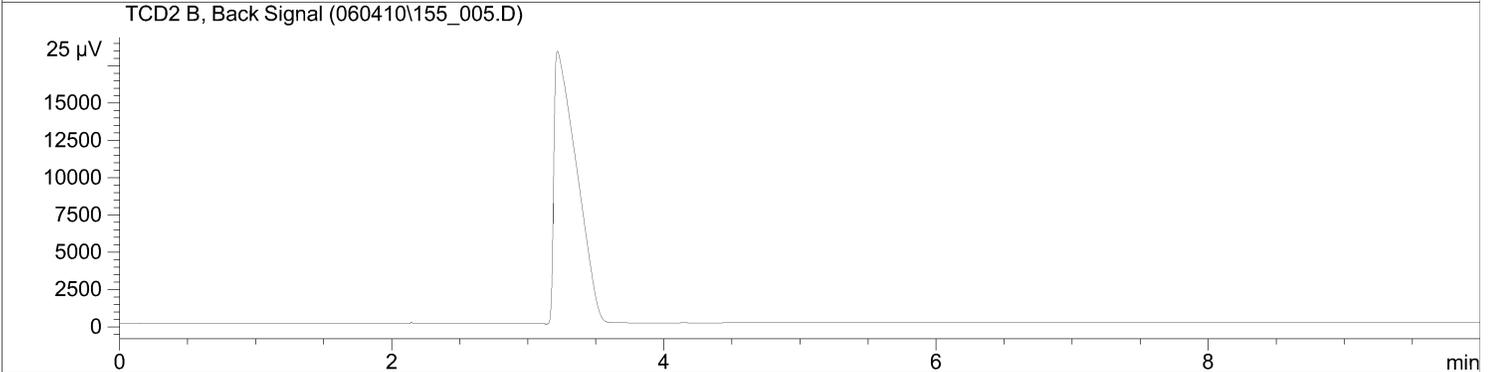
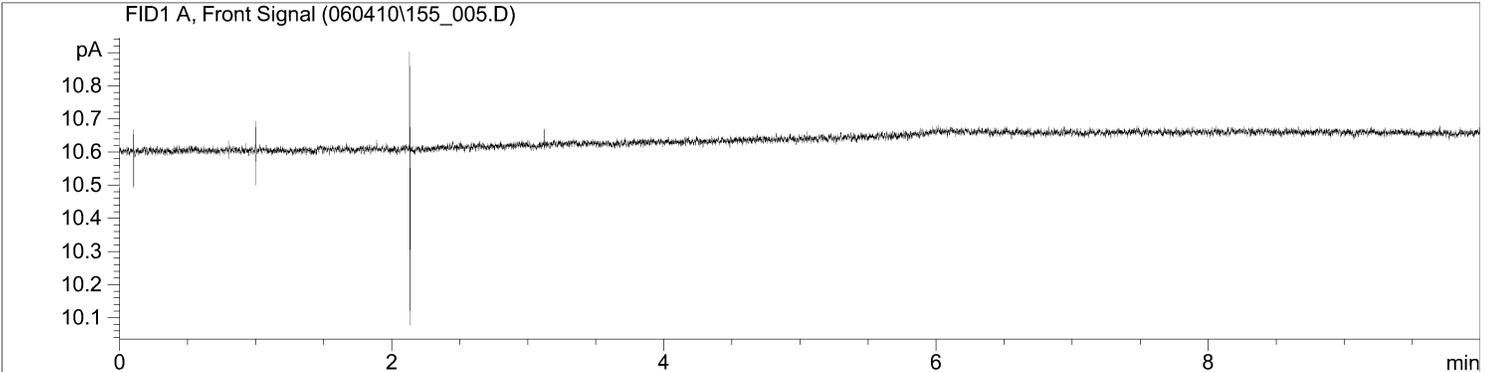
Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.507	BB	16.26769	8.13190	132.28723		CH4-TO3

Sample Name: mb.qc547324.163704.1x

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 5
Injection Date  : 6/4/2010 03:03:55 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed    : 6/4/2010 02:42:47 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 6/5/2010 05:08:38 PM by GC28 RGA
    
```



External Standard Report

```

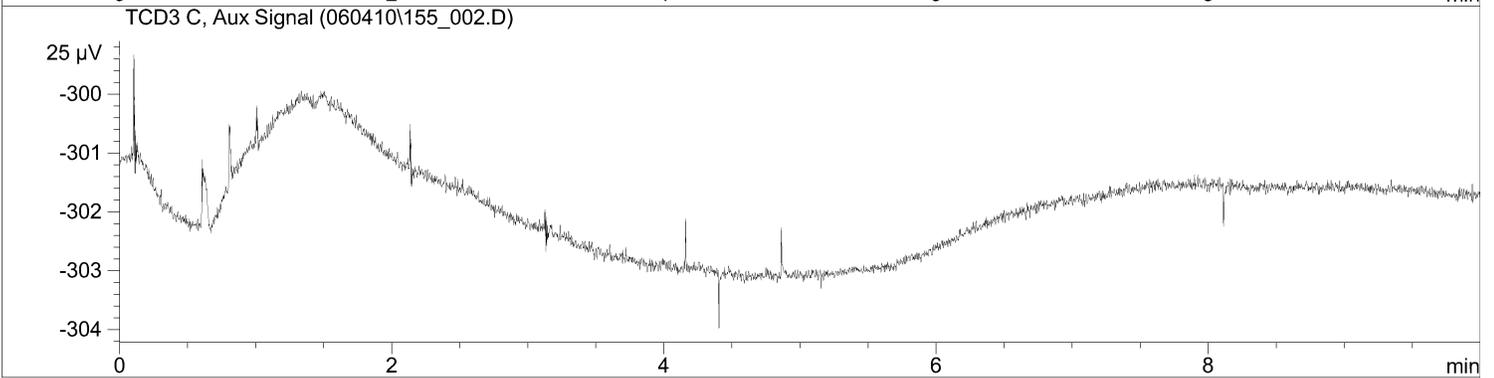
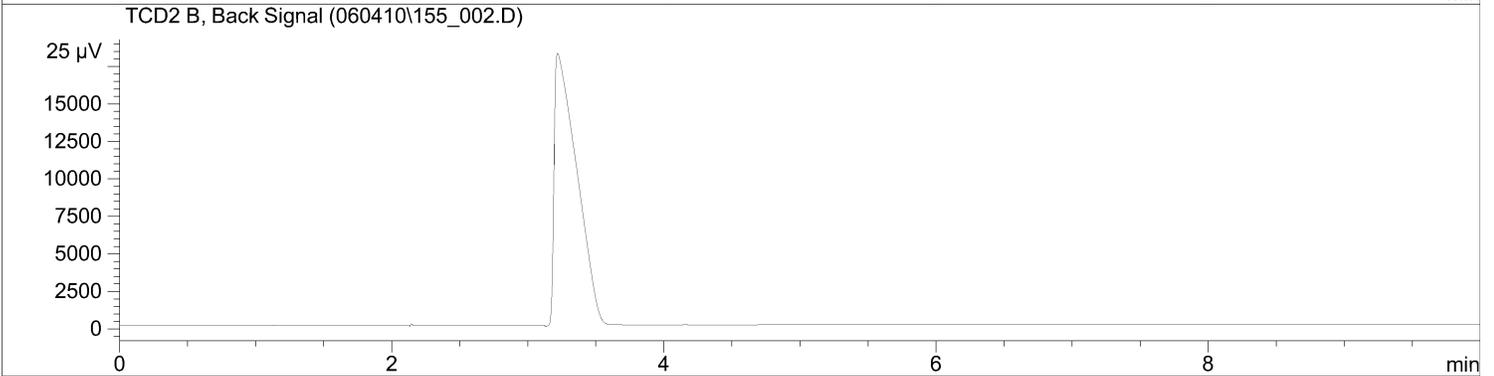
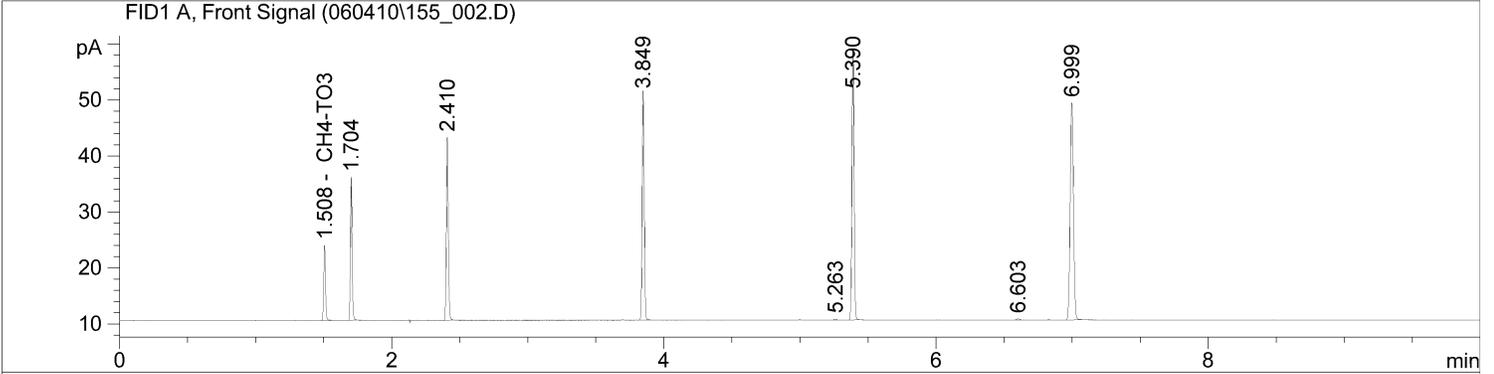
Sorted By      :      Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     :      1.0000
Dilution       :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs
    
```

Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.495	-	-	-	-	-	CH4-TO3

```

=====
Acq. Operator   : GC28 RGA
Acq. Instrument : GC28                      Location : Vial 2
Injection Date  : 6/4/2010 01:27:25 PM
                                           Inj Volume : Manually
Acq. Method     : C:\CHEM32\1\METHODS\D1946_052310.M
Last changed    : 6/4/2010 01:20:46 PM by GC28 RGA
Analysis Method : C:\CHEM32\1\METHODS\TIMEDGRPS_021010.M
Last changed    : 3/15/2010 04:30:11 PM by GC28 RGA
  
```



External Standard Report

```

Sorted By      : Signal
Calib. Data Modified : 3/15/2010 04:30:06 PM
Multiplier     : 1.0000
Dilution       : 1.0000
Do not use Multiplier & Dilution Factor with ISTDs
  
```

Signal 1: FID1 A, Front Signal

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [uL/L]	Grp	Name
1.508	BB	11.99495	8.13190	97.54171		CH4-TO3

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220424 GCAIR Air: ASTM D1946

Inst : GC28
 Calnum : 1309434246001
 Units : uL/L

Date : 28-OCT-2009 13:50
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	301_006	1309434246006		28-OCT-2009 13:50	S13246
L2	301_007	1309434246007		28-OCT-2009 14:17	S13247
L3	301_008	1309434246008		28-OCT-2009 14:50	S13248
L4	301_009	1309434246009		28-OCT-2009 15:11	S13249
L5	301_010	1309434246010		28-OCT-2009 15:33	S13250
L6	301_011	1309434246011		28-OCT-2009 16:02	S13251

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	Flg
Oxygen	B		0.2310	0.2147	0.2147	0.2063	0.1979	AVRG		4.69612		0.2129	6	.99	
Carbon Dioxide	B		0.2502	0.2589	0.2542	0.2539	0.2416m	AVRG		3.97217		0.2518	3	.99	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Oxygen	B			500.0	8	2000	1	5000	1	10000	-3	2E+5	-7
Carbon Dioxide	B			500.0	-1	2000	3	5000	1	10000	1	2E+5	-4

m=manual integration

Instrument amount = a0 + response * a1 + response² * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220424 GCAIR Air: EPA TO-3

Inst : GC28
 Calnum : 1309497539003
 Units : uL/L

Date : 11-DEC-2009 12:37
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	345_002	1309497539002		11-DEC-2009 12:37	S13381
L2	345_003	1309497539003		11-DEC-2009 13:00	S13382
L3	345_004	1309497539004		11-DEC-2009 13:18	S13383
L4	345_005	1309497539005		11-DEC-2009 13:35	S13384
L5	345_006	1309497539006		11-DEC-2009 13:53	S13385
L6	345_007	1309497539007		11-DEC-2009 14:16	S13386
L7	345_008	1309497539008		11-DEC-2009 14:36	S13387
L8	345_009	1309497539009		11-DEC-2009 16:08	S13388

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Methane-TO3	A	0.1314	0.1225	0.1271	0.1208	0.1197	0.1183	0.1197	0.1242	AVRG		8.13190		0.1230	4	.99	30	
C1-C2 as Ethane	A	0.2344	0.2246	0.2351	0.2214	0.2192				AVRG		4.40634		0.2269	3	.99	30	
C2-C3 as Propane	A	0.3733	0.3403	0.3520	0.3349	0.3314				AVRG		2.88691		0.3464	5	.99	30	
C3-C4 as n-Butane	A	0.5160	0.4525	0.4696	0.4450	0.4404				AVRG		2.15194		0.4647	7	.99	30	
C4-C5 as n-Pentane	A	0.6216	0.5643	0.5844	0.5569	0.5515				AVRG		1.73685		0.5758	5	.99	30	
C5-C6 as n-Hexane	A	0.7502	0.6699	0.6955	0.6640	0.6573				AVRG		1.45477		0.6874	6	.99	30	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Methane-TO3	A	0.500	7	10.00	0	100.0	3	501.0	-2	1002	-3	9980	-4	2E+5	-3	5E+5	1
C1-C2 as Ethane	A	0.500	3	10.00	-1	100.0	4	505.5	-2	1011	-3						
C2-C3 as Propane	A	0.500	8	10.00	-2	100.0	2	501.0	-3	1002	-4						
C3-C4 as n-Butane	A	0.500	11	10.00	-3	100.0	1	502.5	-4	1005	-5						
C4-C5 as n-Pentane	A	0.500	8	10.00	-2	100.0	2	500.0	-3	1000	-4						
C5-C6 as n-Hexane	A	0.500	9	10.00	-3	100.0	1	498.5	-3	997.0	-4						

Instrument amount = a0 + response * a1 + response² * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220424 GCAIR Air
EPA TO-3

Inst : GC28

Calnum : 1309497539003

Cal Date : 11-DEC-2009

ICV 1309497539011 (345_011 11-DEC-2009) stds: S13375

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Methane-TO3	A	1000	1017	uL/L	2	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220424 GCAIR Air
EPA TO-3

Inst : GC28
 Seqnum : 1300223985017
 Cal : 1309497539003
 Standards: S14660

IDF : 1.0
 Time : 05-JUN-2010 00:23

File : 155_017
 Caldate : 11-DEC-2009

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Methane-TO3	A	0.1230	0.1206	100.0	98.10	uL/L	-2	30	
C1-C2 as Ethane	A	0.2269	0.2231	100.0	98.32	uL/L	-2	30	
C2-C3 as Propane	A	0.3464	0.3348	100.0	96.66	uL/L	-3	30	
C3-C4 as n-Butane	A	0.4647	0.4460	100.0	95.97	uL/L	-4	30	
C4-C5 as n-Pentane	A	0.5758	0.5578	100.0	96.89	uL/L	-3	30	
C5-C6 as n-Hexane	A	0.6874	0.6624	100.0	96.36	uL/L	-4	30	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220424 GCAIR Air
ASTM D1946

Inst : GC28
 Seqnum : 1300223985018
 Cal : 1309434246001
 Standards: S14813

IDF : 1.0
 Time : 05-JUN-2010 00:50

File : 155_018
 Caldate : 28-OCT-2009

Analyte	Ch	Avg		Spiked	Quant	Units	%D	Max %D	Flags
		RF/CF	RF/CF						
Oxygen	B	0.2129	0.2013	2000	1891	uL/L	-5	30	
Carbon Dioxide	B	0.2518	0.2525	2000	2006	uL/L	0	30	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1300223985

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 06/04/10 13:05

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	155_001	X	IB			06/04/10 13:05	1.0	
002	155_002	CCV/BS	QC547325	Air	163704	06/04/10 13:27	1.0	1
003	155_003	BSD	QC547326	Air	163704	06/04/10 13:55	1.0	1
004	155_004	CCV/LCS	QC547327	Air	163704	06/04/10 14:27	1.0	2
005	155_005	BLANK	QC547324	Air	163704	06/04/10 15:03	1.0	
007	155_007	MSS	220380-001	Air	163704	06/04/10 17:07	2.14	
008	155_008	SAMPLE	220380-006	Air	163704	06/04/10 17:27	2.58	
009	155_009	X	IB			06/04/10 17:49	1.0	
010	155_010	SAMPLE	220424-004	Air	163704	06/04/10 19:54	2.200	
011	155_011	X	IB			06/04/10 20:44	1.0	
012	155_012	X	IB			06/04/10 21:05	1.0	
013	155_013	SAMPLE	220424-005	Air	163704	06/04/10 22:39	2.22	
014	155_014	X	IB			06/04/10 23:09	1.0	
015	155_015	X	IB			06/04/10 23:42	1.0	
016	155_016	SDUP	QC547328	Air	163704	06/05/10 00:01	2.14	
017	155_017	CCV				06/05/10 00:23	1.0	1
018	155_018	CCV				06/05/10 00:50	1.0	2

SJD 06/05/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Analyst: SJD Date: 06/05/10 Reviewer: BO Date: 06/07/10

Standards used: 1=S14660 2=S14813

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1309434246

Instrument : GC28
 Method : ASTM D1946

Begun : 10/28/09 11:55

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	301_001	IB	IB			10/28/09 11:55	1.0	
002	301_002	IB	IB			10/28/09 12:15	1.0	
003	301_003	IB	IB			10/28/09 12:40	1.0	
004	301_004	IB	HE BLANK			10/28/09 13:05	1.0	
005	301_005	ICAL	CALBLANK			10/28/09 13:26	1.0	
006	301_006	ICAL				10/28/09 13:50	1.0	1
007	301_007	ICAL				10/28/09 14:17	1.0	2
008	301_008	ICAL				10/28/09 14:50	1.0	3
009	301_009	ICAL				10/28/09 15:11	1.0	4
010	301_010	ICAL				10/28/09 15:33	1.0	5
011	301_011	ICAL				10/28/09 16:02	1.0	6

APP 11/12/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 011.

Analyst: APP Date: 11/12/09 Reviewer: SJD Date: 11/12/09

Standards used: 1=S13246 2=S13247 3=S13248 4=S13249 5=S13250 6=S13251

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1309497539

Instrument : GC28
 Method : ASTM D1946, EPA TO-3

Begun : 12/11/09 12:19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	345_001	IB	IB			12/11/09 12:19	1.0	
002	345_002	ICAL				12/11/09 12:37	1.0	1
003	345_003	ICAL				12/11/09 13:00	1.0	2
004	345_004	ICAL				12/11/09 13:18	1.0	3
005	345_005	ICAL				12/11/09 13:35	1.0	4
006	345_006	ICAL				12/11/09 13:53	1.0	5
007	345_007	ICAL				12/11/09 14:16	1.0	6
008	345_008	ICAL				12/11/09 14:36	1.0	7
009	345_009	ICAL				12/11/09 16:08	1.0	8
010	345_010	IB	IB			12/11/09 16:29	1.0	
011	345_011	ICV				12/11/09 16:47	1.0	9

APP 12/14/09 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 011.

Analyst: APP Date: 12/14/09 Reviewer: SJD Date: 01/20/10

Standards used: 1=S13381 2=S13382 3=S13383 4=S13384 5=S13385 6=S13386 7=S13387 8=S13388 9=S13375

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSI _g)	Final Pressure (PSI _g)	Dilution Factor	Comments
P. 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00257	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
P. 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.57	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	BLANK	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
S. 5/30/10	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.18x CAN C00152
	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x CAN C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x CAN C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x CAN C00119 C00315
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.93x CAN C00119 C00306
B. 6/11/10	BLANK	C00355	—	—	1x	
S. 6/11/10	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x CAN C00280
	220276-007	C00360	0.75 added	30.0 total added	77.6x	40x of 1.94x CAN C00170
	220276-008	C00361	0.75 added	30.0 total added	75.6x	40x of 1.89x CAN C00270
S. 6/11/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x CAN C00179
	220276-008	C00359	1.5 added	30.0 total added	157.2x	20x of 7.56x CAN C00361
	220380-002	C00263	10.21	23.16	2.27x	
	-003	C00050	10.44	23.48	2.25x	
	-004	C00183	10.38	23.65	2.28x	
	-005	C00085	10.26	23.84	2.32x	
	-006	C00060	9.16	23.63	2.58x	
	-007	C00104	10.05	23.55	2.34x	
	-008	C00108	9.61	23.32	2.43x	

Continued on Page 39

Read and Understood By

Signed

Date

Signed

Date



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220426
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

Table with 2 columns: Sample ID and Lab ID. Lists 12 sample entries from SMW-12 to PMW-11.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Senior Program Manager

Date: 06/07/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220426
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/25/10
Samples Received: 05/25/10

This data package contains sample and QC results for eleven air samples, requested for the above referenced project on 05/25/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

SMW-12-U-10Q2 (lab # 220426-001), SMW-12-M-10Q2 (lab # 220426-002), and SMW-13-U-10Q2 (lab # 220426-003) were diluted due to problematic matrix.

No other analytical problems were encountered.

Chain of Custody

Amended 5/27 TW
 220426
 220380
 2/13

Honeywell Chain of Custody / Analysis Request

Client Contact: **CH2M HILL**
 2225 9th St.
 Berkeley, CA 94710
 914-304-0221

Sampling Co.: **CH2M HILL**
 Client Contact: (name, co., address)
CH2M HILL
 2225 9th Street Drive, Suite 300
 Tempe, AZ 85282

Site Name: **City Harbor AZ**
 Location of Site: **Phoenix, AZ**

Preserve: **SVVE QTR SVM**

Lab Job # **0000**
 Lab ID **0000**
 Lab Job # **0000**
 Authorized User: **Honeywell**

Analysis Turnaround Time (TAT): **10**
 Comment: **10**

Hard Copy To: **Functional Powers and Materials West, Origian**
 Sample To: **Honeywell Copy Barry 1002**

Full Report TAT: **10**

Location ID	Sample Identification		Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of	Units	Compendium	VOCs (TO-15)	Methane (TO-3M)	TPH (TO-3M)	O2 and CO2 (ASTM 1998)	Sampling Method (code)	Custody Serial No.
	Start Depth (ft)	End Depth (ft)															
1	SMU-12-U	5	9	SMU-12-U-1002	051410	0144	SV	AR	REF	1	G	N	X				00327
2	SMU-12-M	20	25	SMU-12-M-1002	051410	0158	SV	A10	REF	1	G	N	X				00328
3	SMU-13-U	5	9	SMU-13-U-1002	051410	2832	SV	A10	REF	1	G	N	X				00313
4	SMU-13-M	19.1	24	SMU-13-M-1002	051410	2840	SV	A10	REF	1	G	N	X				00307
5	SMU-13-L	54.9	67.2	SMU-13-L-1002	051410	2336	SV	A10	REF	1	G	N	X				00303
6	SMU-10-U	5	9	SMU-10-U-1002	051510	0093	SV	A10	REF	1	G	N	X				00312
7	SMU-10-M	20	25	SMU-10-M-1002	051510	0023	SV	A10	REF	1	G	N	X				00320
8	SMU-10-L	55	67.4	SMU-10-L-1002	051510	0035	SV	A10	REF	1	G	N	X				00302
9	SMU-9-U	5	9	SMU-9-U-1002	051510	0106	SV	A10	REF	1	G	N	X				00322
10	SMU-9-M	20	25	SMU-9-M-1002	051510	0117	SV	A10	REF	1	G	N	X				00325
11	SMU-9-L	55	70.38	SMU-9-L-1002	051510	0128	SV	A10	REF	1	G	N	X				00329
12	SMU-11-U	5	9	SMU-11-U-1002	051510	0035	SV	A10	REF	1	G	N	X				00311

Received by: **CH2M HILL**
 Date/Time: **05.19.2006 7:55 AM**
 Company: **CH2M HILL**

Received by: **Barry**
 Date/Time: **5/19/06 07:55**
 Company: **CH2M HILL**

Received by: **Barry**
 Date/Time: **5/19/06**
 Company: **CH2M HILL**

Preservatives: (Other, Specify): **Do not analyze**

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # Z20300 + Date Received 5-25-10 Number of coolers 10x
Client CHARM DAZ Project BSVE QTR SUM

Date Opened 5-25-10 By (print) S. EVANS (sign) [Signature]
Date Logged in ✓ By (print) M. J. Llanos (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) FED EX # YES NO
Shipping info 7994 5166 3660 / 7928 27996455

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 24 Name SIGNATURE Date 5-24-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are samples in the appropriate containers for indicated tests? _____ YES NO

11. Are sample labels present, in good condition and complete? _____ YES NO

12. Do the sample labels agree with custody papers? _____ YES NO

13. Was sufficient amount of sample sent for tests requested? _____ YES NO

14. Are the samples appropriately preserved? _____ YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

16. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Laboratory Job Number 220426

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-12-U-10Q2	Diln Fac:	6.390
Lab ID:	220426-001	Batch#:	163582
Matrix:	Air	Sampled:	05/14/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	3.2	ND	8.2	D1
Chloroethane	ND	3.2	ND	8.4	D1
1,1-Dichloroethene	ND	3.2	ND	13	D1
1,1-Dichloroethane	ND	3.2	ND	13	D1
MTBE	ND	3.2	ND	12	D1
cis-1,2-Dichloroethene	ND	3.2	ND	13	D1
n-Hexane	ND	3.2	ND	11	D1
Chloroform	ND	3.2	ND	16	D1
Benzene	ND	3.2	ND	10	D1
Trichloroethene	ND	3.2	ND	17	D1
Toluene	ND	3.2	ND	12	D1
Tetrachloroethene	4.0	3.2	27	22	D1
Ethylbenzene	6.2	3.2	27	14	D1
m,p-Xylenes	26	3.2	110	14	D1
o-Xylene	4.3	3.2	19	14	D1
1,3,5-Trimethylbenzene	17	3.2	84	16	D1
1,2,4-Trimethylbenzene	79	3.2	390	16	D1
Xylene (total)	31	6.4	130	28	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	113	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-12-M-10Q2	Diln Fac:	4.360
Lab ID:	220426-002	Batch#:	163582
Matrix:	Air	Sampled:	05/14/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.2	ND	5.6	D1
Chloroethane	ND	2.2	ND	5.8	D1
1,1-Dichloroethene	ND	2.2	ND	8.6	D1
1,1-Dichloroethane	ND	2.2	ND	8.8	D1
MTBE	ND	2.2	ND	7.9	D1
cis-1,2-Dichloroethene	ND	2.2	ND	8.6	D1
n-Hexane	ND	2.2	ND	7.7	D1
Chloroform	ND	2.2	ND	11	D1
Benzene	ND	2.2	ND	7.0	D1
Trichloroethene	ND	2.2	ND	12	D1
Toluene	ND	2.2	ND	8.2	D1
Tetrachloroethene	15	2.2	100	15	D1
Ethylbenzene	2.6	2.2	11	9.5	D1
m,p-Xylenes	11	2.2	48	9.5	D1
o-Xylene	ND	2.2	ND	9.5	D1
1,3,5-Trimethylbenzene	7.3	2.2	36	11	D1
1,2,4-Trimethylbenzene	35	2.2	170	11	D1
Xylene (total)	11	4.4	48	19	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	114	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-13-U-10Q2	Diln Fac:	4.140
Lab ID:	220426-003	Batch#:	163582
Matrix:	Air	Sampled:	05/14/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.1	ND	5.3	D1
Chloroethane	ND	2.1	ND	5.5	D1
1,1-Dichloroethene	ND	2.1	ND	8.2	D1
1,1-Dichloroethane	ND	2.1	ND	8.4	D1
MTBE	ND	2.1	ND	7.5	D1
cis-1,2-Dichloroethene	ND	2.1	ND	8.2	D1
n-Hexane	ND	2.1	ND	7.3	D1
Chloroform	ND	2.1	ND	10	D1
Benzene	ND	2.1	ND	6.6	D1
Trichloroethene	ND	2.1	ND	11	D1
Toluene	ND	2.1	ND	7.8	D1
Tetrachloroethene	ND	2.1	ND	14	D1
Ethylbenzene	5.4	2.1	24	9.0	D1
m,p-Xylenes	17	2.1	72	9.0	D1
o-Xylene	3.2	2.1	14	9.0	D1
1,3,5-Trimethylbenzene	9.4	2.1	46	10	D1
1,2,4-Trimethylbenzene	44	2.1	210	10	D1
Xylene (total)	20	4.1	86	18	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	129	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-13-M-10Q2	Diln Fac:	2.090
Lab ID:	220426-004	Batch#:	163582
Matrix:	Air	Sampled:	05/14/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/02/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.7	D1
Chloroethane	ND	1.0	ND	2.8	D1
1,1-Dichloroethene	ND	1.0	ND	4.1	D1
1,1-Dichloroethane	ND	1.0	ND	4.2	D1
MTBE	ND	1.0	ND	3.8	D1
cis-1,2-Dichloroethene	ND	1.0	ND	4.1	D1
n-Hexane	ND	1.0	ND	3.7	D1
Chloroform	ND	1.0	ND	5.1	D1
Benzene	ND	1.0	ND	3.3	D1
Trichloroethene	ND	1.0	ND	5.6	D1
Toluene	1.1	1.0	4.1	3.9	D1
Tetrachloroethene	1.7	1.0	11	7.1	D1
Ethylbenzene	2.3	1.0	10	4.5	D1
m,p-Xylenes	6.8	1.0	29	4.5	D1
o-Xylene	1.4	1.0	6.2	4.5	D1
1,3,5-Trimethylbenzene	4.9	1.0	24	5.1	D1
1,2,4-Trimethylbenzene	23	1.0	110	5.1	D1
Xylene (total)	8.2	2.1	36	9.1	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	126	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-13-L-10Q2	Diln Fac:	2.250
Lab ID:	220426-005	Batch#:	163582
Matrix:	Air	Sampled:	05/14/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/02/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.9	D1
Chloroethane	ND	1.1	ND	3.0	D1
1,1-Dichloroethene	ND	1.1	ND	4.5	D1
1,1-Dichloroethane	ND	1.1	ND	4.6	D1
MTBE	ND	1.1	ND	4.1	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.5	D1
n-Hexane	1.6	1.1	5.5	4.0	D1
Chloroform	ND	1.1	ND	5.5	D1
Benzene	4.4	1.1	14	3.6	D1
Trichloroethene	ND	1.1	ND	6.0	D1
Toluene	34	1.1	130	4.2	D1
Tetrachloroethene	5.3	1.1	36	7.6	D1
Ethylbenzene	16	1.1	69	4.9	D1
m,p-Xylenes	40	1.1	170	4.9	D1
o-Xylene	17	1.1	73	4.9	D1
1,3,5-Trimethylbenzene	8.7	1.1	43	5.5	D1
1,2,4-Trimethylbenzene	38	1.1	190	5.5	D1
Xylene (total)	57	2.3	250	9.8	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	111	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-10-U-10Q2	Diln Fac:	2.170
Lab ID:	220426-006	Batch#:	163582
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/02/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.8	D1
Chloroethane	ND	1.1	ND	2.9	D1
1,1-Dichloroethene	ND	1.1	ND	4.3	D1
1,1-Dichloroethane	ND	1.1	ND	4.4	D1
MTBE	ND	1.1	ND	3.9	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.3	D1
n-Hexane	ND	1.1	ND	3.8	D1
Chloroform	ND	1.1	ND	5.3	D1
Benzene	ND	1.1	ND	3.5	D1
Trichloroethene	ND	1.1	ND	5.8	D1
Toluene	ND	1.1	ND	4.1	D1
Tetrachloroethene	1.7	1.1	11	7.4	D1
Ethylbenzene	1.4	1.1	6.2	4.7	D1
m,p-Xylenes	4.0	1.1	18	4.7	D1
o-Xylene	ND	1.1	ND	4.7	D1
1,3,5-Trimethylbenzene	3.4	1.1	17	5.3	D1
1,2,4-Trimethylbenzene	16	1.1	77	5.3	D1
Xylene (total)	4.0	2.2	18	9.4	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	111	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-10-M-10Q2	Diln Fac:	2.160
Lab ID:	220426-007	Batch#:	163582
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.8	D1
Chloroethane	ND	1.1	ND	2.8	D1
1,1-Dichloroethene	ND	1.1	ND	4.3	D1
1,1-Dichloroethane	ND	1.1	ND	4.4	D1
MTBE	ND	1.1	ND	3.9	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.3	D1
n-Hexane	ND	1.1	ND	3.8	D1
Chloroform	ND	1.1	ND	5.3	D1
Benzene	ND	1.1	ND	3.5	D1
Trichloroethene	ND	1.1	ND	5.8	D1
Toluene	ND	1.1	ND	4.1	D1
Tetrachloroethene	1.7	1.1	12	7.3	D1
Ethylbenzene	ND	1.1	ND	4.7	D1
m,p-Xylenes	2.6	1.1	11	4.7	D1
o-Xylene	ND	1.1	ND	4.7	D1
1,3,5-Trimethylbenzene	2.1	1.1	10	5.3	D1
1,2,4-Trimethylbenzene	11	1.1	53	5.3	D1
Xylene (total)	2.6	2.2	11	9.4	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	103	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-10-L-10Q2	Diln Fac:	2.340
Lab ID:	220426-008	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.2	ND	3.0	D1
Chloroethane	ND	1.2	ND	3.1	D1
1,1-Dichloroethene	ND	1.2	ND	4.6	D1
1,1-Dichloroethane	ND	1.2	ND	4.7	D1
MTBE	ND	1.2	ND	4.2	D1
cis-1,2-Dichloroethene	ND	1.2	ND	4.6	D1
n-Hexane	ND	1.2	ND	4.1	D1
Chloroform	ND	1.2	ND	5.7	D1
Benzene	ND	1.2	ND	3.7	D1
Trichloroethene	ND	1.2	ND	6.3	D1
Toluene	3.7	1.2	14	4.4	D1
Tetrachloroethene	5.8	1.2	39	7.9	D1
Ethylbenzene	1.8	1.2	7.8	5.1	D1
m,p-Xylenes	5.5	1.2	24	5.1	D1
o-Xylene	1.8	1.2	7.7	5.1	D1
1,3,5-Trimethylbenzene	2.0	1.2	9.7	5.8	D1
1,2,4-Trimethylbenzene	9.3	1.2	46	5.8	D1
Xylene (total)	7.3	2.3	32	10	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	100	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-9-U-10Q2	Diln Fac:	1.990
Lab ID:	220426-009	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.5	D1
Chloroethane	ND	1.0	ND	2.6	D1
1,1-Dichloroethene	ND	1.0	ND	3.9	D1
1,1-Dichloroethane	ND	1.0	ND	4.0	D1
MTBE	ND	1.0	ND	3.6	D1
cis-1,2-Dichloroethene	ND	1.0	ND	3.9	D1
n-Hexane	ND	1.0	ND	3.5	D1
Chloroform	ND	1.0	ND	4.9	D1
Benzene	ND	1.0	ND	3.2	D1
Trichloroethene	ND	1.0	ND	5.3	D1
Toluene	ND	1.0	ND	3.7	D1
Tetrachloroethene	ND	1.0	ND	6.7	D1
Ethylbenzene	ND	1.0	ND	4.3	D1
m,p-Xylenes	3.3	1.0	14	4.3	D1
o-Xylene	ND	1.0	ND	4.3	D1
1,3,5-Trimethylbenzene	2.1	1.0	10	4.9	D1
1,2,4-Trimethylbenzene	11	1.0	56	4.9	D1
Xylene (total)	3.3	2.0	14	8.6	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	106	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-9-M-10Q2	Diln Fac:	1.950
Lab ID:	220426-010	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.98	ND	2.5	D1
Chloroethane	ND	0.98	ND	2.6	D1
1,1-Dichloroethene	ND	0.98	ND	3.9	D1
1,1-Dichloroethane	ND	0.98	ND	3.9	D1
MTBE	ND	0.98	ND	3.5	D1
cis-1,2-Dichloroethene	ND	0.98	ND	3.9	D1
n-Hexane	ND	0.98	ND	3.4	D1
Chloroform	ND	0.98	ND	4.8	D1
Benzene	ND	0.98	ND	3.1	D1
Trichloroethene	ND	0.98	ND	5.2	D1
Toluene	ND	0.98	ND	3.7	D1
Tetrachloroethene	ND	0.98	ND	6.6	D1
Ethylbenzene	ND	0.98	ND	4.2	D1
m,p-Xylenes	2.2	0.98	9.6	4.2	D1
o-Xylene	ND	0.98	ND	4.2	D1
1,3,5-Trimethylbenzene	1.7	0.98	8.6	4.8	D1
1,2,4-Trimethylbenzene	8.2	0.98	40	4.8	D1
Xylene (total)	2.2	2.0	9.6	8.5	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	108	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-9-L-10Q2	Diln Fac:	2.070
Lab ID:	220426-011	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.6	D1
Chloroethane	ND	1.0	ND	2.7	D1
1,1-Dichloroethene	2.6	1.0	10	4.1	D1
1,1-Dichloroethane	40	1.0	160	4.2	D1
MTBE	1.4	1.0	5.0	3.7	D1
cis-1,2-Dichloroethene	1.3	1.0	5.0	4.1	D1
n-Hexane	ND	1.0	ND	3.6	D1
Chloroform	4.6	1.0	22	5.1	D1
Benzene	ND	1.0	ND	3.3	D1
Trichloroethene	5.9	1.0	31	5.6	D1
Toluene	1.9	1.0	7.3	3.9	D1
Tetrachloroethene	10	1.0	69	7.0	D1
Ethylbenzene	1.2	1.0	5.4	4.5	D1
m,p-Xylenes	3.7	1.0	16	4.5	D1
o-Xylene	1.1	1.0	4.6	4.5	D1
1,3,5-Trimethylbenzene	1.9	1.0	9.2	5.1	D1
1,2,4-Trimethylbenzene	8.6	1.0	43	5.1	D1
Xylene (total)	4.8	2.1	21	9.0	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	96	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC546818	Diln Fac:	1.000
Matrix:	Air	Batch#:	163582
Units (V):	ppbv	Analyzed:	06/02/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	92	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163582
Units (V):	ppbv	Analyzed:	06/02/10
Diln Fac:	1.000		

Type: BS Lab ID: QC546819

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	10.63	106	70-130		
Chloroethane	10.00	10.40	104	70-130		
1,1-Dichloroethene	10.00	10.98	110	70-130		
1,1-Dichloroethane	10.00	10.74	107	70-130		
MTBE	10.00	11.00	110	70-130		
cis-1,2-Dichloroethene	10.00	10.69	107	70-130		
n-Hexane	10.00	10.66	107	70-130		
Chloroform	10.00	9.947	99	70-130		
Benzene	10.00	11.23	112	70-130		
Trichloroethene	10.00	10.14	101	70-130		
Toluene	10.00	10.90	109	70-130		
Tetrachloroethene	10.00	10.27	103	70-130		
Ethylbenzene	10.00	11.18	112	70-130		
m,p-Xylenes	20.00	21.57	108	70-130		
o-Xylene	10.00	10.55	105	70-130		
1,3,5-Trimethylbenzene	10.00	11.06	111	70-130		
1,2,4-Trimethylbenzene	10.00	10.82	108	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	96	70-130		

Type: BSD Lab ID: QC546820

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	10.55	106	70-130	1	25		
Chloroethane	10.00	10.70	107	70-130	3	25		
1,1-Dichloroethene	10.00	10.76	108	70-130	2	20		
1,1-Dichloroethane	10.00	10.70	107	70-130	0	20		
MTBE	10.00	11.20	112	70-130	2	25		
cis-1,2-Dichloroethene	10.00	10.74	107	70-130	0	25		
n-Hexane	10.00	10.64	106	70-130	0	25		
Chloroform	10.00	9.824	98	70-130	1	25		
Benzene	10.00	11.24	112	70-130	0	25		
Trichloroethene	10.00	10.16	102	70-130	0	25		
Toluene	10.00	10.92	109	70-130	0	25		
Tetrachloroethene	10.00	10.22	102	70-130	1	25		
Ethylbenzene	10.00	11.42	114	70-130	2	25		
m,p-Xylenes	20.00	22.40	112	70-130	4	25		
o-Xylene	10.00	11.09	111	70-130	5	25		
1,3,5-Trimethylbenzene	10.00	11.18	112	70-130	1	25		
1,2,4-Trimethylbenzene	10.00	11.20	112	70-130	3	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163644
Units (V):	ppbv	Analyzed:	06/03/10
Diln Fac:	1.000		

Type: BS Lab ID: QC547082

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	11.18	112	70-130		
Chloroethane	10.00	10.92	109	70-130		
1,1-Dichloroethene	10.00	11.35	114	70-130		
1,1-Dichloroethane	10.00	11.24	112	70-130		
MTBE	10.00	11.58	116	70-130		
cis-1,2-Dichloroethene	10.00	11.53	115	70-130		
n-Hexane	10.00	11.29	113	70-130		
Chloroform	10.00	10.49	105	70-130		
Benzene	10.00	10.89	109	70-130		
Trichloroethene	10.00	10.26	103	70-130		
Toluene	10.00	11.87	119	70-130		
Tetrachloroethene	10.00	10.73	107	70-130		
Ethylbenzene	10.00	11.98	120	70-130		
m,p-Xylenes	20.00	23.37	117	70-130		
o-Xylene	10.00	11.61	116	70-130		
1,3,5-Trimethylbenzene	10.00	11.97	120	70-130		
1,2,4-Trimethylbenzene	10.00	11.71	117	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

Type: BSD Lab ID: QC547083

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	11.31	113	70-130	1	25		
Chloroethane	10.00	11.10	111	70-130	2	25		
1,1-Dichloroethene	10.00	11.43	114	70-130	1	20		
1,1-Dichloroethane	10.00	11.46	115	70-130	2	20		
MTBE	10.00	11.92	119	70-130	3	25		
cis-1,2-Dichloroethene	10.00	11.25	112	70-130	2	25		
n-Hexane	10.00	11.44	114	70-130	1	25		
Chloroform	10.00	10.38	104	70-130	1	25		
Benzene	10.00	11.52	115	70-130	6	25		
Trichloroethene	10.00	9.998	100	70-130	3	25		
Toluene	10.00	11.78	118	70-130	1	25		
Tetrachloroethene	10.00	11.08	111	70-130	3	25		
Ethylbenzene	10.00	12.46	125	70-130	4	25		
m,p-Xylenes	20.00	22.66	113	70-130	3	25		
o-Xylene	10.00	11.86	119	70-130	2	25		
1,3,5-Trimethylbenzene	10.00	12.11	121	70-130	1	25		
1,2,4-Trimethylbenzene	10.00	11.99	120	70-130	2	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

RPD= Relative Percent Difference

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220426	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC547084	Diln Fac:	1.000
Matrix:	Air	Batch#:	163644
Units (V):	ppbv	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	91	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220426 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220426 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200220861001 File : 153_001 Time : 02-JUN-2010 09:01

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	21483	12.65	
75	30% - 66% of mass 95	74388	43.81	
95		169808	100.00	
96	5% - 9% of mass 95	11437	6.74	
173	< 2% of mass 174	95	0.07	
174	50% - 120% of mass 95	133018	78.33	
175	4% - 9% of mass 174	8917	6.70	
176	93% - 101% of mass 174	129248	97.17	
177	5% - 9% of mass 176	8170	6.32	

CURTIS & TOMPKINS BFB TUNE FOR 220426 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200222400001 File : 154_001 Time : 03-JUN-2010 10:40

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	24898	12.37	
75	30% - 66% of mass 95	95929	47.67	
95		201230	100.00	
96	5% - 9% of mass 95	13994	6.95	
173	< 2% of mass 174	269	0.17	
174	50% - 120% of mass 95	160400	79.71	
175	4% - 9% of mass 174	12239	7.63	
176	93% - 101% of mass 174	153261	95.55	
177	5% - 9% of mass 176	12116	7.91	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220426 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m>manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor

Page 3 of 3

1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220426 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220426 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC546819 IDF : 1.0
 Seqnum : 1200220861002.2 File : 153_002 Time : 02-JUN-2010 10:06
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14774, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.8611	10.00	10.63	nL/L	6	30	0.0500	u
Chloroethane	0.0815	0.0847	10.00	10.40	nL/L	4	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1055	10.00	10.98	nL/L	10	30	0.0500	u
1,1-Dichloroethane	2.2145	2.3768	10.00	10.74	nL/L	7	30	0.0500	u
MTBE	1.4577	1.6035	10.00	11.00	nL/L	10	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.7576	10.00	10.69	nL/L	7	30	0.0500	u
n-Hexane	0.9022	0.9610	10.00	10.66	nL/L	7	30	0.0500	u
Chloroform	2.4999	2.4862	10.00	9.947	nL/L	-1	30	0.0500	u
Benzene	0.5014	0.5628	10.00	11.23	nL/L	12	30	0.0500	u
Trichloroethene	0.5169	0.5239	10.00	10.14	nL/L	1	30	0.0500	u
Toluene	1.5032	1.6368	10.00	10.90	nL/L	9	30	0.0500	u
Tetrachloroethene	0.9425	0.9675	10.00	10.27	nL/L	3	30	0.0500	u
Ethylbenzene	1.8627	2.0810	10.00	11.18	nL/L	12	30	0.0500	u
m,p-Xylenes	1.6467	1.7752	20.00	21.57	nL/L	8	30	0.0500	u
o-Xylene	1.6921	1.7835	10.00	10.55	nL/L	5	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.3878	10.00	11.06	nL/L	11	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.1368	10.00	10.82	nL/L	8	30	0.0500	u
Bromofluorobenzene	0.8080	0.7721	6.667	6.373	nL/L	-4	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	329290	-8.69	32.92	32.91	-0.01
1,4-Difluorobenzene	1294000	1147000	-11.36	36.90	36.90	0.00
Chlorobenzene-d5	1155000	1004000	-13.07	48.03	48.03	0.00

BO 06/02/10 [Propylene]: Integrated to match integration of ICAL and CCV.
[general version]

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220426 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC547082 IDF : 1.0
 Seqnum : 1200222400002.4 File : 154_002 Time : 03-JUN-2010 11:43
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14774, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.9056	10.00	11.18	nL/L	12	30	0.0500	u
Chloroethane	0.0815	0.0890	10.00	10.92	nL/L	9	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1766	10.00	11.35	nL/L	14	30	0.0500	u
1,1-Dichloroethane	2.2145	2.4891	10.00	11.24	nL/L	12	30	0.0500	u
MTBE	1.4577	1.6878	10.00	11.58	nL/L	16	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.8956	10.00	11.53	nL/L	15	30	0.0500	u
n-Hexane	0.9022	1.0179	10.00	11.29	nL/L	13	30	0.0500	u
Chloroform	2.4999	2.6217	10.00	10.49	nL/L	5	30	0.0500	u
Benzene	0.5014	0.5461	10.00	10.89	nL/L	9	30	0.0500	u
Trichloroethene	0.5169	0.5303	10.00	10.26	nL/L	3	30	0.0500	u
Toluene	1.5032	1.7837	10.00	11.87	nL/L	19	30	0.0500	u
Tetrachloroethene	0.9425	1.0111	10.00	10.73	nL/L	7	30	0.0500	u
Ethylbenzene	1.8627	2.2314	10.00	11.98	nL/L	20	30	0.0500	u
m,p-Xylenes	1.6467	1.9242	20.00	23.37	nL/L	17	30	0.0500	u
o-Xylene	1.6921	1.9640	10.00	11.61	nL/L	16	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.5842	10.00	11.97	nL/L	20	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.3133	10.00	11.71	nL/L	17	30	0.0500	u
Bromofluorobenzene	0.8080	0.7642	6.667	6.305	nL/L	-5	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	311497	-13.63	32.92	32.93	0.02
1,4-Difluorobenzene	1294000	1122000	-13.29	36.90	36.91	0.01
Chlorobenzene-d5	1155000	927678	-19.68	48.03	48.04	0.01

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200220861

Date : 06/02/10
 Sequence : MSAIR01 153

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC546819	329290	32.91	1147000	36.90	1004000	48.03
003	BSD	QC546820	314701	32.92	1136000	36.91	975851	48.03
004	BSD	QC546820	332132	32.91	1137000	36.90	990914	48.03
005	BLANK	QC546818	306540	32.94	1009000	36.91	903786	48.04
006	SAMPLE	220380-002	322403	32.93	1082000	36.91	951254	48.03
007	SAMPLE	220380-005	301373	32.93	1036000	36.91	885263	48.04
008	SAMPLE	220380-006	298434	32.94	1044000	36.91	905078	48.04
009	SAMPLE	220380-007	295654	32.95	987428	36.92	889723	48.04
010	SAMPLE	220380-008	305313	32.93	1030000	36.91	936964	48.04
011	SAMPLE	220426-004	296757	32.94	1009000	36.91	894136	48.04
012	SAMPLE	220426-005	288364	32.93	1020000	36.90	905390	48.03
013	SAMPLE	220426-006	296187	32.93	1005000	36.92	919178	48.04
014	SAMPLE	220426-007	294990	32.94	969614	36.92	896064	48.04
015	SAMPLE	220426-002	296022	32.95	946615	36.92	912772	48.04
016	SAMPLE	220426-003	289110	32.94	970300	36.92	894783	48.04
017	SAMPLE	220426-001	295301	32.94	984109	36.92	891309	48.04
018	SAMPLE	220380-004	277278	32.95	980493	36.92	848729	48.04
019	SAMPLE	220276-008	295370	32.94	979556	36.91	829382	48.04
020	SAMPLE	220380-003	302994	32.95	983055	36.92	849890	48.04
021	SAMPLE	220380-005	302155	32.94	956741	36.92	867169	48.04

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200222400

Date : 06/03/10
 Sequence : MSAIR01 154

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC547082	311497	32.93	1122000	36.91	927678	48.04
003	BSD	QC547083	312051	32.93	1119000	36.92	927506	48.04
004	BLANK	QC547084	302884	32.95	960512	36.92	832549	48.04
005	SAMPLE	220426-008	299795	32.94	1028000	36.92	882174	48.05
006	SAMPLE	220426-009	302729	32.95	989828	36.93	897323	48.05
007	SAMPLE	220426-010	316654	32.94	969810	36.92	897302	48.04
008	SAMPLE	220426-011	283135	32.94	1003000	36.92	837921	48.04
009	SAMPLE	220428-002	305091	32.94	1016000	36.91	879120	48.04
010	SAMPLE	220428-003	299290	32.94	1008000	36.92	902802	48.04
011	SAMPLE	220428-004	279278	32.94	982464	36.92	875834	48.04
012	SAMPLE	220428-005	290612	32.94	986959	36.92	872086	48.04
013	SAMPLE	220428-006	300360	32.94	1007000	36.92	864512	48.04
014	SAMPLE	220428-007	298212	32.94	984425	36.92	866089	48.04
015	SAMPLE	220428-008	292903	32.93	1029000	36.91	863501	48.04
016	SAMPLE	220428-009	300516	32.94	998997	36.92	879982	48.04
017	SAMPLE	220428-010	299067	32.94	979199	36.92	905302	48.04
018	SAMPLE	220428-011	299038	32.94	991561	36.92	803067	48.04
019	SAMPLE	220380-003	286978	32.95	1019000	36.91	810714	48.04
020	SAMPLE	220424-003	294760	32.93	1013000	36.91	874546	48.04
021	SAMPLE	220424-006	293208	32.94	1048000	36.92	923967	48.04

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200220861

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 06/02/10 09:01

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	153_001	TUN	BFB			06/02/10 09:01	1.0	1
002	153_002	CCV/BS	QC546819	Air	163582	06/02/10 10:06	1.0	2 1
003	153_003	BSD	QC546820	Air	163582	06/02/10 11:10	1.0	2 1
004	153_004	BSD	QC546820	Air	163582	06/02/10 12:20	1.0	2 1
005	153_005	BLANK	QC546818	Air	163582	06/02/10 13:25	1.0	1
006	153_006	SAMPLE	220380-002	Air	163582	06/02/10 15:50	2.27	1
007	153_007	SAMPLE	220380-005	Air	163582	06/02/10 16:53	2.32	1
008	153_008	SAMPLE	220380-006	Air	163582	06/02/10 17:58	2.58	1
009	153_009	SAMPLE	220380-007	Air	163582	06/02/10 19:02	2.34	1
010	153_010	SAMPLE	220380-008	Air	163582	06/02/10 20:24	2.43	1
011	153_011	SAMPLE	220426-004	Air	163582	06/02/10 21:27	2.09	1
012	153_012	SAMPLE	220426-005	Air	163582	06/02/10 22:30	2.25	1
013	153_013	SAMPLE	220426-006	Air	163582	06/02/10 23:33	2.17	1
014	153_014	SAMPLE	220426-007	Air	163582	06/03/10 00:36	2.16	1
015	153_015	SAMPLE	220426-002	Air	163582	06/03/10 01:41	4.36	1
016	153_016	SAMPLE	220426-003	Air	163582	06/03/10 02:46	4.14	1
017	153_017	SAMPLE	220426-001	Air	163582	06/03/10 03:51	6.39	1
018	153_018	SAMPLE	220380-004	Air	163582	06/03/10 04:56	6.84	1
019	153_019	SAMPLE	220276-008	Air	163582	06/03/10 06:01	453.6	1
020	153_020	SAMPLE	220380-003	Air	163582	06/03/10 07:06	45.0	1
021	153_021	SAMPLE	220380-005	Air	163582	06/03/10 08:11	4.64	1

BO 06/02/10 : Adjusted tune prior to start of sequence

BO 06/03/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Analyst: BO Date: 06/03/10 Reviewer: SJD Date: 06/03/10

Standards used: 1=S13547 2=S14774

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200222400

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 06/03/10 10:40

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	154_001	TUN	BFB			06/03/10 10:40	1.0	1	
002	154_002	CCV/BS	QC547082	Air	163644	06/03/10 11:43	1.0	2	1
003	154_003	BSD	QC547083	Air	163644	06/03/10 12:51	1.0	2	1
004	154_004	BLANK	QC547084	Air	163644	06/03/10 13:59	1.0	1	
005	154_005	SAMPLE	220426-008	Air	163644	06/03/10 15:03	2.34	1	
006	154_006	SAMPLE	220426-009	Air	163644	06/03/10 16:06	1.99	1	
007	154_007	SAMPLE	220426-010	Air	163644	06/03/10 17:09	1.95	1	
008	154_008	SAMPLE	220426-011	Air	163644	06/03/10 18:13	2.07	1	
009	154_009	SAMPLE	220428-002	Air	163644	06/03/10 19:17	2.08	1	1:ISOPROH=120
010	154_010	SAMPLE	220428-003	Air	163644	06/03/10 20:20	2.06	1	1:ISOPROH=100
011	154_011	SAMPLE	220428-004	Air	163644	06/03/10 21:24	2.19	1	1:ISOPROH=120
012	154_012	SAMPLE	220428-005	Air	163644	06/03/10 22:28	2.23	1	1:ISOPROH=140
013	154_013	SAMPLE	220428-006	Air	163644	06/03/10 23:32	2.01	1	1:ISOPROH=110
014	154_014	SAMPLE	220428-007	Air	163644	06/04/10 00:36	2.06	1	
015	154_015	SAMPLE	220428-008	Air	163644	06/04/10 01:40	2.07	1	1:ISOPROH=170
016	154_016	SAMPLE	220428-009	Air	163644	06/04/10 02:44	2.06	1	
017	154_017	SAMPLE	220428-010	Air	163644	06/04/10 03:48	2.21	1	
018	154_018	SAMPLE	220428-011	Air	163644	06/04/10 04:52	3.98	1	
019	154_019	SAMPLE	220380-003	Air	163644	06/04/10 05:56	13.50	1	
020	154_020	SAMPLE	220424-003	Air	163644	06/04/10 08:05	2.07	1	
021	154_021	SAMPLE	220424-006	Air	163644	06/04/10 09:10	1.89	1	1:PCE=190

BO 06/04/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Analyst: BO Date: 06/04/10 Reviewer: SJD Date: 06/05/10

Standards used: 1=S13547 2=S14774

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSIG)	Final Pressure (PSIG)	Dilution Factor	Comments
B.S. 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00257	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
P.S. 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.52	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.15x CAN C00052
Sop 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x CAN C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x CAN C00079
	220209-002	C0042	0.75 added	30.0 total added	84.4x	40x of 2.11x CAN C00119 C00315
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.93x CAN C00300 C00119 60m
Bo 6/1/10	BLANK	C00355	—	—	1x	
	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x CAN C00280
	220276-007	C00360	0.75 added	30.0 total added	77.6x	40x of 1.94x CAN C00070
	220276-008	C00361	0.75 added	30.0 total added	75.6x	40x of 1.89x CAN C00270
Sop 6/1/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x CAN C00119
	220276-008	C00359	1.5 added	30.0 total added	157.2x	20x of 75.6x CAN C00361
	220380-002	C00263	10.21	23.16	2.27x	
	-003	C00050	10.44	23.48	2.25x	
	-004	C00183	10.38	23.65	2.28x	
	-005	C00085	10.26	23.84	2.32x	
	-006	C00060	9.10	23.63	2.58x	
	-007	C00104	10.05	23.55	2.34x	
	-008	C00108	9.61	23.32	2.43x	

Continued on Page 39

Read and Understood By

Signed _____ Date _____ Signed _____ Date _____

Project by / Date	SAMPLE ID	CAN ID	Initial (psig) Pressure	Final (psig) Pressure	Dilution Factor	Comments
500 6/10	220426-001	C00317 C00319	11.09	23.64	2.13x	
	-002	C00319	10.78	23.49	2.18x	
	-003	C00318	11.32	23.41	2.07x	
	-004	C00307	11.24	23.50	2.09x	
	-005	C00303	10.43	23.43	2.25x	
	-006	C00312	11.18	24.26	2.17x	
	-007	C00320	11.08	23.95	2.16x	
	-008	C00302	10.47	24.53	2.34x	
	-009	C00322	11.81	23.45	1.99x	
	-010	C00325	11.91	23.59 23.59	1.95x	Final pressure = 23.19
	-011	C00329	11.35	23.45	2.07x	
500 6/10	220424-001	C00378	10.48	23.36	2.23x	
	-002	C00146	11.43	23.40	2.05x	
	-003	C00340	11.42	23.69	2.07x	
	-004	C00118	12.36	23.36	1.89x	
	-005	C00054	10.63	23.45	2.21x	
	-008	C00106	10.90	23.47	2.15x	
	-009	C00191	10.27	23.42	2.28x	
	-013	C00309	11.04	23.55	2.13x	
	-014	C00334	11.32	23.41	2.07x	
	220428-002	C00318	11.30	23.54	2.08x	
	-003	C00314	11.30	23.33	2.06x	
	-004	C00308	10.78	23.64	2.19x	
	-005	C00321	10.58	23.57	2.23x	
	-006	C00328	11.68	23.51	2.01x	
	-007	C00326	11.44	23.54	2.06x	
-008	C00323	11.32	23.45	2.07x		
-009	C00337	11.47	23.66	2.06x		
-010	C00338	10.90	24.05	2.21x		
-011	C00310	11.84	23.54	1.99x		
BLANK	C00362	—	—	1x		
220380-003	C00373	1.5 added	30.0 ^{Final} added	45x	2oz of 2.25 can C00050	

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSi _g)	Final Pressure (PSi _g)	Dilution Factor	Comments
P. 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00297	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
P. 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.52	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	-007	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.18x can C00152
S. 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x can C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x can C00119 C00119 C00119 C00119
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.03x can C00119
B. 6/1/10	BLANK	C00355	—	—	1x	
	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x can C00280
	220278-007	C00360	0.75 added	30.0 total added	27.6x	40x of 1.94x can C00170
	220276-008	C00361	0.75 added	30.0 total added	25.6x	40x of 1.89x can C00270
S. 6/1/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x can C00159
	220276-008	C00359	1.5 added	30.0 total added	1512x	20x of 75.6x can C00361
	220380-002	C00263	10.21	23.16	2.27x	
	-003	C00050	10.44	23.48	2.25x	
	-004	C00183	10.38	23.65	2.28x	
	-005	C00085	10.26	23.84	2.32x	
	-006	C00060	9.16	23.63	2.58x	
	-007	C00104	10.05	23.55	2.34x	
	-008	C00108	9.61	23.32	2.43x	

Continued on Page 39

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Date

Signed

Date

PROJECT Air Sample Prep Log

Notebook No. BK2875
Continued From Page 38

Prep by / date	SAMPLE ID	CAN ID	Initial (psig) Pressure	Final (psig) Pressure	Dilution Factor	Comments
500 6/1/10	220 426-001	C00327 C00319	11.09	23.64	2.13x	
	-002	C00319	10.78	23.49	2.18x	
	-003	C00313	11.32	23.41	2.07x	
	-004	C00307	11.24	23.50	2.09x	
	-005	C00303	10.43	23.43	2.25x	
	-006	C00312	11.18	24.26	2.17x	
	-007	C00320	11.08	23.95	2.16x	
	-008	C00302	10.47	24.53	2.34x	
	-009	C00322	11.81	23.45	1.99x	
	-010	C00325	11.91	23.19 23.19	1.95x	Final pressure = 23.19
	-011	C00329	11.35	23.45	2.07x	
500 6/2/10	220 424-001	C00378	10.48	23.36	2.23x	
	-002	C00146	11.43	23.40	2.05x	
	-003	C00340	11.42	23.69	2.07x	
	-004	C00118	12.36	23.36	1.89x	
	-005	C00054	10.63	23.45	2.21x	
	-008	C00106	10.90	23.47	2.15x	
	-009	C00194	10.27	23.42	2.28x	
	-013	C00309	11.04	23.55	2.13x	
	-014	C00334	11.32	23.41	2.07x	
	220 428-002	C00318	11.30	23.54	2.08x	
	-003	C00314	11.30	23.33	2.06x	
	-004	C00308	10.78	23.64	2.19x	
	-005	C00321	10.58	23.57	2.23x	
	-006	C00328	11.68	23.51	2.01x	
-007	C00326	11.44	23.54	2.06x		
-008	C00323	11.32	23.45	2.07x		
-009	C00337	11.47	23.66	2.06x		
-010	C00338	10.90	24.05	2.21x		
-011	C00310	11.84	23.54	1.99x		
	BLANK	C00362	—	—	1x	
✓	220 380-003	C00373	1.5 added	30.0 ^{final} added	45x	2oz of 2.25x can C00050

Continued on Page

Read and Understood By

Signed

Date

Signed

Date



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220428
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 371451.SV.99.IS.0109
Location : BSVE QTR SVM
Level : III

Table with 2 columns: Sample ID and Lab ID. Lists various sample identifiers like PMW-11-M-10Q2 and their corresponding Lab IDs such as 220428-001.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Senior Program Manager

Date: 06/07/2010

CASE NARRATIVE

Laboratory number: 220428
Client: CH2M Hill
Project: 371451.SV.99.IS.0109
Location: BSVE QTR SVM
Request Date: 05/25/10
Samples Received: 05/25/10

This data package contains sample and QC results for ten air samples, requested for the above referenced project on 05/25/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics in Air by MS (EPA TO-15):

High surrogate recovery was observed for bromofluorobenzene in BC-18-10Q2 (lab # 220428-011), due to matrix interference.

No other analytical problems were encountered.

Chain of Custody

220380 1/13

220428

Amended 5/27 TW

Honeywell Chain of Custody / Analysis Request

Client Information:
 Sampling Co.: CRIBELL
 Client Contact (name, address): CRIBELL
 2008 South Mesa Drive, Suite 300
 Tempe, AZ 85282

Site Information:
 Site Name: Phoenix, AZ
 Location of Site: Phoenix, AZ
 City/Number AZ: Phoenix, AZ

Analysis Information:
 Analyte: CO2 and CO2 (ASTM 1949)
 Analyte Turnaround Time (TAT): 10
 Full Report TAT: 10

Sample Log:

Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cool.	Units	Customer Serial No.
1	20	25	SMW-11-M-1002	051510	0440	SV	AIR	REF	1	G N	00314
2	5	9	SMW-14-L-1002	051510	0534	SV	AIR	REF	1	G N X	00314
3	20	25	SMW-11-M-1002	051510	0346	SU	AIR	REF	1	G N X	00308
4	55	66.85	SMW-11-L-1002	051510	0404	SV	AIR	REF	1	G N X	00308
5	5	9	SMW-11-L-1002	051510	0428	SV	AIR	REF	1	G N X	00308
6	20	25	SMW-11-M-1002	051510	0446	SV	AIR	REF	1	G N X	00308
7	67.31	65.2	SMW-11-L-1002	051510	0503	SV	AIR	REF	1	G N X	00308
8	-	-	BSUB-SVM-1002-00	051510	-	SV	AIR	REF	1	G N X	00308
9	5	9	SMW-8-L-1002	051510	2246	SV	AIR	REF	1	G N X	00308
10	20	25	SMW-8-M-1002	051510	2256	SV	AIR	REF	1	G N X	00308
11	60	73.11	BC-10-1002	051510	0325	SV	AIR	REF	1	G N X	00308
12	6	9	SMW-12-L-1002	051510	0446	SV	AIR	REF	1	G N	00308

Chain of Custody:
 Received by: CRIBELL
 Date/Time: 05-14-2008 7:55
 Received by: CRIBELL
 Date/Time: 5/15/08 07:55
 Received by: CRIBELL
 Date/Time: 5/15/08 07:55

Notes:
 Do not analyze
 Do not analyze

1 2 3 4 5 6 7 8 9 10 11 12

Handwritten signature and date: 5.25.10

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 220380 + Date Received 5-25-10 Number of coolers 10x
 Client CHARM DAZ Project BSVE QTR SUM

Date Opened 5-25-10 By (print) S. EVANS (sign) [Signature]
 Date Logged in ✓ By (print) M. J. LLORENTE (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) FEDEX # YES NO
 Shipping info 7947 5166 3660 / 7928 27996455

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
 How many 24 Name SIGNATURE Date 5-24-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are samples in the appropriate containers for indicated tests? _____ YES NO

11. Are sample labels present, in good condition and complete? _____ YES NO

12. Do the sample labels agree with custody papers? _____ YES NO

13. Was sufficient amount of sample sent for tests requested? _____ YES NO

14. Are the samples appropriately preserved? _____ YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

16. Was the client contacted concerning this sample delivery? _____ YES NO
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Laboratory Job Number 220428

ANALYTICAL REPORT

Volatile Organics in Air by MS

Matrix: Air

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-14-U-10Q2	Diln Fac:	2.080
Lab ID:	220428-002	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.7	D1
Chloroethane	ND	1.0	ND	2.7	D1
1,1-Dichloroethene	ND	1.0	ND	4.1	D1
1,1-Dichloroethane	ND	1.0	ND	4.2	D1
MTBE	ND	1.0	ND	3.7	D1
cis-1,2-Dichloroethene	ND	1.0	ND	4.1	D1
n-Hexane	ND	1.0	ND	3.7	D1
Chloroform	ND	1.0	ND	5.1	D1
Benzene	ND	1.0	ND	3.3	D1
Trichloroethene	ND	1.0	ND	5.6	D1
Toluene	ND	1.0	ND	3.9	D1
Tetrachloroethene	5.9	1.0	40	7.1	D1
Ethylbenzene	ND	1.0	ND	4.5	D1
m,p-Xylenes	1.8	1.0	8.0	4.5	D1
o-Xylene	ND	1.0	ND	4.5	D1
1,3,5-Trimethylbenzene	ND	1.0	ND	5.1	D1
1,2,4-Trimethylbenzene	4.2	1.0	21	5.1	D1
Xylene (total)	1.8	1.0	8.0	4.5	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	130	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-14-M-10Q2	Diln Fac:	2.060
Lab ID:	220428-003	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.6	D1
Chloroethane	ND	1.0	ND	2.7	D1
1,1-Dichloroethene	ND	1.0	ND	4.1	D1
1,1-Dichloroethane	ND	1.0	ND	4.2	D1
MTBE	ND	1.0	ND	3.7	D1
cis-1,2-Dichloroethene	ND	1.0	ND	4.1	D1
n-Hexane	ND	1.0	ND	3.6	D1
Chloroform	ND	1.0	ND	5.0	D1
Benzene	1.2	1.0	3.7	3.3	D1
Trichloroethene	ND	1.0	ND	5.5	D1
Toluene	1.2	1.0	4.6	3.9	D1
Tetrachloroethene	8.0	1.0	54	7.0	D1
Ethylbenzene	ND	1.0	ND	4.5	D1
m,p-Xylenes	1.2	1.0	5.3	4.5	D1
o-Xylene	ND	1.0	ND	4.5	D1
1,3,5-Trimethylbenzene	ND	1.0	ND	5.1	D1
1,2,4-Trimethylbenzene	2.6	1.0	13	5.1	D1
Xylene (total)	1.2	1.0	5.3	4.5	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	100	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-14-L-10Q2	Diln Fac:	2.190
Lab ID:	220428-004	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.8	D1
Chloroethane	ND	1.1	ND	2.9	D1
1,1-Dichloroethene	ND	1.1	ND	4.3	D1
1,1-Dichloroethane	ND	1.1	ND	4.4	D1
MTBE	ND	1.1	ND	3.9	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.3	D1
n-Hexane	ND	1.1	ND	3.9	D1
Chloroform	ND	1.1	ND	5.3	D1
Benzene	ND	1.1	ND	3.5	D1
Trichloroethene	ND	1.1	ND	5.9	D1
Toluene	3.0	1.1	11	4.1	D1
Tetrachloroethene	11	1.1	72	7.4	D1
Ethylbenzene	1.4	1.1	6.2	4.8	D1
m,p-Xylenes	4.0	1.1	17	4.8	D1
o-Xylene	1.4	1.1	6.0	4.8	D1
1,3,5-Trimethylbenzene	ND	1.1	ND	5.4	D1
1,2,4-Trimethylbenzene	4.3	1.1	21	5.4	D1
Xylene (total)	5.4	2.2	23	9.5	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	107	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-11-U-10Q2	Diln Fac:	2.230
Lab ID:	220428-005	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.9	D1
Chloroethane	ND	1.1	ND	2.9	D1
1,1-Dichloroethene	ND	1.1	ND	4.4	D1
1,1-Dichloroethane	ND	1.1	ND	4.5	D1
MTBE	ND	1.1	ND	4.0	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.4	D1
n-Hexane	ND	1.1	ND	3.9	D1
Chloroform	ND	1.1	ND	5.4	D1
Benzene	ND	1.1	ND	3.6	D1
Trichloroethene	ND	1.1	ND	6.0	D1
Toluene	ND	1.1	ND	4.2	D1
Tetrachloroethene	ND	1.1	ND	7.6	D1
Ethylbenzene	ND	1.1	ND	4.8	D1
m,p-Xylenes	ND	1.1	ND	4.8	D1
o-Xylene	ND	1.1	ND	4.8	D1
1,3,5-Trimethylbenzene	ND	1.1	ND	5.5	D1
1,2,4-Trimethylbenzene	2.4	1.1	12	5.5	D1
Xylene (total)	ND	2.2	ND	9.7	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	98	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-11-M-10Q2	Diln Fac:	2.010
Lab ID:	220428-006	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.6	D1
Chloroethane	ND	1.0	ND	2.7	D1
1,1-Dichloroethene	ND	1.0	ND	4.0	D1
1,1-Dichloroethane	ND	1.0	ND	4.1	D1
MTBE	ND	1.0	ND	3.6	D1
cis-1,2-Dichloroethene	ND	1.0	ND	4.0	D1
n-Hexane	ND	1.0	ND	3.5	D1
Chloroform	ND	1.0	ND	4.9	D1
Benzene	ND	1.0	ND	3.2	D1
Trichloroethene	ND	1.0	ND	5.4	D1
Toluene	1.1	1.0	4.0	3.8	D1
Tetrachloroethene	1.4	1.0	9.5	6.8	D1
Ethylbenzene	ND	1.0	ND	4.4	D1
m,p-Xylenes	1.5	1.0	6.5	4.4	D1
o-Xylene	ND	1.0	ND	4.4	D1
1,3,5-Trimethylbenzene	ND	1.0	ND	4.9	D1
1,2,4-Trimethylbenzene	3.1	1.0	15	4.9	D1
Xylene (total)	1.5	1.0	6.5	4.4	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	102	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-11-L-10Q2	Diln Fac:	2.060
Lab ID:	220428-007	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.6	D1
Chloroethane	ND	1.0	ND	2.7	D1
1,1-Dichloroethene	ND	1.0	ND	4.1	D1
1,1-Dichloroethane	ND	1.0	ND	4.2	D1
MTBE	ND	1.0	ND	3.7	D1
cis-1,2-Dichloroethene	ND	1.0	ND	4.1	D1
n-Hexane	ND	1.0	ND	3.6	D1
Chloroform	ND	1.0	ND	5.0	D1
Benzene	ND	1.0	ND	3.3	D1
Trichloroethene	ND	1.0	ND	5.5	D1
Toluene	ND	1.0	ND	3.9	D1
Tetrachloroethene	16	1.0	110	7.0	D1
Ethylbenzene	ND	1.0	ND	4.5	D1
m,p-Xylenes	ND	1.0	ND	4.5	D1
o-Xylene	ND	1.0	ND	4.5	D1
1,3,5-Trimethylbenzene	ND	1.0	ND	5.1	D1
1,2,4-Trimethylbenzene	1.5	1.0	7.4	5.1	D1
Xylene (total)	ND	2.1	ND	8.9	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	97	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BSVE-SVM-10Q2-007	Diln Fac:	2.070
Lab ID:	220428-008	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.6	D1
Chloroethane	ND	1.0	ND	2.7	D1
1,1-Dichloroethene	ND	1.0	ND	4.1	D1
1,1-Dichloroethane	ND	1.0	ND	4.2	D1
MTBE	ND	1.0	ND	3.7	D1
cis-1,2-Dichloroethene	ND	1.0	ND	4.1	D1
n-Hexane	ND	1.0	ND	3.6	D1
Chloroform	ND	1.0	ND	5.1	D1
Benzene	ND	1.0	ND	3.3	D1
Trichloroethene	ND	1.0	ND	5.6	D1
Toluene	ND	1.0	ND	3.9	D1
Tetrachloroethene	ND	1.0	ND	7.0	D1
Ethylbenzene	ND	1.0	ND	4.5	D1
m,p-Xylenes	1.5	1.0	6.5	4.5	D1
o-Xylene	ND	1.0	ND	4.5	D1
1,3,5-Trimethylbenzene	ND	1.0	ND	5.1	D1
1,2,4-Trimethylbenzene	3.3	1.0	16	5.1	D1
Xylene (total)	1.5	1.0	6.5	4.5	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	98	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-8-U-10Q2	Diln Fac:	2.060
Lab ID:	220428-009	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.0	ND	2.6	D1
Chloroethane	ND	1.0	ND	2.7	D1
1,1-Dichloroethene	ND	1.0	ND	4.1	D1
1,1-Dichloroethane	ND	1.0	ND	4.2	D1
MTBE	ND	1.0	ND	3.7	D1
cis-1,2-Dichloroethene	ND	1.0	ND	4.1	D1
n-Hexane	ND	1.0	ND	3.6	D1
Chloroform	ND	1.0	ND	5.0	D1
Benzene	ND	1.0	ND	3.3	D1
Trichloroethene	2.7	1.0	15	5.5	D1
Toluene	1.4	1.0	5.1	3.9	D1
Tetrachloroethene	8.3	1.0	57	7.0	D1
Ethylbenzene	2.5	1.0	11	4.5	D1
m,p-Xylenes	7.7	1.0	34	4.5	D1
o-Xylene	1.3	1.0	5.8	4.5	D1
1,3,5-Trimethylbenzene	5.2	1.0	25	5.1	D1
1,2,4-Trimethylbenzene	23	1.0	110	5.1	D1
Xylene (total)	9.1	2.1	39	8.9	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	126	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air

Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	SMW-8-M-10Q2	Diln Fac:	2.210
Lab ID:	220428-010	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	1.1	ND	2.8	D1
Chloroethane	ND	1.1	ND	2.9	D1
1,1-Dichloroethene	1.2	1.1	4.6	4.4	D1
1,1-Dichloroethane	7.4	1.1	30	4.5	D1
MTBE	ND	1.1	ND	4.0	D1
cis-1,2-Dichloroethene	ND	1.1	ND	4.4	D1
n-Hexane	ND	1.1	ND	3.9	D1
Chloroform	ND	1.1	ND	5.4	D1
Benzene	ND	1.1	ND	3.5	D1
Trichloroethene	13	1.1	68	5.9	D1
Toluene	ND	1.1	ND	4.2	D1
Tetrachloroethene	6.5	1.1	44	7.5	D1
Ethylbenzene	ND	1.1	ND	4.8	D1
m,p-Xylenes	1.8	1.1	7.7	4.8	D1
o-Xylene	ND	1.1	ND	4.8	D1
1,3,5-Trimethylbenzene	1.5	1.1	7.4	5.4	D1
1,2,4-Trimethylbenzene	7.1	1.1	35	5.4	D1
Xylene (total)	1.8	1.1	7.7	4.8	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	102	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Field ID:	BC-18-10Q2	Diln Fac:	3.980
Lab ID:	220428-011	Batch#:	163644
Matrix:	Air	Sampled:	05/15/10
Units (V):	ppbv	Received:	05/25/10
Units (M):	ug/m3	Analyzed:	06/04/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	2.0	ND	5.1	D1
Chloroethane	ND	2.0	ND	5.3	D1
1,1-Dichloroethene	9.8	2.0	39	7.9	D1
1,1-Dichloroethane	160	2.0	650	8.1	D1
MTBE	ND	2.0	ND	7.2	D1
cis-1,2-Dichloroethene	7.6	2.0	30	7.9	D1
n-Hexane	ND	2.0	ND	7.0	D1
Chloroform	13	2.0	62	9.7	D1
Benzene	ND	2.0	ND	6.4	D1
Trichloroethene	77	2.0	410	11	D1
Toluene	5.3	2.0	20	7.5	D1
Tetrachloroethene	11	2.0	76	13	D1
Ethylbenzene	2.6	2.0	11	8.6	D1
m,p-Xylenes	6.4	2.0	28	8.6	D1
o-Xylene	2.2	2.0	9.4	8.6	D1
1,3,5-Trimethylbenzene	ND	2.0	ND	9.8	D1
1,2,4-Trimethylbenzene	7.4	2.0	36	9.8	D1
Xylene (total)	8.5	4.0	37	17	D1

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	170 *	70-130	S3

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

Batch QC Report

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	163644
Units (V):	ppbv	Analyzed:	06/03/10
Diln Fac:	1.000		

Type: BS Lab ID: QC547082

Analyte	Spiked	Result (V)	%REC	Limits	ADEQ	Flags
Vinyl Chloride	10.00	11.18	112	70-130		
Chloroethane	10.00	10.92	109	70-130		
1,1-Dichloroethene	10.00	11.35	114	70-130		
1,1-Dichloroethane	10.00	11.24	112	70-130		
MTBE	10.00	11.58	116	70-130		
cis-1,2-Dichloroethene	10.00	11.53	115	70-130		
n-Hexane	10.00	11.29	113	70-130		
Chloroform	10.00	10.49	105	70-130		
Benzene	10.00	10.89	109	70-130		
Trichloroethene	10.00	10.26	103	70-130		
Toluene	10.00	11.87	119	70-130		
Tetrachloroethene	10.00	10.73	107	70-130		
Ethylbenzene	10.00	11.98	120	70-130		
m,p-Xylenes	20.00	23.37	117	70-130		
o-Xylene	10.00	11.61	116	70-130		
1,3,5-Trimethylbenzene	10.00	11.97	120	70-130		
1,2,4-Trimethylbenzene	10.00	11.71	117	70-130		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

Type: BSD Lab ID: QC547083

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim	ADEQ	Flags
Vinyl Chloride	10.00	11.31	113	70-130	1	25		
Chloroethane	10.00	11.10	111	70-130	2	25		
1,1-Dichloroethene	10.00	11.43	114	70-130	1	20		
1,1-Dichloroethane	10.00	11.46	115	70-130	2	20		
MTBE	10.00	11.92	119	70-130	3	25		
cis-1,2-Dichloroethene	10.00	11.25	112	70-130	2	25		
n-Hexane	10.00	11.44	114	70-130	1	25		
Chloroform	10.00	10.38	104	70-130	1	25		
Benzene	10.00	11.52	115	70-130	6	25		
Trichloroethene	10.00	9.998	100	70-130	3	25		
Toluene	10.00	11.78	118	70-130	1	25		
Tetrachloroethene	10.00	11.08	111	70-130	3	25		
Ethylbenzene	10.00	12.46	125	70-130	4	25		
m,p-Xylenes	20.00	22.66	113	70-130	3	25		
o-Xylene	10.00	11.86	119	70-130	2	25		
1,3,5-Trimethylbenzene	10.00	12.11	121	70-130	1	25		
1,2,4-Trimethylbenzene	10.00	11.99	120	70-130	2	25		

Surrogate	%REC	Limits	ADEQ	Flags
Bromofluorobenzene	95	70-130		

RPD= Relative Percent Difference
 Result V= Result in volume units
 Page 1 of 1

Batch QC Report

Volatile Organics in Air			
Lab #:	220428	Location:	BSVE QTR SVM
Client:	CH2M Hill	Prep:	METHOD
Project#:	371451.SV.99.IS.0109	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC547084	Diln Fac:	1.000
Matrix:	Air	Batch#:	163644
Units (V):	ppbv	Analyzed:	06/03/10

Analyte	Result (V)	RL	Result (M)	RL	ADEQ Flags
Vinyl Chloride	ND	0.50	ND	1.3	
Chloroethane	ND	0.50	ND	1.3	
1,1-Dichloroethene	ND	0.50	ND	2.0	
1,1-Dichloroethane	ND	0.50	ND	2.0	
MTBE	ND	0.50	ND	1.8	
cis-1,2-Dichloroethene	ND	0.50	ND	2.0	
n-Hexane	ND	0.50	ND	1.8	
Chloroform	ND	0.50	ND	2.4	
Benzene	ND	0.50	ND	1.6	
Trichloroethene	ND	0.50	ND	2.7	
Toluene	ND	0.50	ND	1.9	
Tetrachloroethene	ND	0.50	ND	3.4	
Ethylbenzene	ND	0.50	ND	2.2	
m,p-Xylenes	ND	0.50	ND	2.2	
o-Xylene	ND	0.50	ND	2.2	
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5	
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5	
Xylene (total)	ND	1.0	ND	4.3	

Surrogate	%REC	Limits	ADEQ Flags
Bromofluorobenzene	91	70-130	

ND= Not Detected

RL= Reporting Limit

Result M= Result in mass units

Result V= Result in volume units

CURTIS & TOMPKINS BFB TUNE FOR 220428 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200204767001 File : 141_001 Time : 21-MAY-2010 02:59

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	33981	12.51	
75	30% - 66% of mass 95	112494	41.43	
95		271535	100.00	
96	5% - 9% of mass 95	18116	6.67	
173	< 2% of mass 174	424	0.20	
174	50% - 120% of mass 95	216847	79.86	
175	4% - 9% of mass 174	13793	6.36	
176	93% - 101% of mass 174	215581	99.42	
177	5% - 9% of mass 176	12715	5.90	

CURTIS & TOMPKINS BFB TUNE FOR 220428 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : BFB IDF : 1.0
Seqnum : 1200222400001 File : 154_001 Time : 03-JUN-2010 10:40

Standards: S13547

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	8% - 40% of mass 95	24898	12.37	
75	30% - 66% of mass 95	95929	47.67	
95		201230	100.00	
96	5% - 9% of mass 95	13994	6.95	
173	< 2% of mass 174	269	0.17	
174	50% - 120% of mass 95	160400	79.71	
175	4% - 9% of mass 174	12239	7.63	
176	93% - 101% of mass 174	153261	95.55	
177	5% - 9% of mass 176	12116	7.91	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220428 MSAIR Air: EPA TO-15

Inst : MSAIR01
 Calnum : 1200204767002
 Units : nL/L

Date : 21-MAY-2010 05:06
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	141_003	1200204767003	NONE	21-MAY-2010 05:06	S14593 (6X), S13547 (150X)
L2	141_004	1200204767004	NONE	21-MAY-2010 06:10	S14593 (2X), S13547 (150X)
L3	141_005	1200204767005	NONE	21-MAY-2010 07:14	S14592 (6X), S13547 (150X)
L4	141_006	1200204767006	NONE	21-MAY-2010 08:18	S14592 (2X), S13547 (150X)
L5	141_007	1200204767007	NONE	21-MAY-2010 09:21	S14592, S13547 (150X)
L6	141_008	1200204767008	NONE	21-MAY-2010 10:25	S14591 (3X), S13547 (150X)
L7	141_009	1200204767009	NONE	21-MAY-2010 11:31	S14591 (2X), S13547 (150X)
L8	141_010	1200204767010	NONE	21-MAY-2010 12:36	S14591, S13547 (150X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
Vinyl Chloride	0.8333m	0.8125	0.8008	0.8088	0.7974	0.8440	0.8222m	0.7631m	AVRG		1.23414		0.8103	3	0.99	30	
Chloroethane		0.0894	0.0840	0.0893	0.0868	0.0831	0.0775	0.0602	AVRG		12.2758		0.0815	13	0.99	30	
1,1-Dichloroethene	1.9469	1.8529	2.0507	2.0554	1.9916	2.0310	1.8493	1.5693	AVRG		0.52127		1.9184	8	0.99	30	
1,1-Dichloroethane	1.9999	2.0353	2.2610	2.3417	2.2705	2.3504	2.2859	2.1712	AVRG		0.45157		2.2145	6	0.99	30	
MTBE	1.3877	1.5106	1.5655	1.6324	1.5725	1.4470	1.3613	1.1846	AVRG		0.68602		1.4577	10	0.99	30	
cis-1,2-Dichloroethene	1.7804	1.7588	1.8569	1.8577	1.7051	1.3848	1.1734		AVRG		0.60779		1.6453	16	0.99	30	
n-Hexane	0.8939	0.8499	0.9237	0.9965	0.9596	0.9028	0.8858	0.8055	AVRG		1.10838		0.9022	7	0.99	30	
Chloroform	2.5090	2.6237	2.6197	2.6517	2.5415	2.5051	2.4201	2.1285	AVRG		0.40002		2.4999	7	0.99	30	
Benzene	0.4995	0.5114	0.5330	0.5300	0.5023	0.4912	0.4800	0.4638	AVRG		1.99441		0.5014	5	0.99	30	
Trichloroethene	0.5460m	0.5183	0.5345	0.5233	0.5138	0.5187m	0.4912	0.4894	AVRG		1.93466		0.5169	4	0.99	30	
Toluene	1.4835	1.4952	1.6009	1.6257	1.5704	1.4562	1.4268	1.3666	AVRG		0.66526		1.5032	6	0.99	30	
Tetrachloroethene	0.9320	0.9349	0.9425	0.9449	0.9198	0.9412	0.9573	0.9674	AVRG		1.06101		0.9425	2	0.99	30	
Ethylbenzene	2.0493	1.9185	2.0480	2.1406	1.9406	1.7784	1.6681	1.3580	AVRG		0.53687		1.8627	14	0.99	30	
m,p-Xylenes	1.7886	1.7491	1.8316	1.8357	1.6887	1.4029	1.2306		AVRG		0.60727		1.6467	14	0.99	30	
o-Xylene	1.7868	1.7634	1.8534	1.8732	1.7433	1.4565	1.3680		AVRG		0.59099		1.6921	12	0.99	30	
1,3,5-Trimethylbenzene	2.3763	2.2961	2.5364	2.3393	2.2270	1.9880	1.8794	1.6397	AVRG		0.46291		2.1603	14	0.99	30	
1,2,4-Trimethylbenzene	2.1530	2.1283	2.4494	2.2368	2.0404	1.7612	1.6115	1.4273	AVRG		0.50608		1.9760	17	0.99	30	
Bromofluorobenzene	0.7786	0.7897	0.8010	0.8208	0.8005	0.7974	0.8448	0.8317	AVRG		1.23757		0.8080	3	0.99	30	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
Vinyl Chloride	0.167	3	0.500	0	1.667	-1	5.000	0	10.00	-2	33.33	4	50.00	1	100.0	-6
Chloroethane			0.500	10	1.667	3	5.000	10	10.00	7	33.33	2	50.00	-5	100.0	-26
1,1-Dichloroethene	0.167	1	0.500	-3	1.667	7	5.000	7	10.00	4	33.33	6	50.00	-4	100.0	-18
1,1-Dichloroethane	0.167	-10	0.500	-8	1.667	2	5.000	6	10.00	3	33.33	6	50.00	3	100.0	-2
MTBE	0.167	-5	0.500	4	1.667	7	5.000	12	10.00	8	33.33	-1	50.00	-7	100.0	-19
cis-1,2-Dichloroethene	0.167	8	0.500	7	1.667	13	5.000	13	10.00	4	33.33	-16	50.00	-29		
n-Hexane	0.167	-1	0.500	-6	1.667	2	5.000	10	10.00	6	33.33	0	50.00	-2	100.0	-11
Chloroform	0.167	0	0.500	5	1.667	5	5.000	6	10.00	2	33.33	0	50.00	-3	100.0	-15
Benzene	0.167	0	0.500	2	1.667	6	5.000	6	10.00	0	33.33	-2	50.00	-4	100.0	-7
Trichloroethene	0.167	6	0.500	0	1.667	3	5.000	1	10.00	-1	33.33	0	50.00	-5	100.0	-5
Toluene	0.167	-1	0.500	-1	1.667	7	5.000	8	10.00	4	33.33	-3	50.00	-5	100.0	-9
Tetrachloroethene	0.167	-1	0.500	-1	1.667	0	5.000	0	10.00	-2	33.33	0	50.00	2	100.0	3
Ethylbenzene	0.167	10	0.500	3	1.667	10	5.000	15	10.00	4	33.33	-5	50.00	-10	100.0	-27
m,p-Xylenes	0.333	9	1.000	6	3.333	11	10.00	11	20.00	3	66.67	-15	100.0	-25		
o-Xylene	0.167	6	0.500	4	1.667	10	5.000	11	10.00	3	33.33	-14	50.00	-19		
1,3,5-Trimethylbenzene	0.167	10	0.500	6	1.667	17	5.000	8	10.00	3	33.33	-8	50.00	-13	100.0	-24
1,2,4-Trimethylbenzene	0.167	9	0.500	8	1.667	24	5.000	13	10.00	3	33.33	-11	50.00	-18	100.0	-28
Bromofluorobenzene	6.667	-4	6.667	-2	6.667	-1	6.667	2	6.667	-1	6.667	-1	6.667	5	6.667	3

SJD 05/28/10 [Propylene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Propylene]: Separated from coeluting peak in NONE (141_007).

SJD 05/28/10 [Chloromethane]: Combined split peak in multiple levels.

SJD 05/28/10 [Vinyl Chloride]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Vinyl Chloride]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [1,3-Butadiene]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Bromomethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Chloroethane]: Combined split peak in NONE (141_003).

SJD 05/28/10 [Ethanol]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Acrolein]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [Carbon Disulfide]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Ethyl Acetate]: Corrected fronting or tailing peak integration in multiple levels.

SJD 05/28/10 [Cyclohexane]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [1,2-Dichloropropane]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected automatically drawn baseline in NONE (141_003).

SJD 05/28/10 [Trichloroethene]: Corrected fronting or tailing peak integration in NONE (141_008).

SJD 05/28/10 [cis-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [4-Methyl-2-Pentanone]: Corrected automatically drawn baseline in NONE (141_004).

SJD 05/28/10 [trans-1,3-Dichloropropene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [2-Hexanone]: Corrected automatically drawn baseline in multiple levels.

SJD 05/28/10 [1,1,2,2-Tetrachloroethane]: Corrected fronting or tailing peak integration in NONE (141_010).

SJD 05/28/10 [1,2,4-Trichlorobenzene]: Corrected fronting or tailing peak integration in NONE (141_003).

SJD 05/28/10 [Naphthalene]: Combined split peak in multiple levels.

SJD 05/28/10 : Calibration raw data reports has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

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1200204767002

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220428 MSAIR Air
EPA TO-15

Inst : MSAIR01
Calnum : 1200204767002

Cal Date : 21-MAY-2010

ICV 1200204767012 (141_012 21-MAY-2010) stds: S14653, S13547 (150X)

Analyte	Spiked	Quant	Units	%D	Max	Flags
Vinyl Chloride	10.00	9.729	nL/L	-3	30	
Chloroethane	10.00	11.11	nL/L	11	30	
1,1-Dichloroethene	10.00	9.885	nL/L	-1	30	
1,1-Dichloroethane	10.00	9.956	nL/L	0	30	
MTBE	10.00	10.60	nL/L	6	30	
cis-1,2-Dichloroethene	10.00	10.25	nL/L	3	30	
n-Hexane	10.00	10.86	nL/L	9	30	
Chloroform	10.00	9.987	nL/L	0	30	
Benzene	10.00	10.25	nL/L	3	30	
Trichloroethene	10.00	9.825	nL/L	-2	30	
Toluene	10.00	10.18	nL/L	2	30	
Tetrachloroethene	10.00	10.27	nL/L	3	30	
Ethylbenzene	10.00	10.80	nL/L	8	30	
m,p-Xylenes	20.00	20.60	nL/L	3	30	
o-Xylene	10.00	9.989	nL/L	0	30	
1,3,5-Trimethylbenzene	10.00	10.46	nL/L	5	30	
1,2,4-Trimethylbenzene	10.00	10.83	nL/L	8	30	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220428 MSAIR Air
EPA TO-15

Inst : MSAIR01 Run Name : QC547082 IDF : 1.0
 Seqnum : 1200222400002.3 File : 154_002 Time : 03-JUN-2010 11:43
 Cal : 1200204767002 Caldate : 21-MAY-2010
 Standards: S14774, S13547 (150X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Vinyl Chloride	0.8103	0.9056	10.00	11.18	nL/L	12	30	0.0500	u
Chloroethane	0.0815	0.0890	10.00	10.92	nL/L	9	30	0.0500	u
1,1-Dichloroethene	1.9184	2.1766	10.00	11.35	nL/L	14	30	0.0500	u
1,1-Dichloroethane	2.2145	2.4891	10.00	11.24	nL/L	12	30	0.0500	u
MTBE	1.4577	1.6878	10.00	11.58	nL/L	16	30	0.0500	u
cis-1,2-Dichloroethene	1.6453	1.8956	10.00	11.53	nL/L	15	30	0.0500	u
n-Hexane	0.9022	1.0179	10.00	11.29	nL/L	13	30	0.0500	u
Chloroform	2.4999	2.6217	10.00	10.49	nL/L	5	30	0.0500	u
Benzene	0.5014	0.5461	10.00	10.89	nL/L	9	30	0.0500	u
Trichloroethene	0.5169	0.5303	10.00	10.26	nL/L	3	30	0.0500	u
Toluene	1.5032	1.7837	10.00	11.87	nL/L	19	30	0.0500	u
Tetrachloroethene	0.9425	1.0111	10.00	10.73	nL/L	7	30	0.0500	u
Ethylbenzene	1.8627	2.2314	10.00	11.98	nL/L	20	30	0.0500	u
m,p-Xylenes	1.6467	1.9242	20.00	23.37	nL/L	17	30	0.0500	u
o-Xylene	1.6921	1.9640	10.00	11.61	nL/L	16	30	0.0500	u
1,3,5-Trimethylbenzene	2.1603	2.5842	10.00	11.97	nL/L	20	30	0.0500	u
1,2,4-Trimethylbenzene	1.9760	2.3133	10.00	11.71	nL/L	17	30	0.0500	u
Bromofluorobenzene	0.8080	0.7642	6.667	6.305	nL/L	-5	30	0.0500	u

ISTD (ICAL 141_009)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Bromochloromethane	360648	311497	-13.63	32.92	32.93	0.02
1,4-Difluorobenzene	1294000	1122000	-13.29	36.90	36.91	0.01
Chlorobenzene-d5	1155000	927678	-19.68	48.03	48.04	0.01

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 1200222400

Date : 06/03/10
 Sequence : MSAIR01 154

Reference : 141_009
 Analyzed : 05/21/10 11:31

#	Type	Sample ID	BRCLME	RT	14DFB	RT	CLBZD5	RT
		ICAL STD	360648	32.92	1294000	36.90	1155000	48.03
		LOWER LIMIT	216389	32.59	776400	36.57	693000	47.70
		UPPER LIMIT	504907	33.25	1811600	37.23	1617000	48.36
002	CCV/BS	QC547082	311497	32.93	1122000	36.91	927678	48.04
003	BSD	QC547083	312051	32.93	1119000	36.92	927506	48.04
004	BLANK	QC547084	302884	32.95	960512	36.92	832549	48.04
005	SAMPLE	220426-008	299795	32.94	1028000	36.92	882174	48.05
006	SAMPLE	220426-009	302729	32.95	989828	36.93	897323	48.05
007	SAMPLE	220426-010	316654	32.94	969810	36.92	897302	48.04
008	SAMPLE	220426-011	283135	32.94	1003000	36.92	837921	48.04
009	SAMPLE	220428-002	305091	32.94	1016000	36.91	879120	48.04
010	SAMPLE	220428-003	299290	32.94	1008000	36.92	902802	48.04
011	SAMPLE	220428-004	279278	32.94	982464	36.92	875834	48.04
012	SAMPLE	220428-005	290612	32.94	986959	36.92	872086	48.04
013	SAMPLE	220428-006	300360	32.94	1007000	36.92	864512	48.04
014	SAMPLE	220428-007	298212	32.94	984425	36.92	866089	48.04
015	SAMPLE	220428-008	292903	32.93	1029000	36.91	863501	48.04
016	SAMPLE	220428-009	300516	32.94	998997	36.92	879982	48.04
017	SAMPLE	220428-010	299067	32.94	979199	36.92	905302	48.04
018	SAMPLE	220428-011	299038	32.94	991561	36.92	803067	48.04
019	SAMPLE	220380-003	286978	32.95	1019000	36.91	810714	48.04
020	SAMPLE	220424-003	294760	32.93	1013000	36.91	874546	48.04
021	SAMPLE	220424-006	293208	32.94	1048000	36.92	923967	48.04

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200204767

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 05/21/10 02:59

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	141_001	TUN	BFB			05/21/10 02:59	1.0	1
002	141_002	IB	CALIB IB			05/21/10 04:02	1.0	1
003	141_003	ICAL	NONE			05/21/10 05:06	1.0	2 1
004	141_004	ICAL	NONE			05/21/10 06:10	1.0	2 1
005	141_005	ICAL	NONE			05/21/10 07:14	1.0	3 1
006	141_006	ICAL	NONE			05/21/10 08:18	1.0	3 1
007	141_007	ICAL	NONE			05/21/10 09:21	1.0	3 1
008	141_008	ICAL	NONE			05/21/10 10:25	1.0	4 1
009	141_009	ICAL	NONE			05/21/10 11:31	1.0	4 1
010	141_010	ICAL	NONE			05/21/10 12:36	1.0	4 1
012	141_012	ICV	NONE			05/21/10 14:46	1.0	5 1
013	141_013	TUN	BFB			05/21/10 15:58	1.0	1
014	141_014	CCV	NONE			05/21/10 17:05	1.0	5 1
015	141_015	IB	NONE			05/21/10 19:14	1.0	1
016	141_016	BLANK	QC545658	Air	163291	05/21/10 20:17	1.0	1
017	141_017	MDL	220205-001	Air	163291	05/21/10 21:21	1.0	2 1
018	141_018	MDL	220205-002	Air	163291	05/21/10 22:24	1.0	2 1
019	141_019	MDL	220205-003	Air	163291	05/21/10 23:28	1.0	2 1
020	141_020	MDL	220205-004	Air	163291	05/22/10 00:31	1.0	2 1
021	141_021	MDL	220205-005	Air	163291	05/22/10 01:35	1.0	2 1
022	141_022	MDL	220205-006	Air	163291	05/22/10 02:39	1.0	2 1
023	141_023	MDL	220205-007	Air	163291	05/22/10 03:43	1.0	2 1
024	141_024	MDL	220205-008	Air	163291	05/22/10 04:47	1.0	2 1
025	141_025	MDL	220205-001	Air	163291	05/22/10 05:51	1.0	2 1
026	141_026	MDL	220205-002	Air	163291	05/22/10 06:55	1.0	2 1
027	141_027	MDL	220205-003	Air	163291	05/22/10 07:59	1.0	2 1
028	141_028	MDL	220205-004	Air	163291	05/22/10 09:03	1.0	2 1
029	141_029	MDL	220205-005	Air	163291	05/22/10 10:07	1.0	2 1
030	141_030	MDL	220205-006	Air	163291	05/22/10 11:12	1.0	2 1
031	141_031	MDL	220205-007	Air	163291	05/22/10 12:16	1.0	2 1
032	141_032	MDL	220205-008	Air	163291	05/22/10 13:22	1.0	2 1

SJD 05/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

SJD 05/28/10 : Raw data has incorrectly swapped names for Freon 113 and Trichlorofluoromethane. This is fixed in LIMS

Analyst: SJD Date: 05/24/10 Reviewer: BO Date: 05/25/10

Standards used: 1=S13547 2=S14593 3=S14592 4=S14591 5=S14653

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1200222400

Instrument : MSAIR01
 Method : EPA TO-15

Begun : 06/03/10 10:40

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	154_001	TUN	BFB			06/03/10 10:40	1.0	1
002	154_002	CCV/BS	QC547082	Air	163644	06/03/10 11:43	1.0	2 1
003	154_003	BSD	QC547083	Air	163644	06/03/10 12:51	1.0	2 1
004	154_004	BLANK	QC547084	Air	163644	06/03/10 13:59	1.0	1
005	154_005	SAMPLE	220426-008	Air	163644	06/03/10 15:03	2.34	1
006	154_006	SAMPLE	220426-009	Air	163644	06/03/10 16:06	1.99	1
007	154_007	SAMPLE	220426-010	Air	163644	06/03/10 17:09	1.95	1
008	154_008	SAMPLE	220426-011	Air	163644	06/03/10 18:13	2.07	1
009	154_009	SAMPLE	220428-002	Air	163644	06/03/10 19:17	2.08	1
010	154_010	SAMPLE	220428-003	Air	163644	06/03/10 20:20	2.06	1
011	154_011	SAMPLE	220428-004	Air	163644	06/03/10 21:24	2.19	1
012	154_012	SAMPLE	220428-005	Air	163644	06/03/10 22:28	2.23	1
013	154_013	SAMPLE	220428-006	Air	163644	06/03/10 23:32	2.01	1
014	154_014	SAMPLE	220428-007	Air	163644	06/04/10 00:36	2.06	1
015	154_015	SAMPLE	220428-008	Air	163644	06/04/10 01:40	2.07	1
016	154_016	SAMPLE	220428-009	Air	163644	06/04/10 02:44	2.06	1
017	154_017	SAMPLE	220428-010	Air	163644	06/04/10 03:48	2.21	1
018	154_018	SAMPLE	220428-011	Air	163644	06/04/10 04:52	3.98	1
019	154_019	SAMPLE	220380-003	Air	163644	06/04/10 05:56	13.50	1
020	154_020	SAMPLE	220424-003	Air	163644	06/04/10 08:05	2.07	1
021	154_021	SAMPLE	220424-006	Air	163644	06/04/10 09:10	1.89	1

BO 06/04/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

Analyst: BO Date: 06/04/10 Reviewer: SJD Date: 06/05/10

Standards used: 1=S13547 2=S14774

Prepped by/Date	SAMPLE ID	CAN ID	Initial Pressure (PSi _g)	Final Pressure (PSi _g)	Dilution Factor	Comments
P. 5/28/10	220276-008	C00270	12.77	24.15	1.89x	
	220296-001	C00347	12.87	23.39	1.82x	
	-002	C00280	13.12	23.46	1.79x	
	-003	C00086	12.17	23.30	1.91x	
	-004	C00297	11.35	23.64	2.08x	
	-005	C00348	13.08	23.59	1.80x	
	BLANK	C00350	—	—	1x	
P. 5/28/10	220209-001	C00306	10.90	23.21	2.13x	
	-002	C00315	11.11	23.42	2.11x	
	220210-001	C00300	11.45	23.21	2.03x	
	-002	C00119	11.53	23.35	2.03x	
	-003	C00304	11.49	23.52	2.05x	
	-004	C00331	11.29	23.70	2.10x	
	-005	C00330	11.33	23.12	2.04x	
	-006	C00332	10.55	24.22	2.30x	
	-007	C00324	10.95	23.59	2.15x	
	BLANK	C00363	—	—	1x	
	220207-007	C00214	0.75 added	30.0 total added	87.2x	40x of 2.18x can C00152
Sop 5/30/10	220185-003	C00356	1.5 added	30.0 total added	36.4x	20x of 1.82x can C00266
	220243-001	C00224	1.5 added	30.0 total added	35.4x	20x of 1.77x can C00079
	220209-002	C00042	0.75 added	30.0 total added	84.4x	40x of 2.11x can C00119 C00119 C00119 C00119
	220210-001	C00204	0.75 added	30.0 total added	81.2x	40x of 2.03x can C00119
B. 6/1/10	BLANK	C00355	—	—	1x	
	220296-002	C00357	1.5 added	30.0 total added	35.8x	20x of 1.79x can C00280
	220278-007	C00360	0.75 added	30.0 total added	27.6x	40x of 1.94x can C00170
	220276-008	C00361	0.75 added	30.0 total added	25.6x	40x of 1.89x can C00270
Sop 6/1/10	220243-002	C00358	1.5 added	30.0 total added	36.6x	20x of 1.83x can C00159
	220276-008	C00359	1.5 added	30.0 total added	1512x	20x of 75.6x can C00361
	220380-002	C00263	10.21	23.16	2.27x	
	-003	C00050	10.44	23.48	2.25x	
	-004	C00183	10.38	23.65	2.28x	
	-005	C00085	10.26	23.84	2.32x	
	-006	C00060	9.16	23.63	2.58x	
	-007	C00104	10.05	23.55	2.34x	
	-008	C00108	9.61	23.32	2.43x	

Continued on Page 39

Read and Understood By

Signed

Date

Signed

Date

PROJECT Air Sample Prep Log

Notebook No. BK2875
Continued From Page 38

Prep by / date	SAMPLE ID	CAN ID	Initial (psig) Pressure	Final (psig) Pressure	Dilution Factor	Comments
500 6/1/10	220 426-001	C00327	11.09	23.64	2.13x	
	-002	C00319	10.78	23.49	2.18x	
	-003	C00313	11.32	23.41	2.07x	
	-004	C00307	11.24	23.50	2.09x	
	-005	C00303	10.43	23.43	2.25x	
	-006	C00312	11.18	24.26	2.17x	
	-007	C00320	11.08	23.95	2.16x	
	-008	C00302	10.47	24.53	2.34x	
	-009	C00322	11.81	23.45	1.99x	
	-010	C00325	11.91	23.19 23.19	1.95x	Final pressure = 23.19
	-011	C00329	11.35	23.45	2.07x	
500 6/2/10	220 424-001	C00378	10.48	23.36	2.23x	
	-002	C00146	11.43	23.40	2.05x	
	-003	C00340	11.42	23.69	2.07x	
	-004	C00118	12.36	23.36	1.89x	
	-005	C00054	10.63	23.45	2.21x	
	-008	C00106	10.90	23.47	2.15x	
	-009	C00194	10.27	23.42	2.28x	
	-013	C00309	11.04	23.55	2.13x	
	-014	C00334	11.32	23.41	2.07x	
	220 428-002	C00318	11.30	23.54	2.08x	
	-003	C00314	11.30	23.33	2.06x	
	-004	C00308	10.78	23.64	2.19x	
	-005	C00321	10.58	23.57	2.23x	
	-006	C00328	11.68	23.51	2.01x	
-007	C00326	11.44	23.54	2.06x		
-008	C00323	11.32	23.45	2.07x		
-009	C00337	11.47	23.66	2.06x		
-010	C00338	10.90	24.05	2.21x		
-011	C00310	11.84	23.54	1.99x		
	BLANK	C00362	—	—	1x	
✓	220380-003	C00373	1.5 added	30.0 ^{final} added	45x	2oz of 2.25x can C00050

Continued on Page

Read and Understood By

Signed

Date

Signed

Date

Appendix E
Oxygen, Methane, and Total Petroleum
Hydrocarbons Distribution Figures,
Soil vapor Field Parameters



FIRST QUARTER 2010

SECOND QUARTER 2010

PRE-BSVE

- Legend**
- Process Monitoring Well**
 - $O_2 \geq 5\%$
 - $O_2 < 5\%$ and $> 2.5\%$
 - $O_2 \leq 2.5\%$
 - Sub-slab Monitoring Location**
 - $O_2 \geq 5\%$
 - $O_2 < 5\%$ and $> 2.5\%$
 - $O_2 \leq 2.5\%$
 - Honeywell Monitoring Well**
 - ▼ $O_2 \geq 5\%$
 - ▼ $O_2 < 5\%$ and $> 2.5\%$
 - ▼ $O_2 \leq 2.5\%$
 - Oxygen Isocontour (% O_2)
 - BSVE Pipeline System
 - Target Treatment Area
 - Honeywell Facility

Notes:

1. BSVE = Biologically-enhanced Soil-vapor Extraction
2. Second Quarter 2010 measurements were collected between May 10, 2010 and May 20, 2010.
3. First Quarter 2010 measurements were collected between February 5, 2010 and February 17, 2010.
4. Pre-BSVE measurements were collected between September 20, 2006 and May 22, 2009.
5. Contours were produced using computing software and the kriging gridding method.

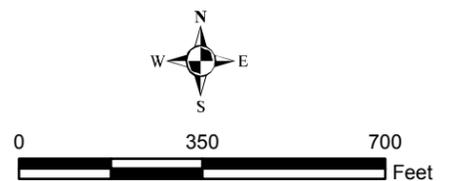
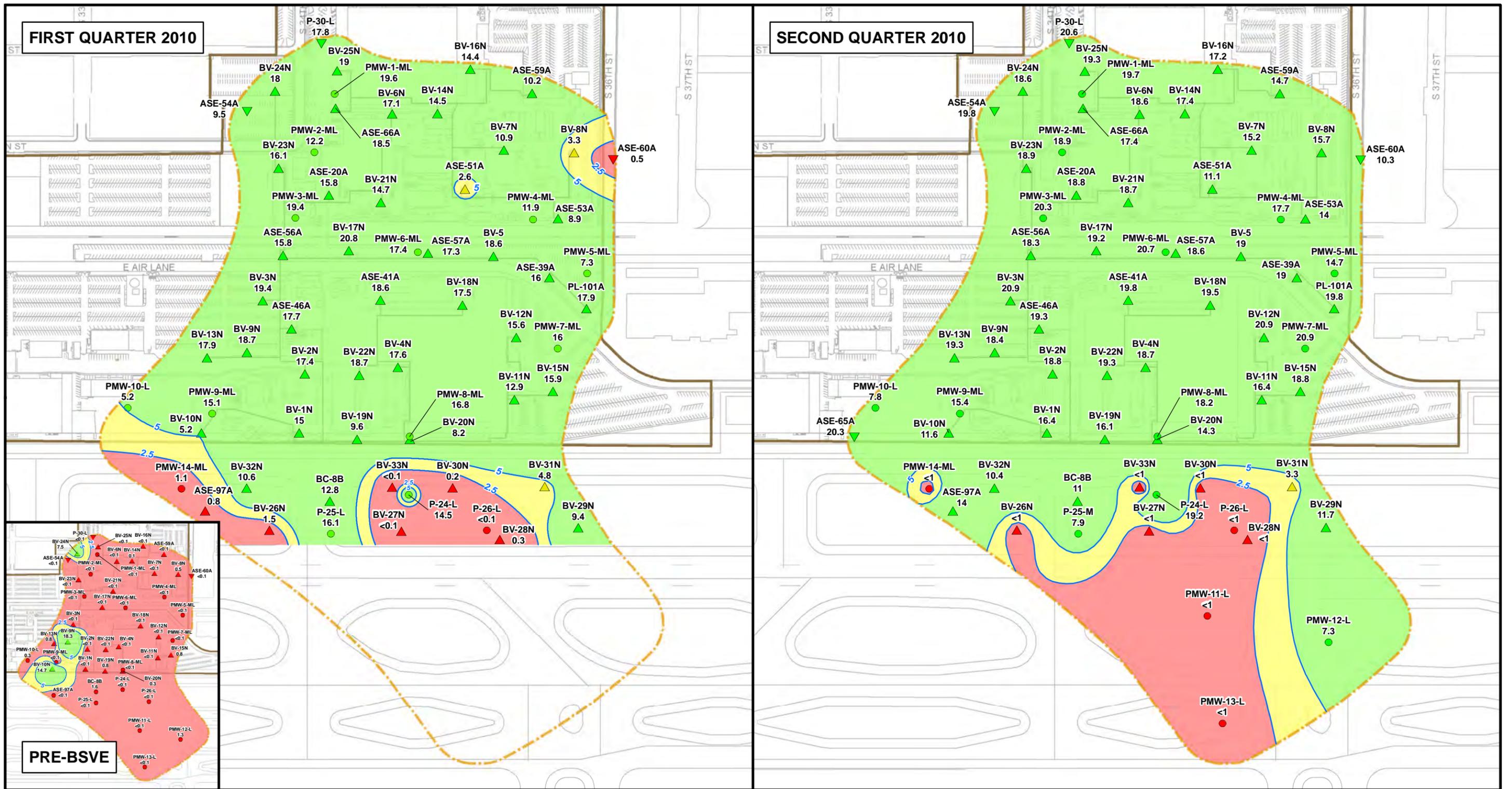


FIGURE E-1
SHALLOW SUBSURFACE
OXYGEN DISTRIBUTION
SOIL-VAPOR FIELD PARAMETERS
Honeywell 34th Street Facility
Phoenix, Arizona



FIRST QUARTER 2010

SECOND QUARTER 2010

PRE-BSVE

Legend

● $O_2 \geq 5\%$	▼ $O_2 \geq 5\%$
● $O_2 < 5\%$ and $> 2.5\%$	▼ $O_2 < 5\%$ and $> 2.5\%$
● $O_2 \leq 2.5\%$	▼ $O_2 \leq 2.5\%$
▲ $O_2 \geq 5\%$	— Oxygen Isocontour (% O_2)
▲ $O_2 < 5\%$ and $> 2.5\%$	— BSVE Pipeline System
▲ $O_2 \leq 2.5\%$	Target Treatment Area
	Honeywell Facility

Notes:

1. BSVE = Biologically-enhanced Soil-vapor Extraction
2. Second Quarter 2010 measurements were collected between April 29, 2010 and May 19, 2010.
3. First Quarter 2010 measurements were collected between February 8, 2010 and March 23, 2010.
4. Pre-BSVE measurements were collected between May 2, 2006 and May 22, 2009.
5. Phase C Injection/Extraction Wells not connected to the BSVE system during First Quarter 2010.
6. Contours were produced using computing software and the kriging gridding method.

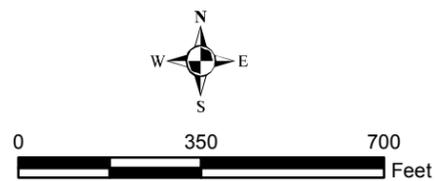
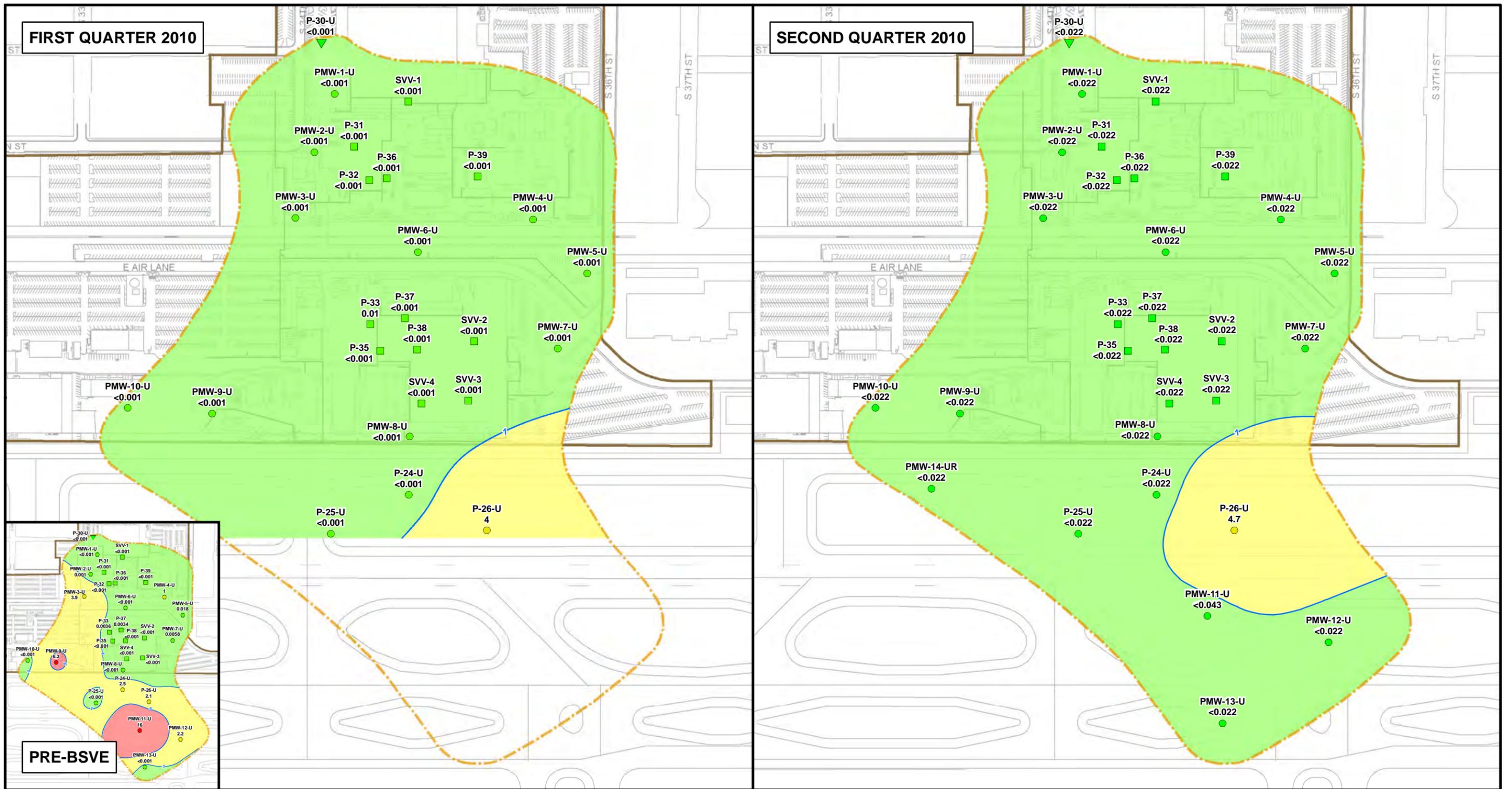


FIGURE E-2
DEEP SUBSURFACE
OXYGEN DISTRIBUTION
SOIL-VAPOR FIELD PARAMETERS
Honeywell 34th Street Facility
Phoenix, Arizona



Legend

Process Monitoring Well

- Methane < 1%
- Methane ≥ 1% and ≤ 5%
- Methane > 5%

Sub-slab Monitoring Location

- Methane < 1%
- Methane ≥ 1% and ≤ 5%
- Methane > 5%

Honeywell Monitoring Well

- ▼ Methane < 1%
- ▼ Methane ≥ 1% and ≤ 5%
- ▼ Methane > 5%

Methane Isocontour (%)

— BSVE Pipeline System

Target Treatment Area

Honeywell Facility

Notes:

1. BSVE = Biologically-enhanced Soil-vapor Extraction
2. Second Quarter 2010 measurements were collected between May 10, 2010 and May 20, 2010.
3. First Quarter 2010 measurements were collected between February 5, 2010 and February 17, 2010.
4. Pre-BSVE measurements were collected between September 20, 2006 and May 22, 2009.
5. First and Second Quarter 2010 methane data were collected with an RKI Eagle. The Pre-BSVE methane data were collected using a flame ionization detector (FID). For the purposes of this figure, FID detections below 0.001% are presented as <0.001%.
6. Contours were produced using computing software and the kriging gridding method.

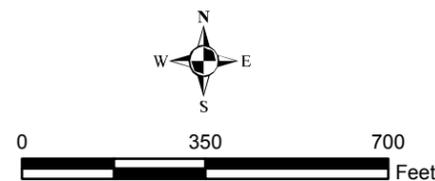
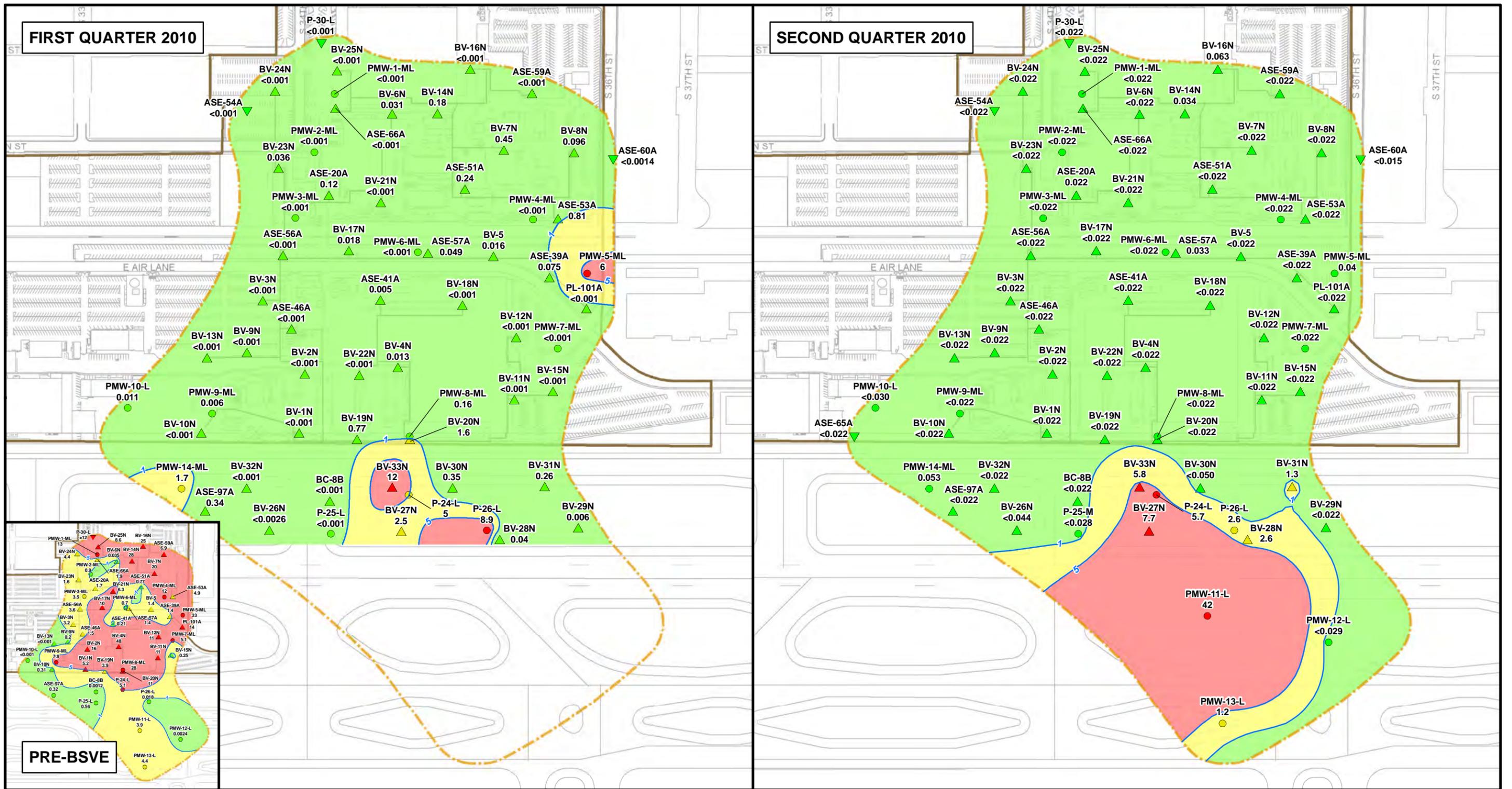


FIGURE E-3
SHALLOW SUBSURFACE
METHANE DISTRIBUTION
SOIL-VAPOR FIELD PARAMETERS
Honeywell 34th Street Facility
Phoenix, Arizona



FIRST QUARTER 2010

SECOND QUARTER 2010

PRE-BSVE

- Legend**
- | | |
|---------------------------------------|----------------------------------|
| Process Monitoring Well | Honeywell Monitoring Well |
| ● Methane < 1% | ▼ Methane < 1% |
| ● Methane ≥ 1% and ≤ 5% | ▼ Methane ≥ 1% and ≤ 5% |
| ● Methane > 5% | ▼ Methane > 5% |
| BSVE Injection/Extraction Well | — Methane Isocontour (%) |
| ▲ Methane < 1% | — BSVE Pipeline System |
| ▲ Methane ≥ 1% and ≤ 5% | Target Treatment Area |
| ▲ Methane > 5% | Honeywell Facility |

- Notes:**
- BSVE = Biologically-enhanced Soil-vapor Extraction.
 - Second Quarter 2010 measurements were collected between April 29, 2010 and May 19, 2010.
 - First Quarter 2010 measurements were collected between February 4, 2010 and February 19, 2010.
 - Pre-BSVE measurements were collected between July 8, 2005 and May 22, 2009.
 - First and Second Quarter 2010 methane data were collected with an RKI Eagle. The Pre-BSVE methane data were collected using a flame ionization detector (FID). For the purposes of this figure, FID detections below 0.001% are presented as <0.001%.
 - Phase C Injection/Extraction Wells not connected to the BSVE system during First Quarter 2010.
 - Contours were produced using computing software and the kriging gridding method.

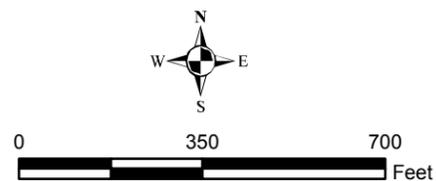
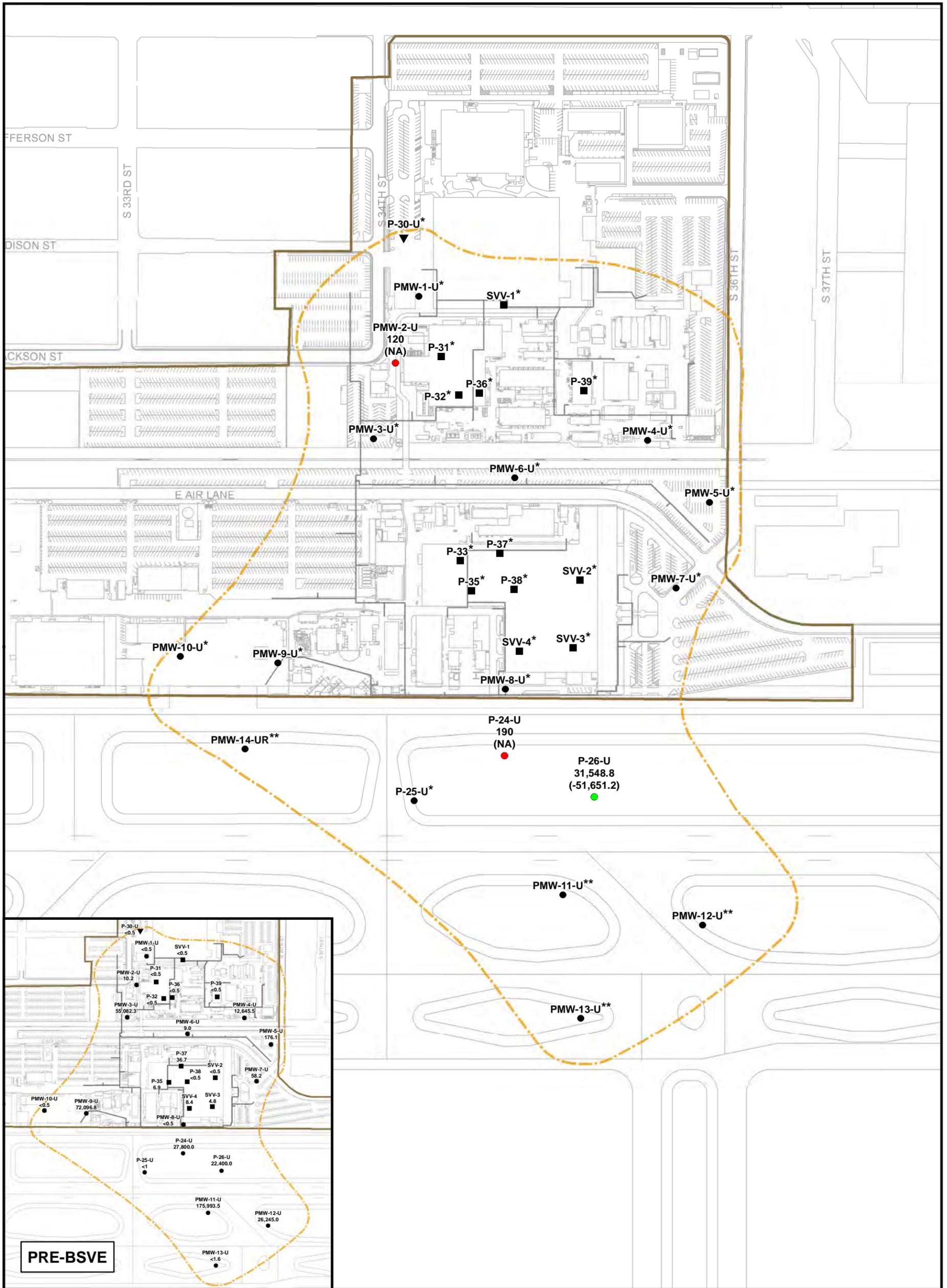


FIGURE E-4
DEEP SUBSURFACE
METHANE DISTRIBUTION
SOIL-VAPOR FIELD PARAMETERS
Honeywell 34th Street Facility
Phoenix, Arizona



Legend

- P-26-U Well Identifier
- 31,548.8 Current TPH Concentration
- (-51,651.2) Change Since Previous Quarter
- Location Shape Code**
- ▼ Groundwater Monitoring Well
- Process Monitoring Well
- Sub-slab
- Location Color Code**
- Decreasing Trend
- Increasing Trend

- BSVE Pipeline System
- Target Treatment Area
- Honeywell Facility

- Notes:**
1. BSVE = Biologically-enhanced Soil-vapor Extraction
 2. TPH = Total Petroleum Hydrocarbons
 3. TPH concentrations in parts per million
 4. Pre-BSVE measurements were collected between July 28, 2005 and May 22, 2009.
 5. * Indicates no change (non-detect in both sample periods).
 6. ** Indicates first time well monitored; therefore no change in TPH concentration was evaluated.
 7. The maximum Second Quarter 2010 TPH concentration is presented and was used to calculate change from previous quarter by comparison to the maximum First Quarter 2010 TPH concentration.
 8. NA = Changes in TPH for cases when TPH was detectable in only one quarter were not calculated.

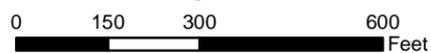
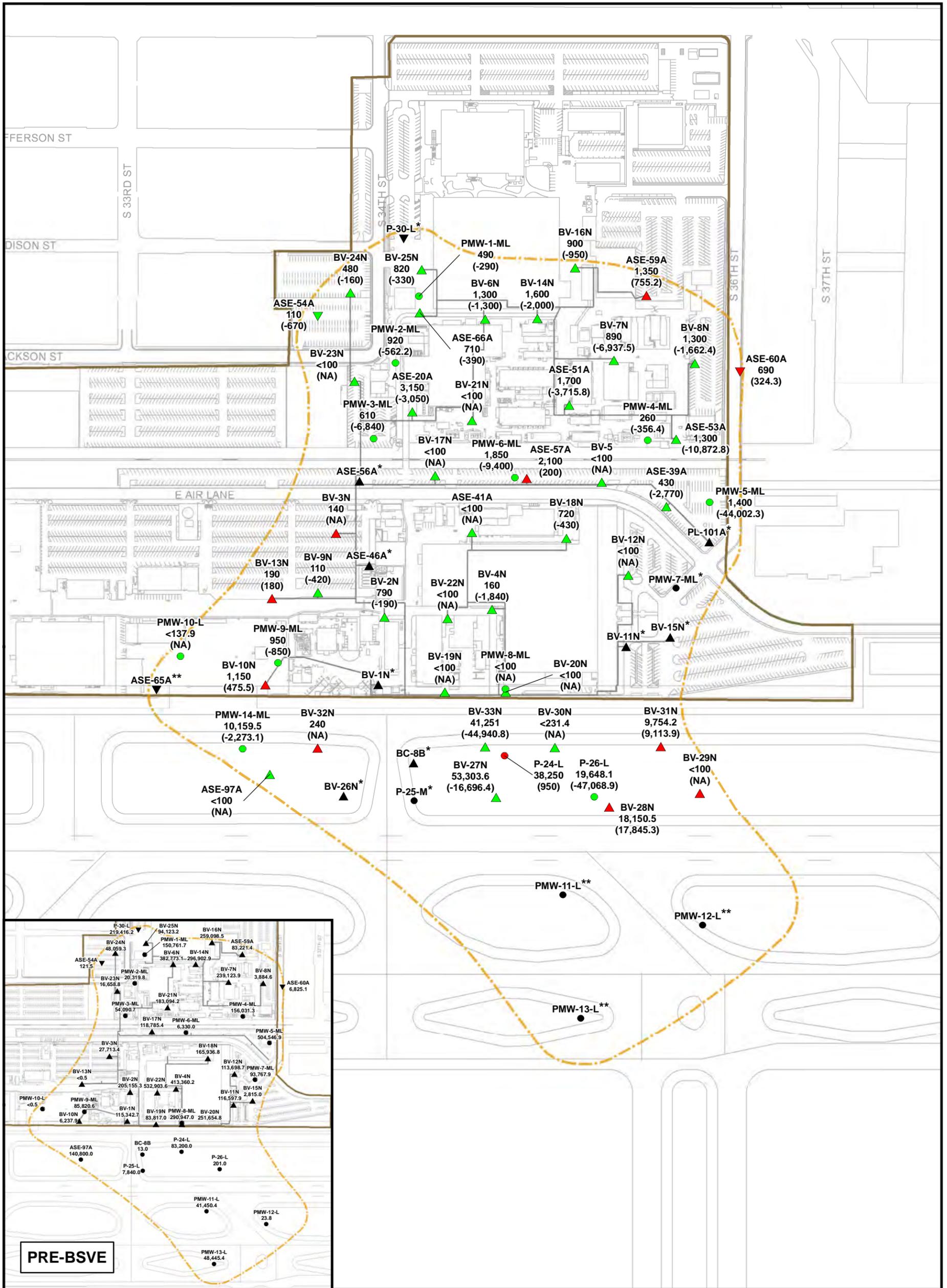


FIGURE E-5
CHANGES IN SHALLOW SUBSURFACE
TOTAL PETROLEUM HYDROCARBONS
FIRST QUARTER 2010 TO
SECOND QUARTER 2010
Honeywell 34th Street Facility
Phoenix, Arizona



Legend

- BV-27N Well Identifier
- 53,303.6 Current TPH Concentration
- (-16,696) Change Since Previous Quarter
- Location Shape Code**
- ▼ Groundwater Monitoring Well
- Process Monitoring Well
- ▲ Injection/Extraction Well
- Location Color Code**
- Decreasing Trend
- Increasing Trend

- BSVE Pipeline System
- Target Treatment Area
- Honeywell Facility

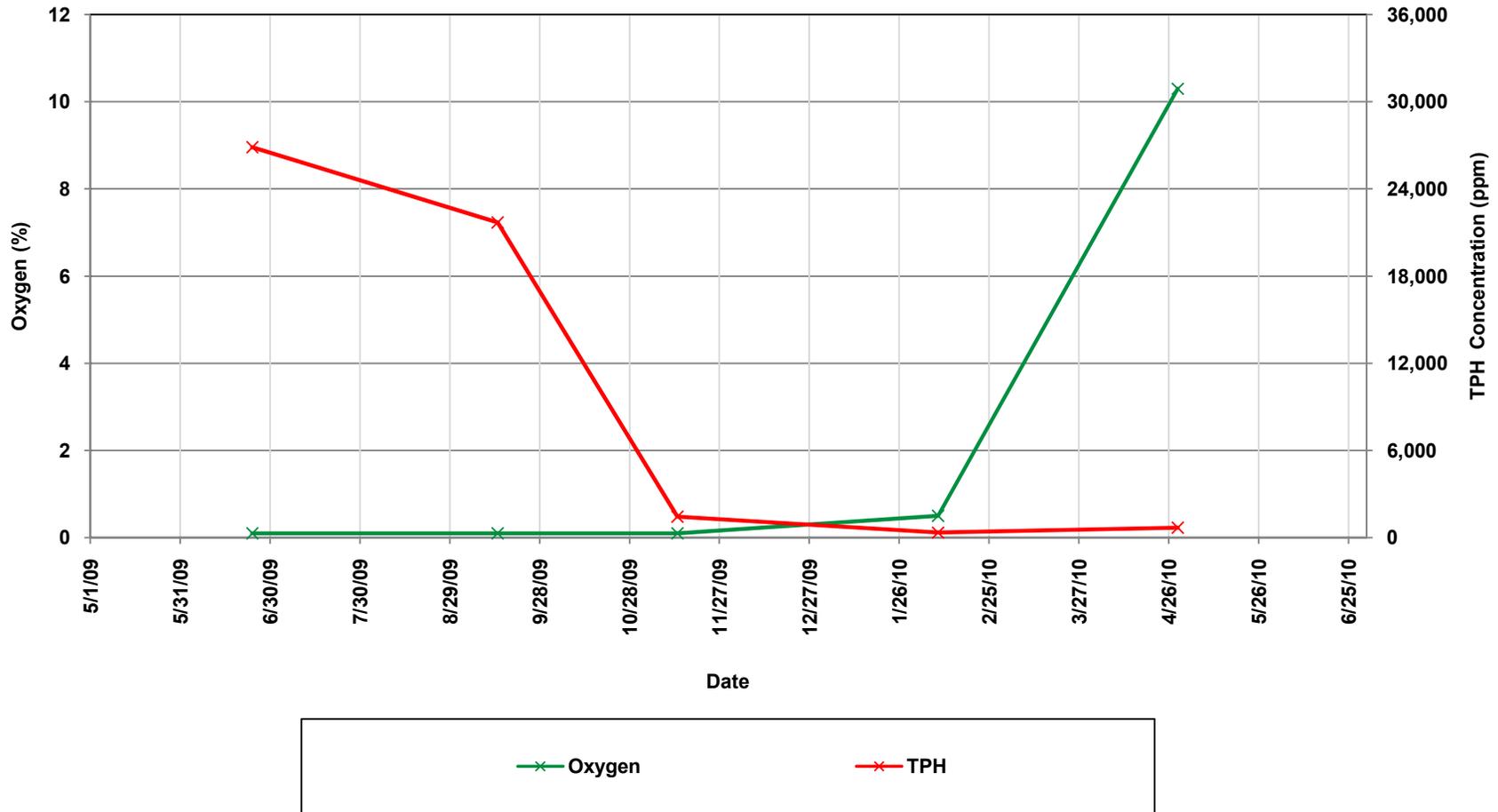
- Notes:**
1. BSVE = Biologically-enhanced Soil-vapor Extraction
 2. TPH = Total Petroleum Hydrocarbons
 3. TPH concentrations in parts per million
 4. Pre-BSVE measurements were collected between July 28, 2005 and May 22, 2009.
 5. * Indicates no change (non-detect in both sample periods).
 6. ** Indicates first time well monitored; therefore no change in TPH concentration was evaluated.
 7. The maximum Second Quarter 2010 TPH concentration is presented and was used to calculate change from previous quarter by comparison to the maximum First Quarter 2010 TPH concentration.
 8. NA = Changes in TPH for cases when TPH was detectable in only one quarter were not calculated.
 9. Phase C Injection/Extraction Wells not connected to the BSVE system during First Quarter 2010.



FIGURE E-6
CHANGES IN DEEP SUBSURFACE
TOTAL PETROLEUM HYDROCARBONS
FIRST QUARTER 2010 TO
SECOND QUARTER 2010
Honeywell 34th Street Facility
Phoenix, Arizona

Appendix F
Total Petroleum Hydrocarbons and Oxygen
Concentrations for Process Monitoring Wells

ASE-60A

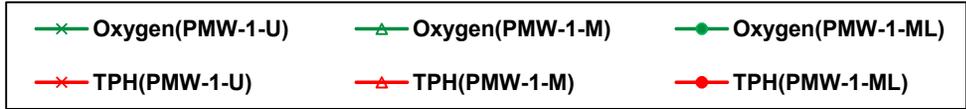
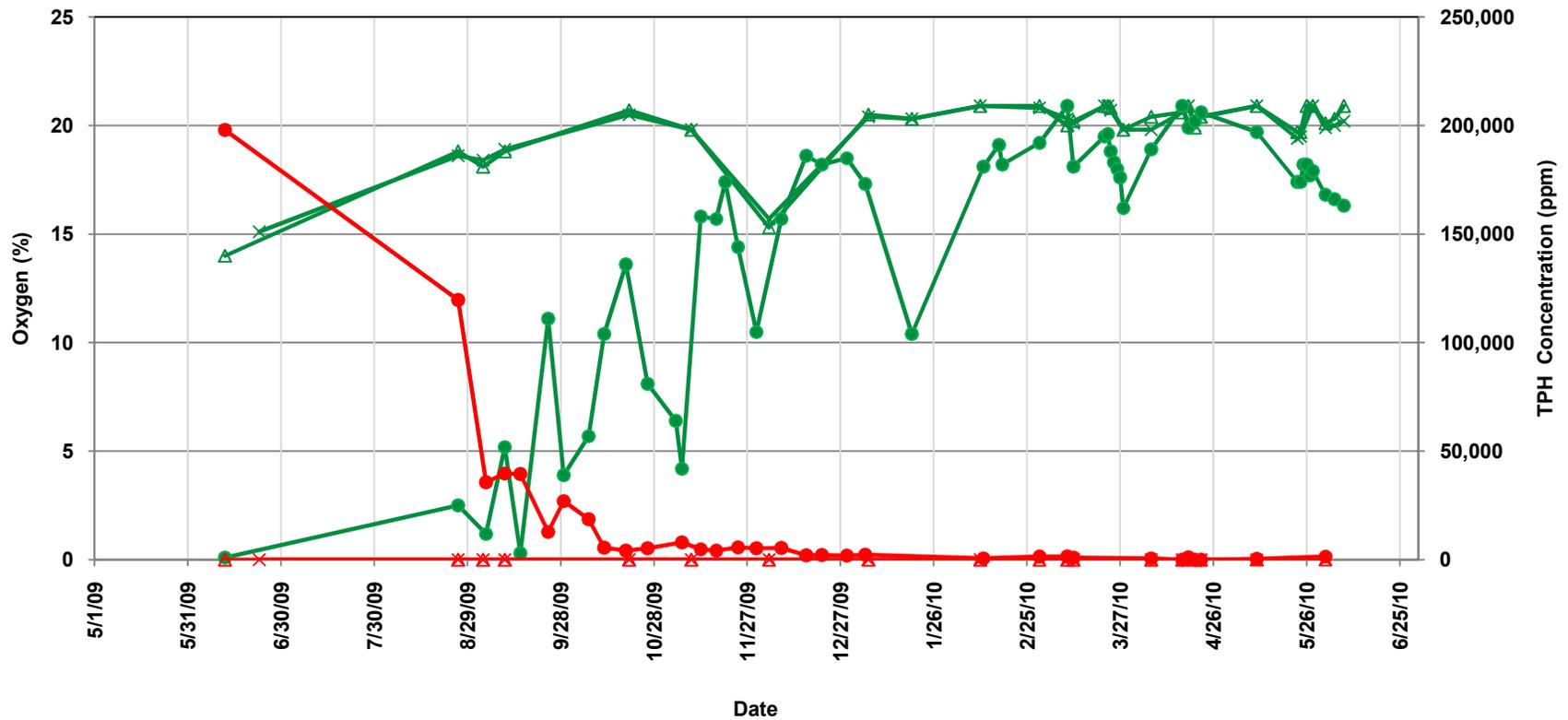


- Notes:
1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-1
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
ASE-60A

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-1

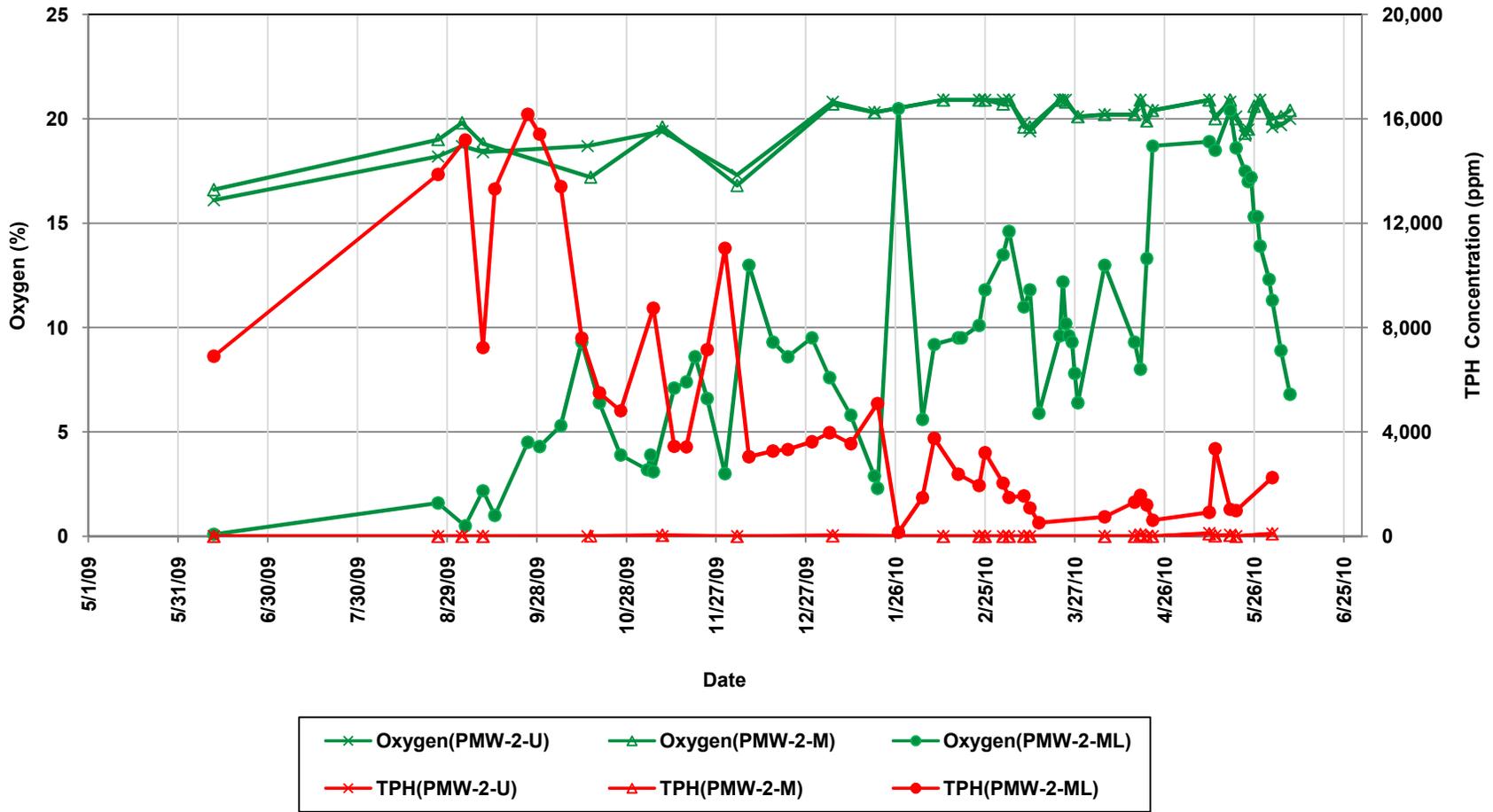


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-2
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-1

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-2

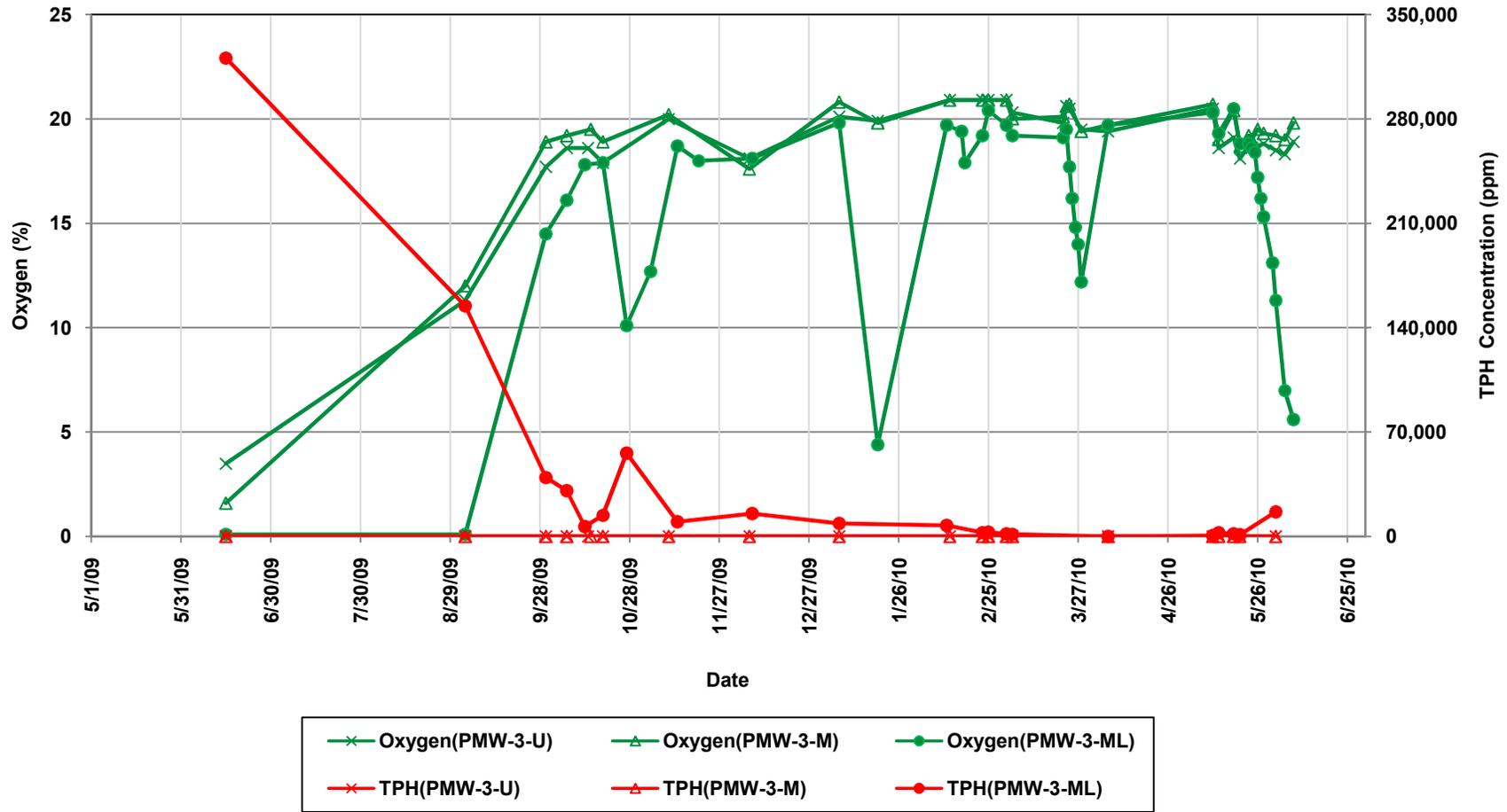


- Notes:
1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-3
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-2

*Honeywell 34th Street Facility
 Phoenix, Arizona*

PMW-3

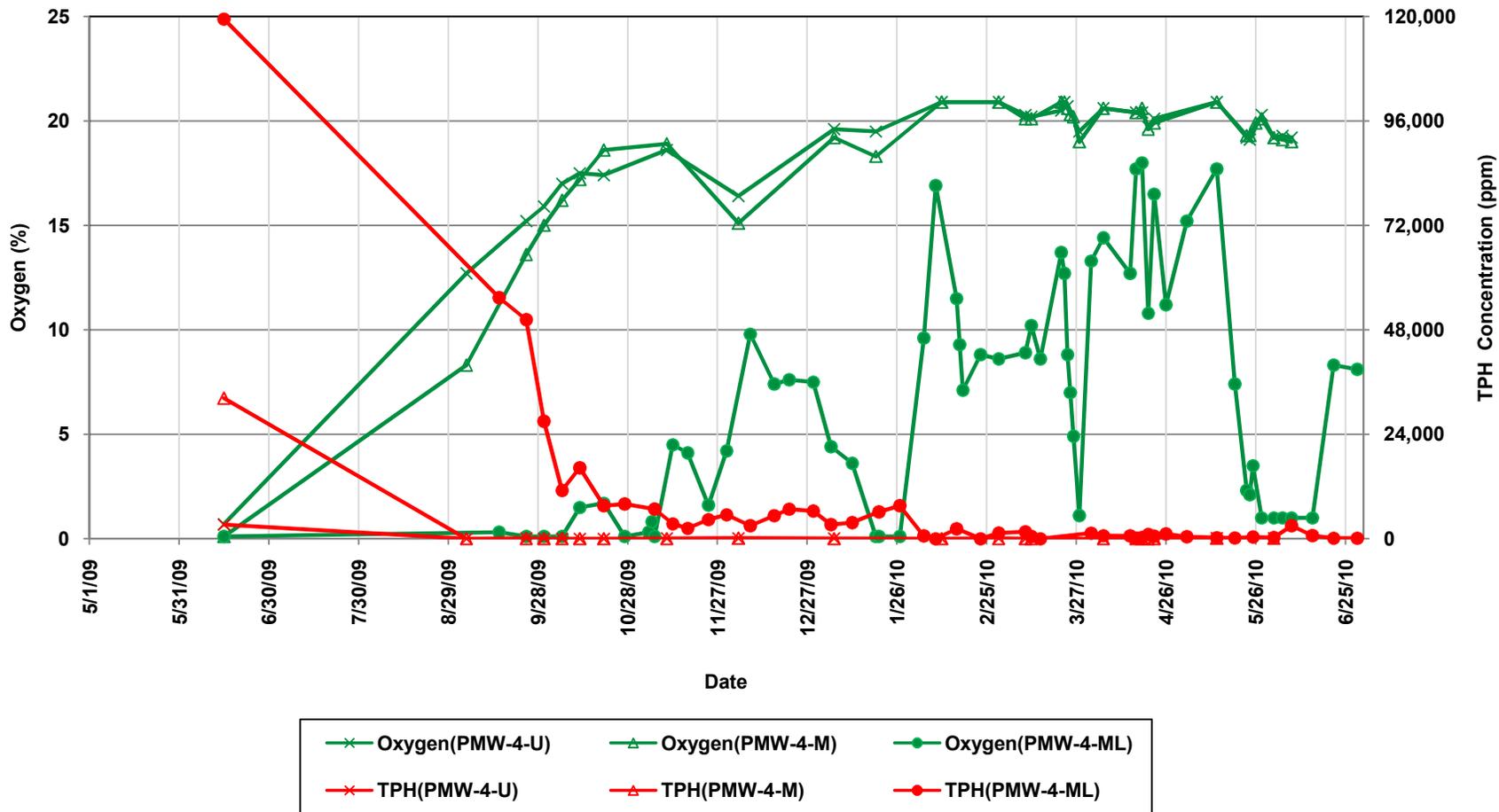


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-4
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-3

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-4

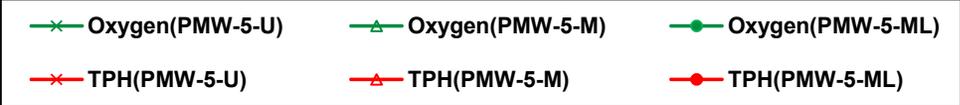
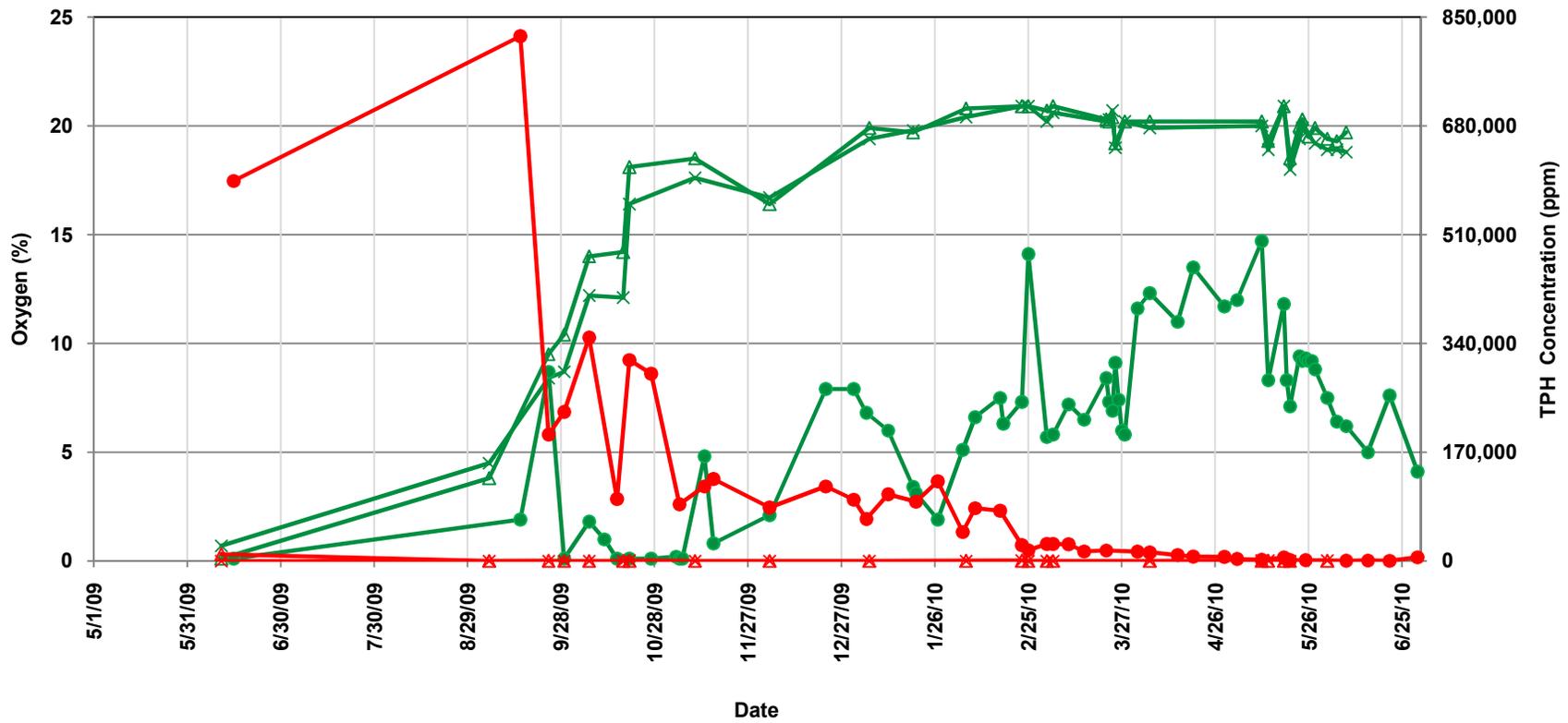


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-5
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-4

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-5

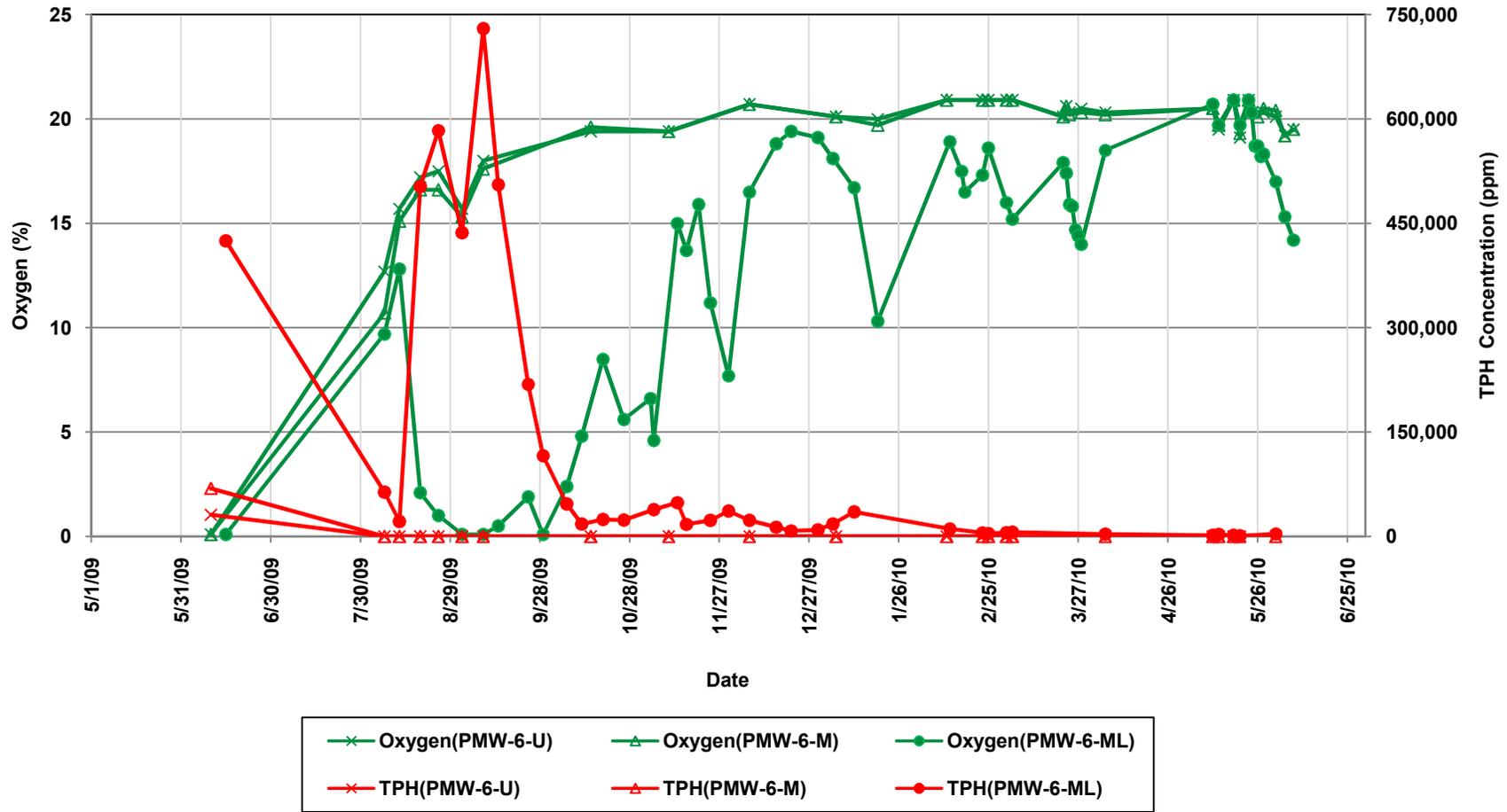


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-6
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-5

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-6



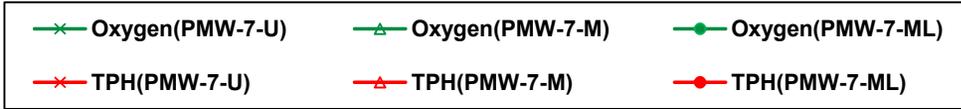
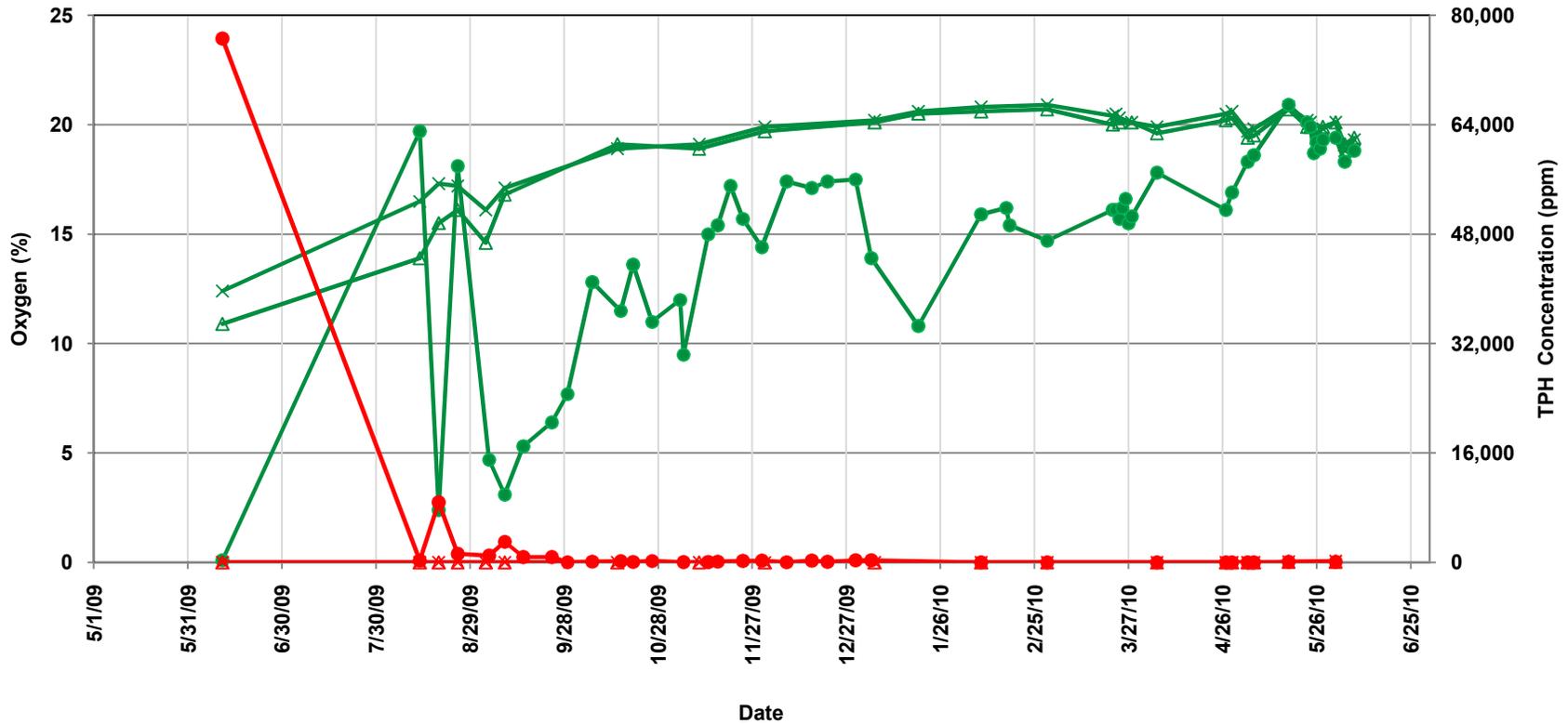
Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-7
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL

PMW-6

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-7

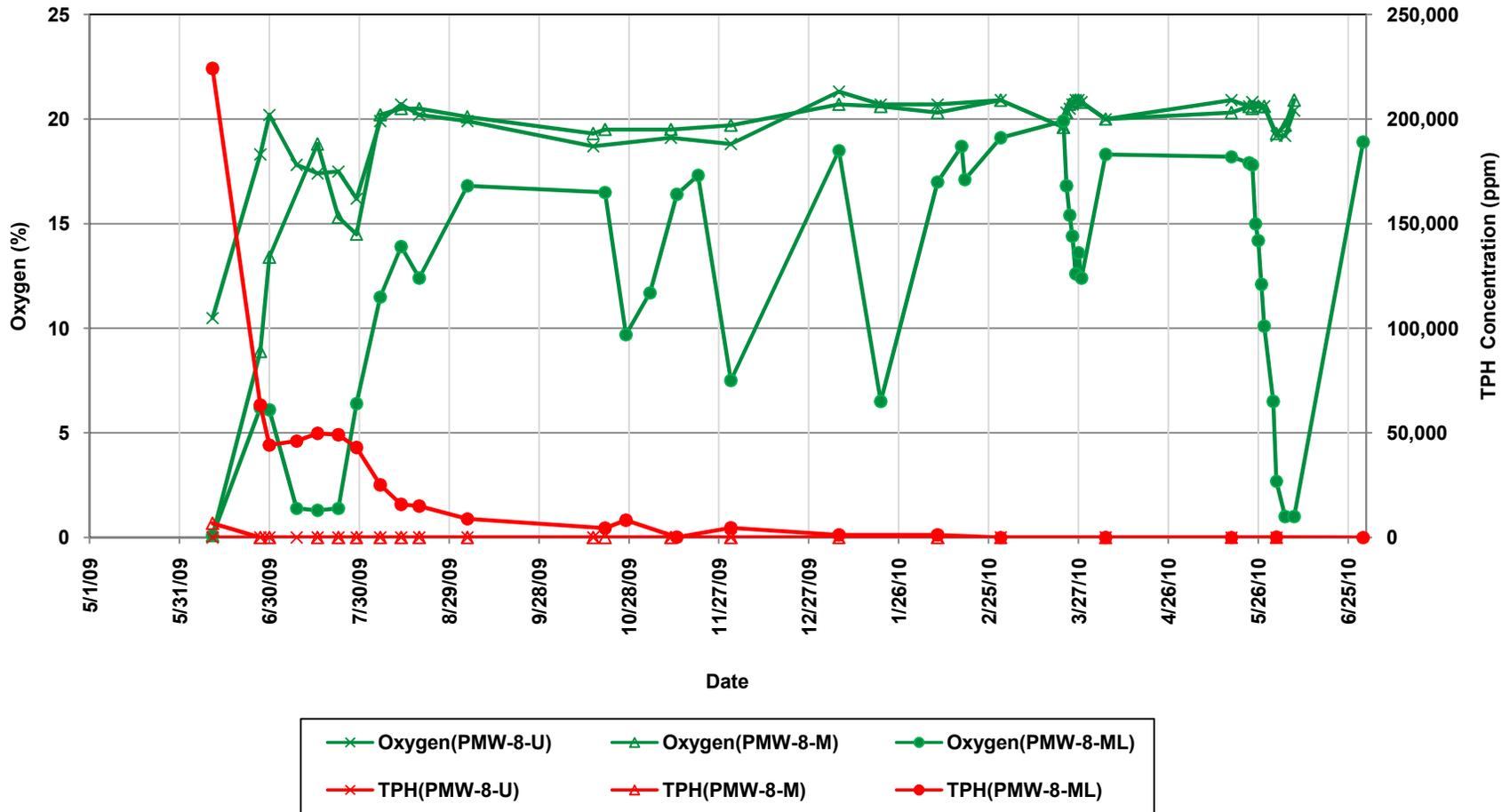


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-8
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-7

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-8

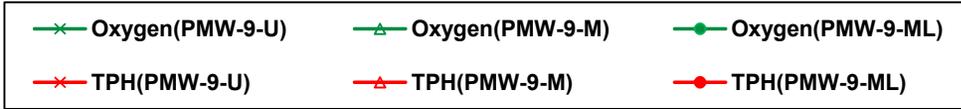
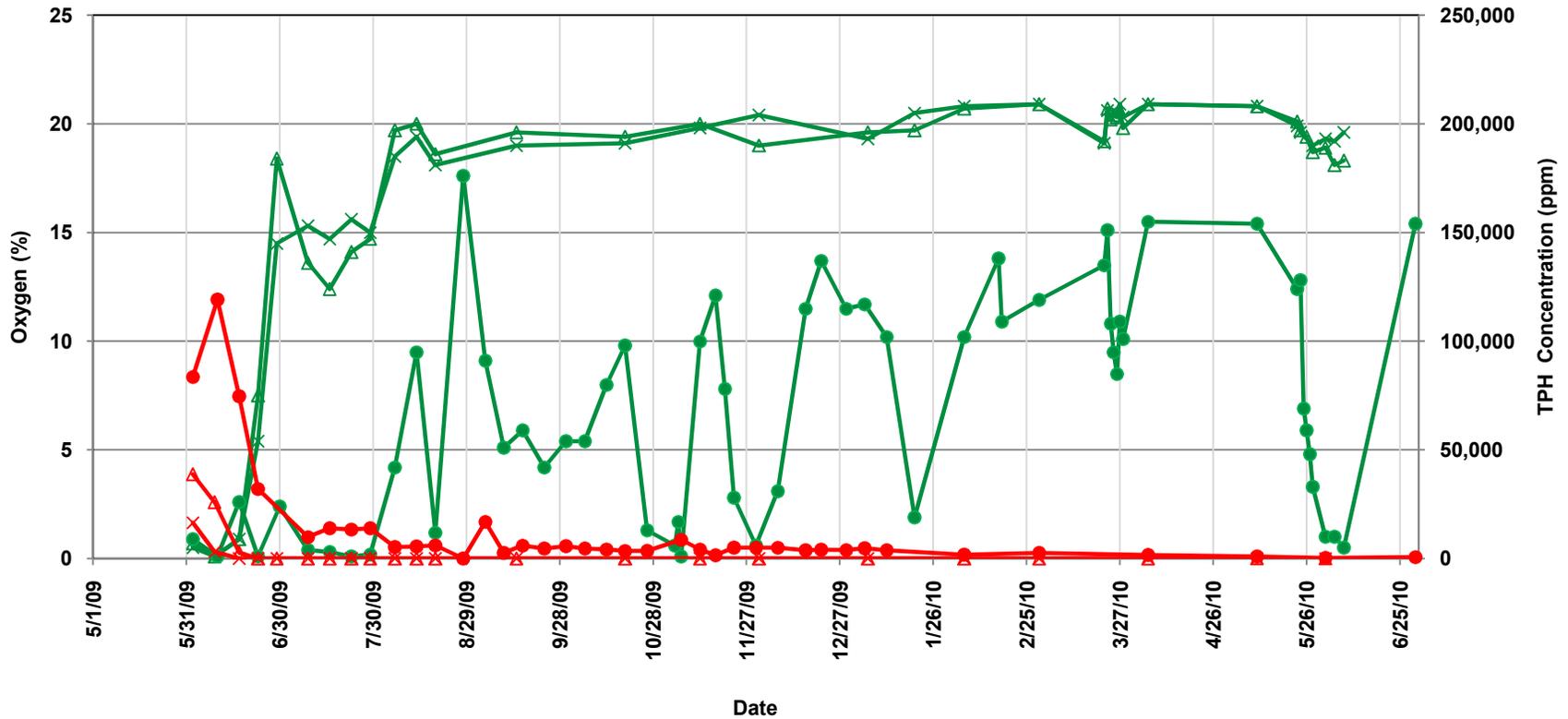


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-9
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-8

*Honeywell 34th Street Facility
 Phoenix, Arizona*

PMW-9

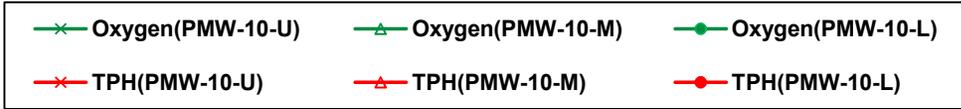
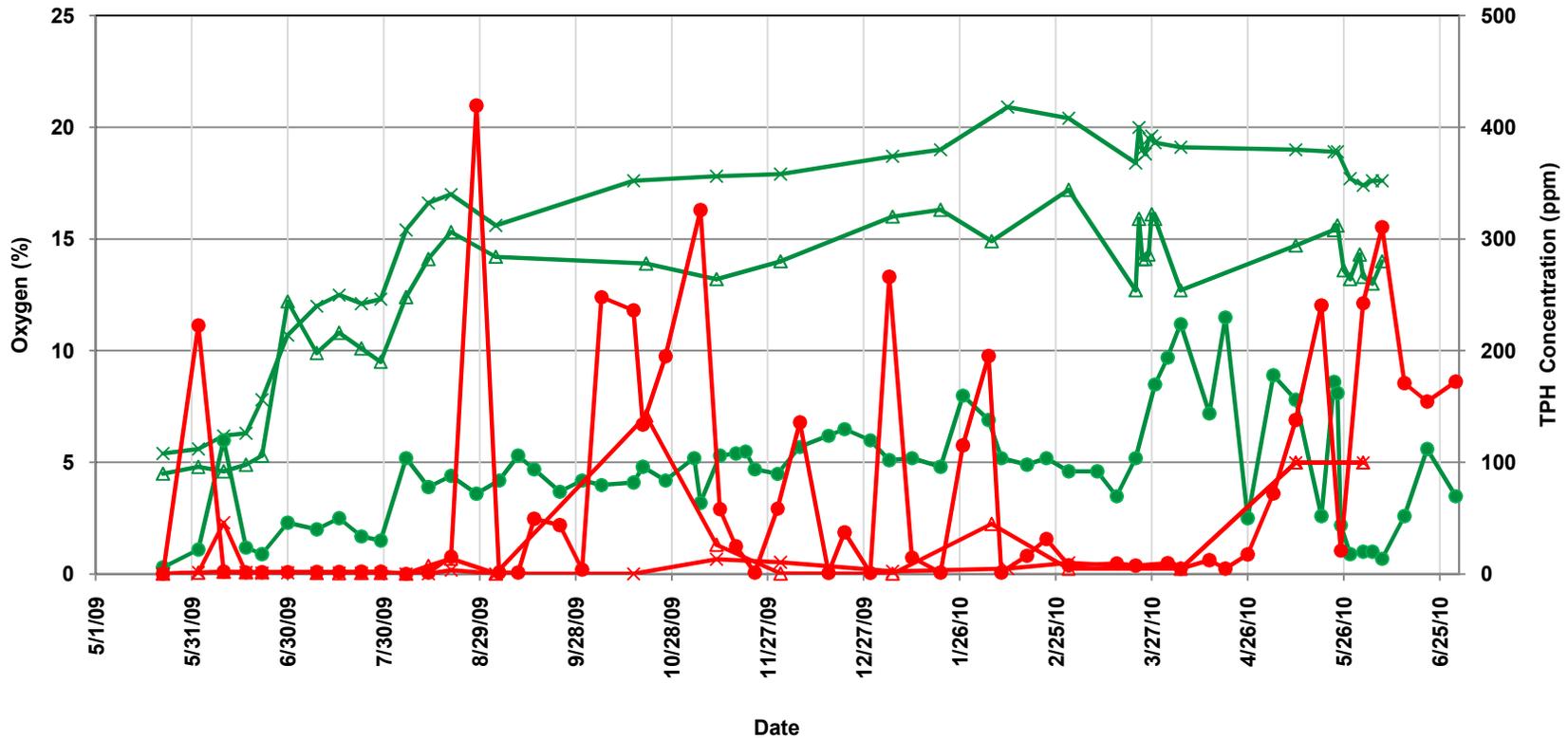


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-10
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-9

*Honeywell 34th Street Facility
 Phoenix, Arizona*

PMW-10

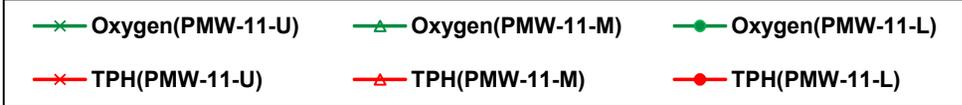
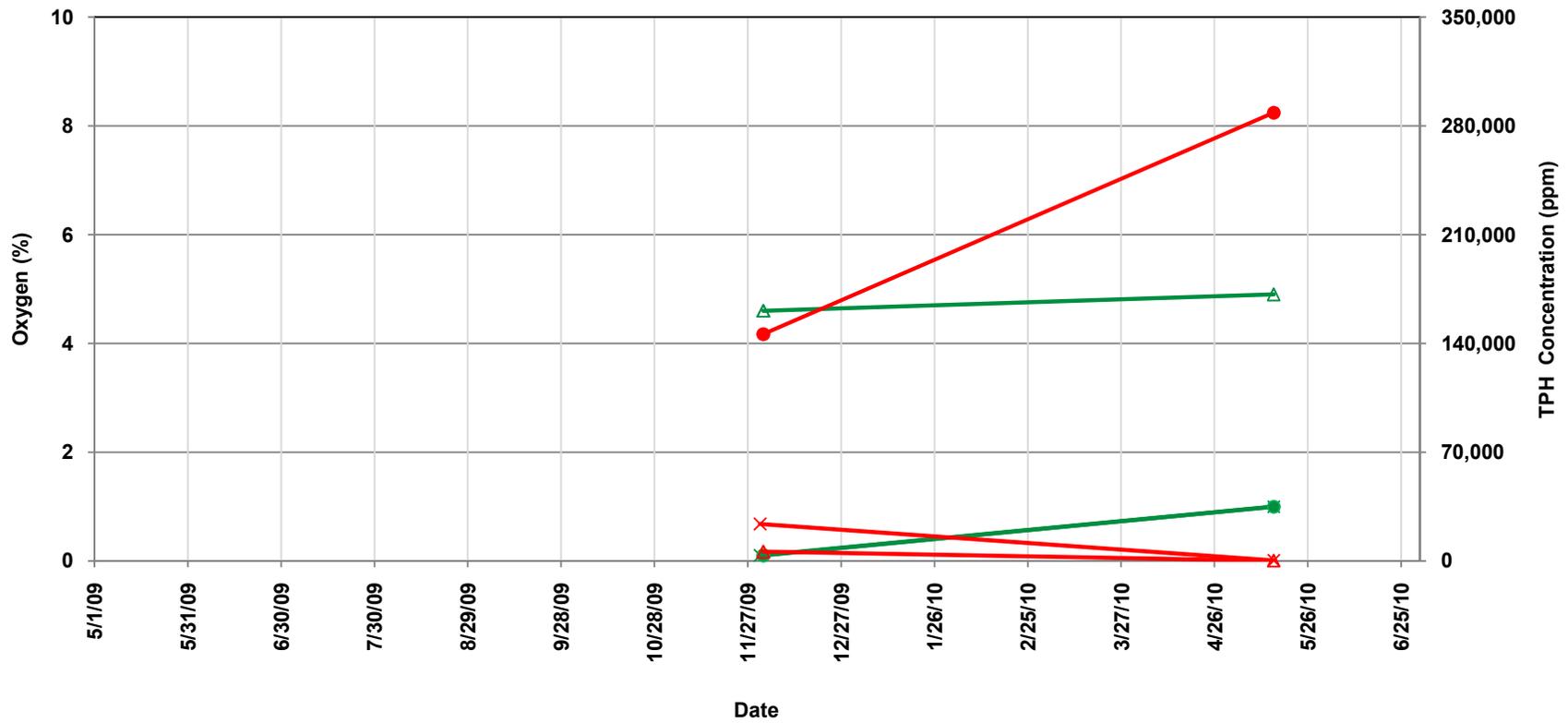


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-11
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-10

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-11

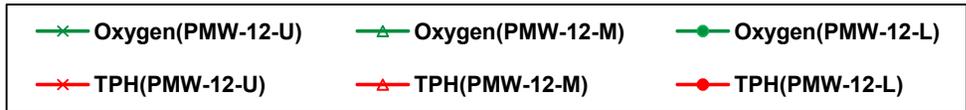
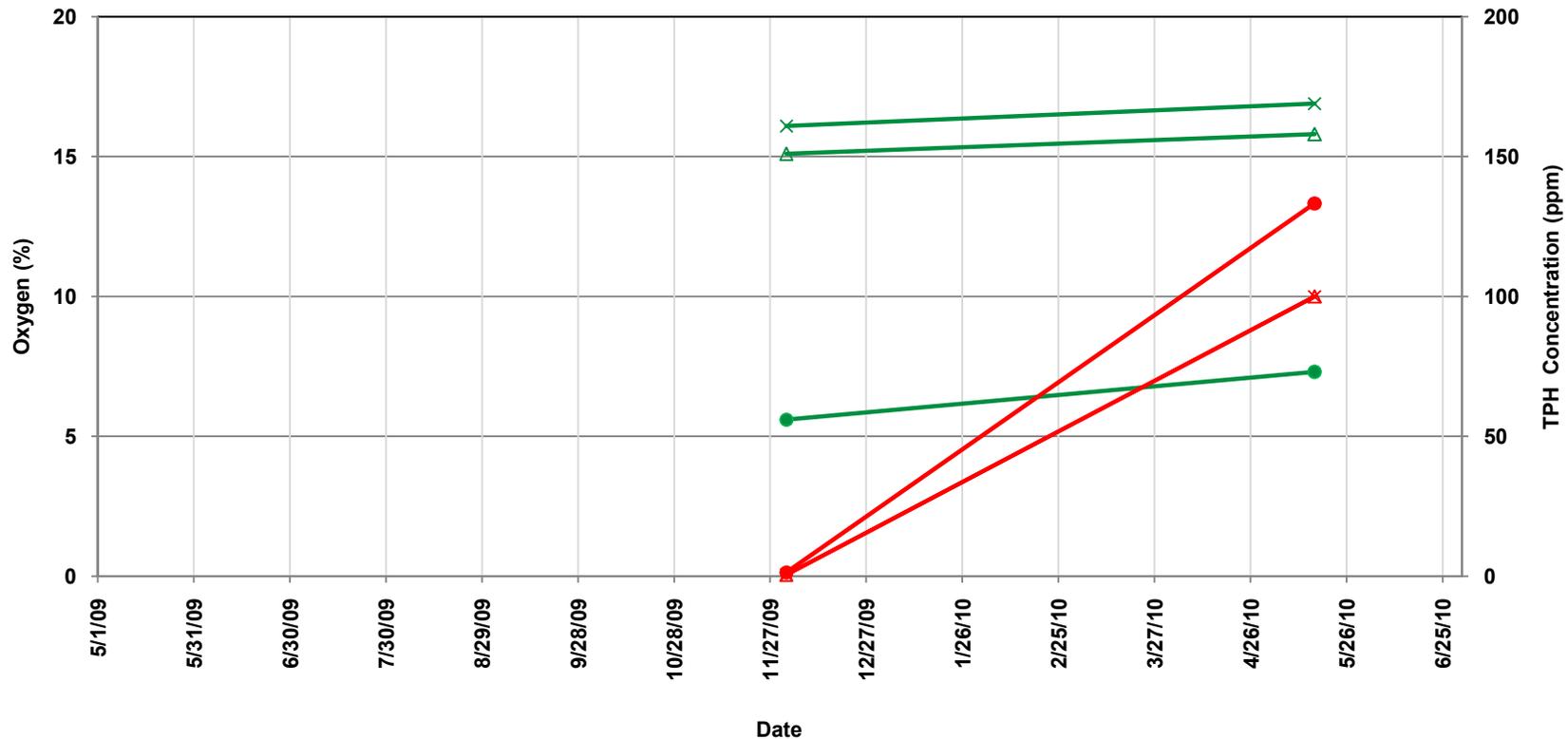


- Notes:
1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-12
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-11

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-12

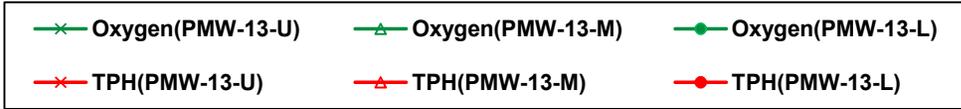
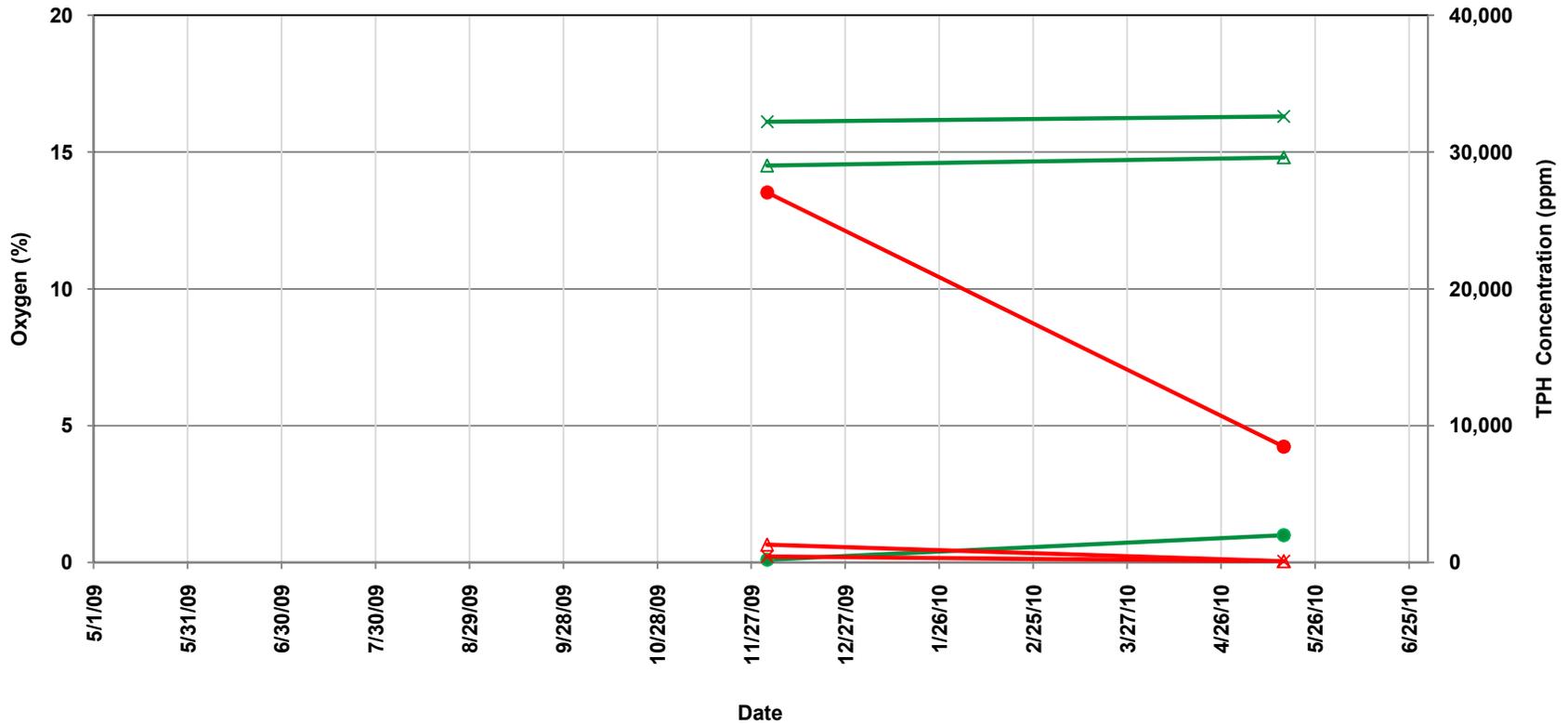


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-13
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-12

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-13

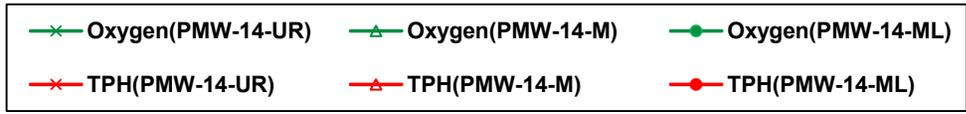
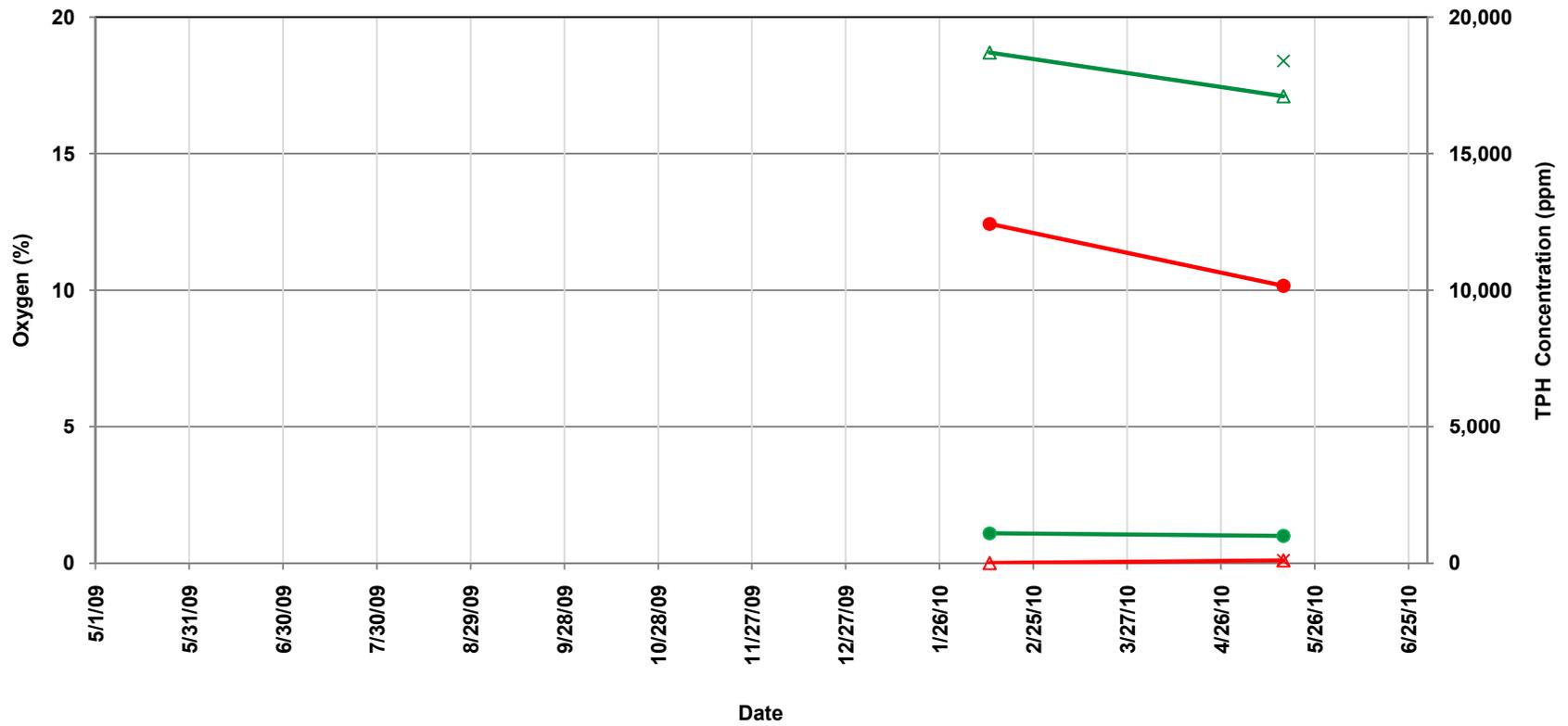


- Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-14
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-13

Honeywell 34th Street Facility
Phoenix, Arizona

PMW-14

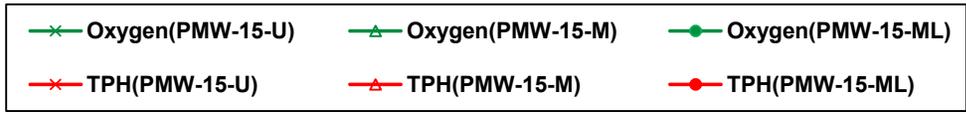
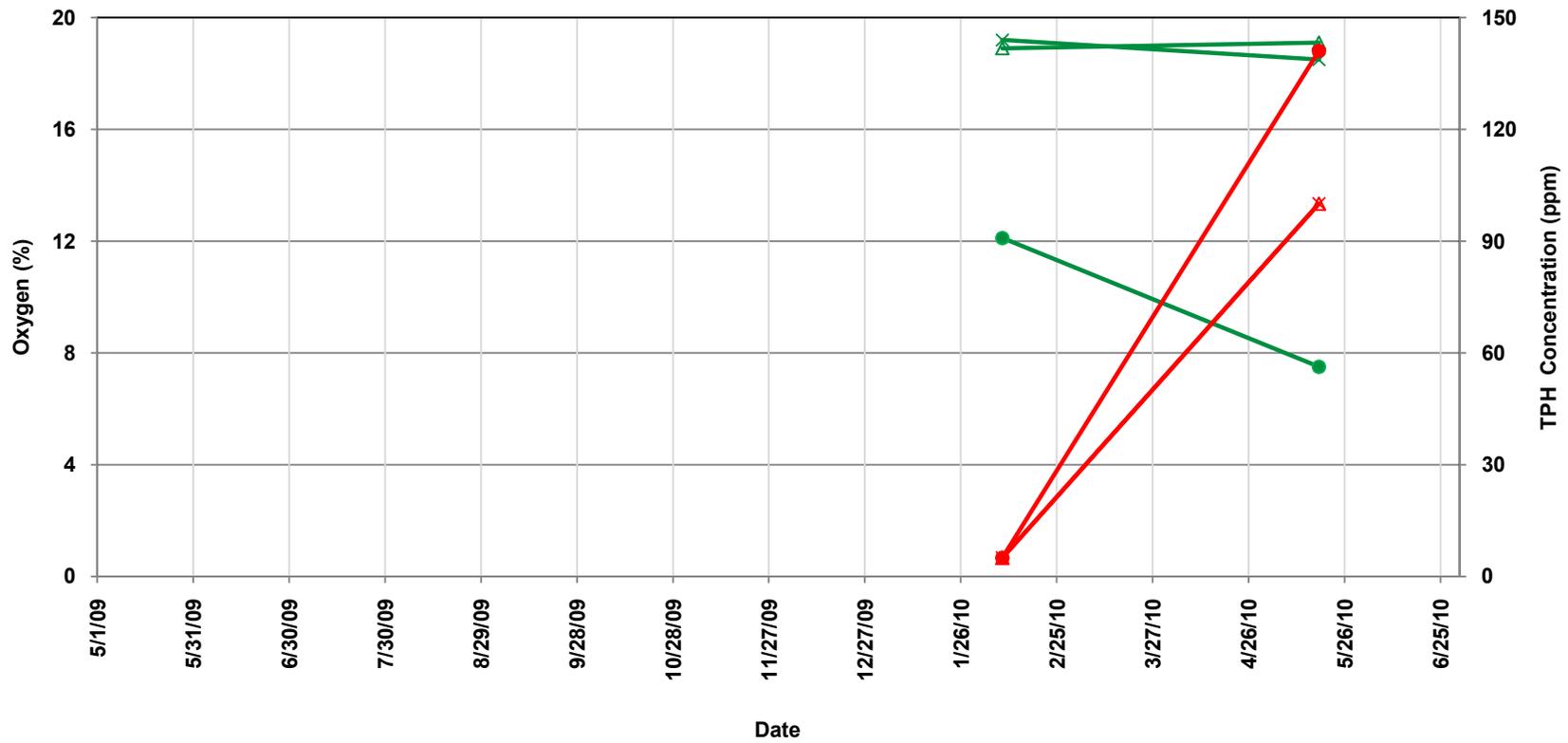


- Notes:
1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-15
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-14

*Honeywell 34th Street Facility
 Phoenix, Arizona*

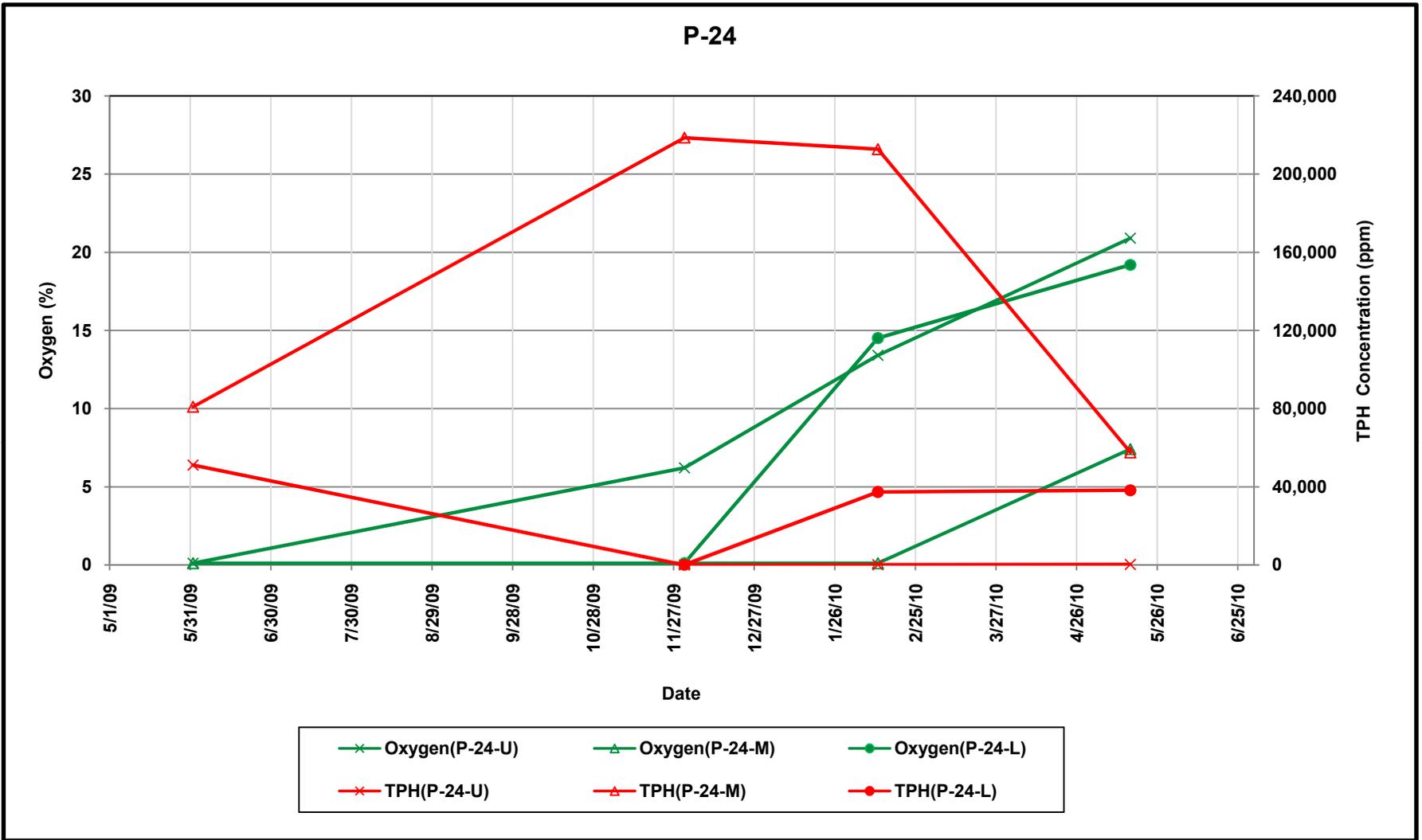
PMW-15



- Notes:
1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-16
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
PMW-15

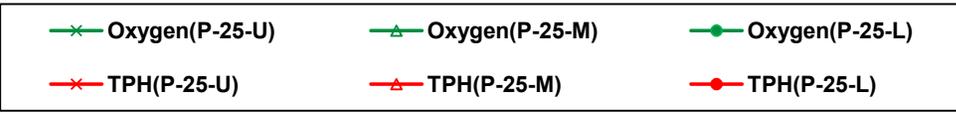
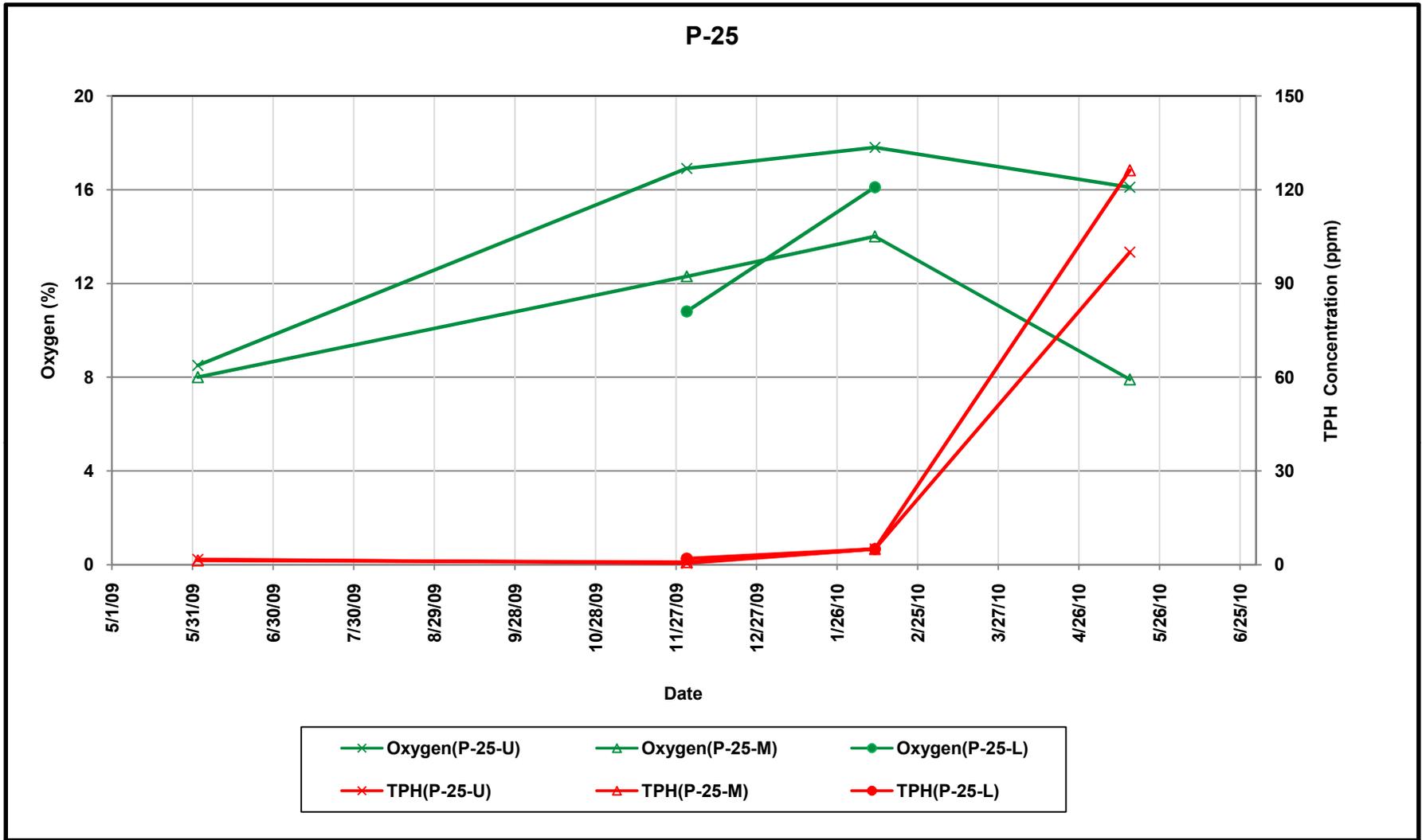
*Honeywell 34th Street Facility
 Phoenix, Arizona*



Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-17
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
P-24

Honeywell 34th Street Facility
Phoenix, Arizona

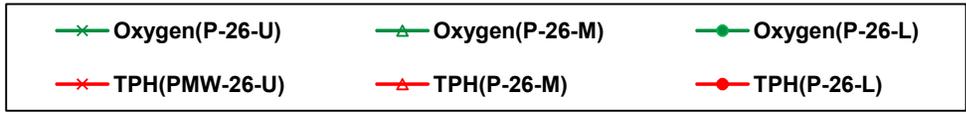
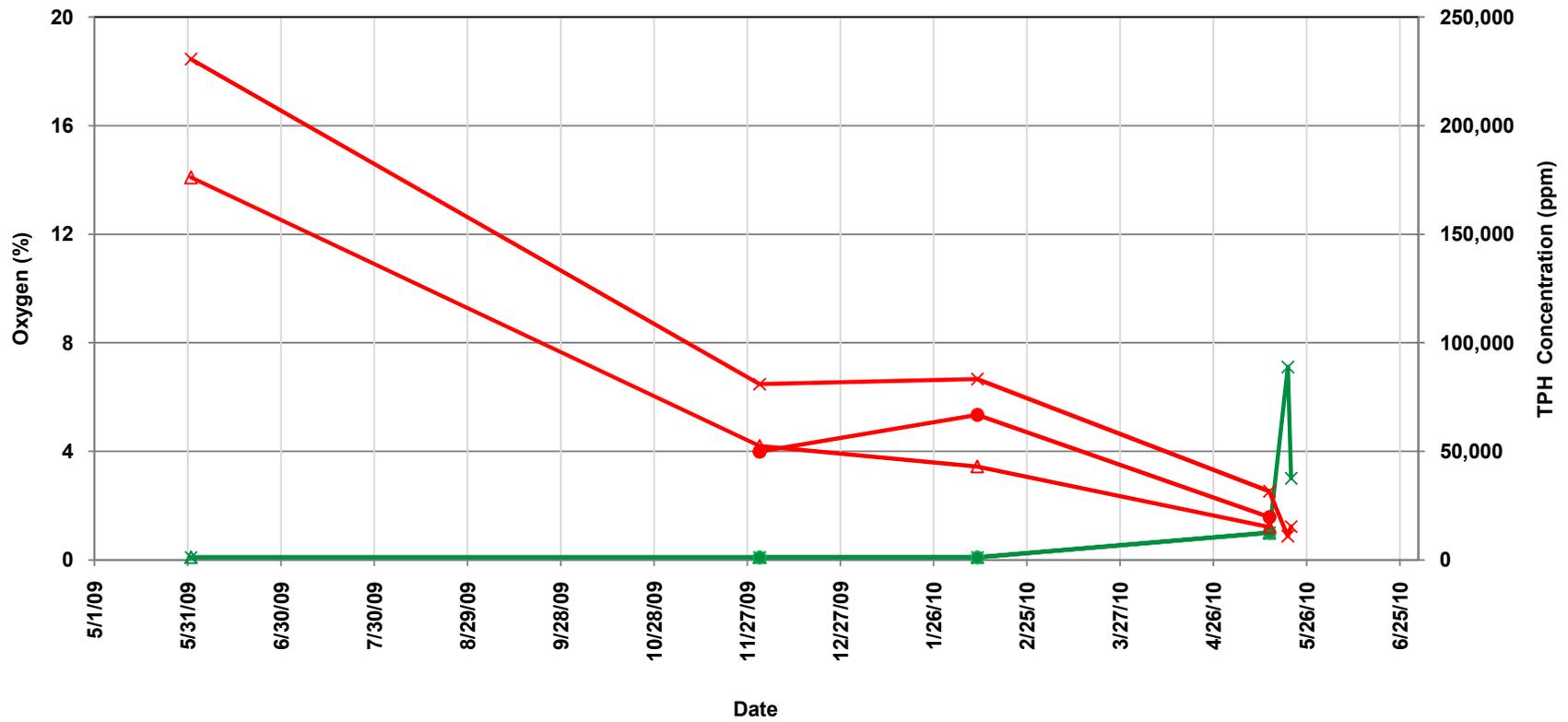


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-18
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
P-25

*Honeywell 34th Street Facility
 Phoenix, Arizona*

P-26

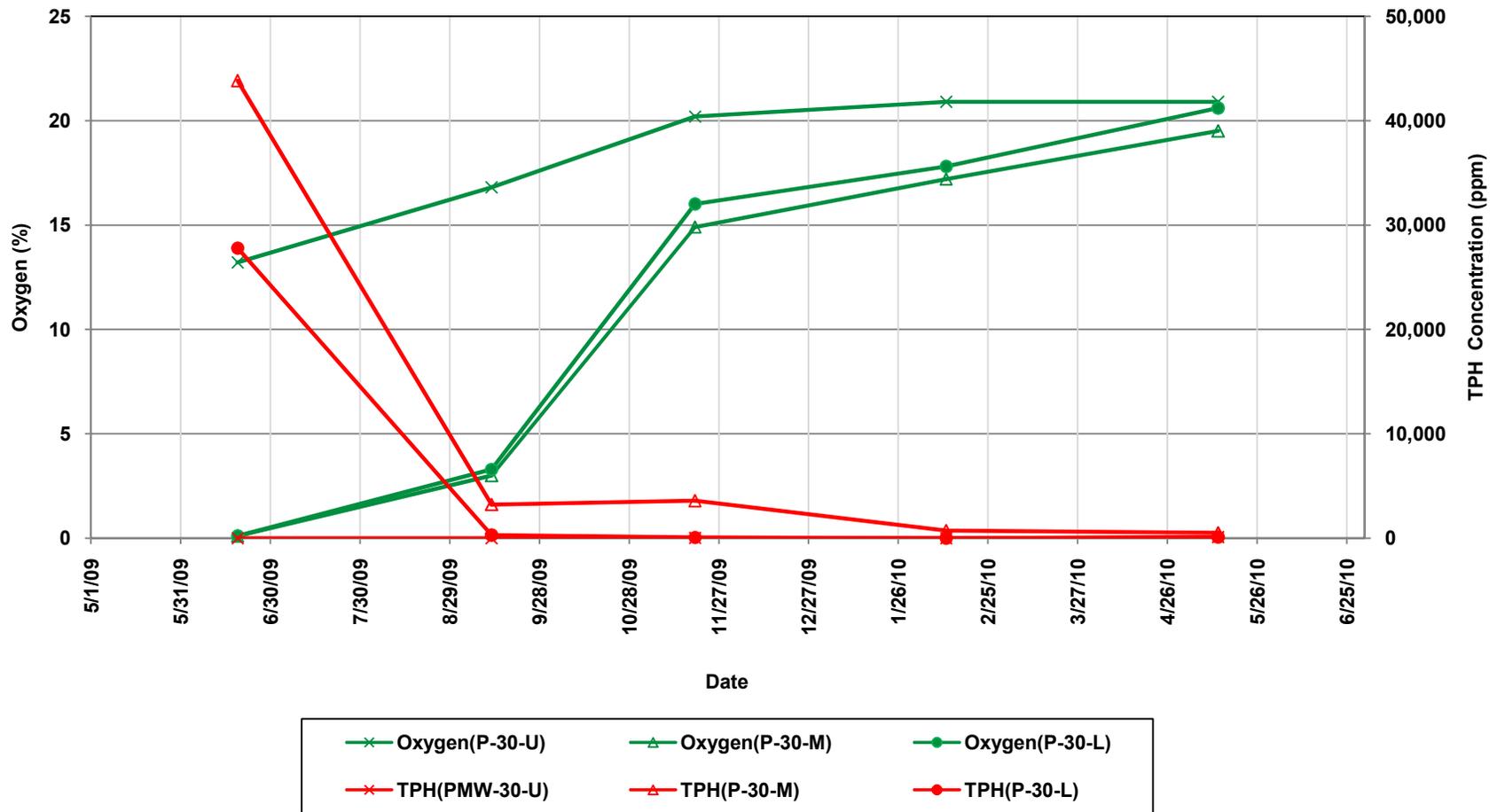


Notes:
 1. % = percent
 2. ppm = parts per million
 3. TPH = Total Petroleum Hydrocarbons

FIGURE F-19
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
P-26

Honeywell 34th Street Facility
Phoenix, Arizona

P-30



Notes:

1. % = percent
2. ppm = parts per million
3. TPH = Total Petroleum Hydrocarbons

FIGURE F-20
TOTAL PETROLEUM HYDROCARBONS AND OXYGEN
CONCENTRATIONS FOR SOIL VAPOR MONITORING WELL
P-30

Honeywell 34th Street Facility
Phoenix, Arizona

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
ASE-60A	06/24/09	26,857.5	<0.1
	09/14/09	21,686.9	<0.1
	11/13/09	1,452.2	<0.1
	02/08/10	365.7	<1.0
	04/29/10	690.0	10.3
	05/12/10	NM	NM
PMW-1-U	06/23/09	<0.5	15.1
	08/26/09	3.6	18.6
	09/03/09	<0.5	18.4
	09/10/09	11.8	18.9
	10/20/09	31.7	20.5
	11/09/09	20.3	19.8
	12/04/09	<0.5	15.7
	01/05/10	13.2	20.4
	01/19/10	NM	20.3
	02/10/10	<100.0	20.9
	03/01/10	<100.0	20.8
	03/10/10	<100.0	20.3
	03/12/10	<100.0	20.1
	03/22/10	NM	20.9
	03/23/10	NM	20.9
	03/24/10	NM	20.7
	03/28/10	NM	19.8
	04/06/10	<100.0	19.8
	04/16/10	<100.0	20.6
	04/18/10	170.0	20.9
	04/20/10	<100.0	20
	04/22/10	<100.0	20.4
	05/10/10	<100.0	20.9
	05/23/10	NM	19.4
	05/24/10	NM	19.5
	05/28/10	NM	20.9
06/01/10	<100.0	19.9	
06/04/10	NM	20.0	
06/07/10	NM	20.2	
PMW-1-M	06/12/09	16.6	14
	08/26/09	5.6	18.8
	09/03/09	<0.5	18.1
	09/10/09	<0.5	18.8
	10/20/09	23.5	20.7

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-1-M	11/09/09	71.8	19.8
	12/04/09	6.2	15.3
	01/05/10	7.8	20.5
	01/19/10	NM	20.3
	02/10/10	<100.0	20.9
	03/01/10	<100.0	20.9
	03/10/10	<100.0	20
	03/12/10	<100.0	20.2
	03/22/10	NM	20.9
	03/23/10	NM	20.9
	03/24/10	NM	20.8
	03/28/10	NM	19.8
	04/06/10	<100.0	20.4
	04/16/10	<100.0	20.6
	04/18/10	<100.0	20.9
	04/20/10	<100.0	19.9
	04/22/10	<100.0	20.4
	05/10/10	<100.0	20.9
	05/23/10	NM	19.7
	05/24/10	NM	19.7
	05/26/10	NM	20.9
	05/28/10	NM	20.9
	06/01/10	<100.0	20.1
	06/04/10	NM	20.3
	06/07/10	NM	20.9
	PMW-1-ML	06/12/09	197,928.2
08/26/09		119,623.9	2.5
09/04/09		35,713.9	1.2
09/10/09		39,835.2	5.2
09/15/09		39,542.6	0.3
09/24/09		12,958.4	11.1
09/29/09		27,153.1	3.9
10/07/09		18,717.7	5.7
10/12/09		5,559.4	10.4
10/19/09		4,261.2	13.6
10/26/09		5,314.2	8.1
11/04/09		NM	6.4
11/06/09		8,024.9	4.2
11/12/09		4,982.0	15.8
11/17/09	4,232.0	15.7	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-1-ML	11/20/09	NM	17.4
	11/24/09	5,679.7	14.4
	11/30/09	5,325.5	10.5
	12/08/09	5,434.0	15.7
	12/16/09	2,045.0	18.6
	12/21/09	2,198.0	18.2
	12/29/09	1,891.0	18.5
	01/04/10	2,371.0	17.3
	01/19/10	NM	10.4
	02/11/10	780.0	18.1
	02/16/10	NM	19.1
	02/17/10	NM	18.2
	03/01/10	1,500.0	19.2
	03/10/10	1,500.0	20.9
	03/12/10	980.0	18.1
	03/22/10	NM	19.5
	03/23/10	NM	19.6
	03/24/10	NM	18.8
	03/25/10	NM	18.3
	03/26/10	NM	18
	03/27/10	NM	17.6
	03/28/10	NM	16.2
	04/06/10	790.0	18.9
	04/16/10	<100.0	20.9
	04/18/10	1,150.0	19.9
	04/20/10	<100.0	20.2
	04/22/10	<100.0	20.6
	05/10/10	490.0	19.7
	05/23/10	NM	17.4
	05/24/10	NM	17.4
	05/25/10	NM	18.2
	05/26/10	NM	18.2
	05/27/10	NM	17.7
	05/28/10	NM	17.9
06/01/10	1,600.0	16.8	
06/04/10	NM	16.6	
06/07/10	NM	16.3	
PMW-2-U	06/12/09	<0.5	16.1
	08/26/09	<0.5	18.2
	09/03/09	0.9	18.7

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-2-U	09/10/09	<0.5	18.4
	10/15/09	<0.5	18.7
	11/09/09	20.0	19.4
	12/04/09	<0.5	17.3
	01/05/10	34.6	20.8
	01/19/10	NM	20.3
	02/11/10	<100.0	20.9
	02/23/10	<100.0	20.9
	02/25/10	<100.0	20.9
	03/03/10	<100.0	20.9
	03/05/10	<100.0	20.9
	03/10/10	<100.0	19.8
	03/12/10	<100.0	19.4
	03/22/10	NM	20.9
	03/23/10	NM	20.9
	03/24/10	NM	20.9
	03/28/10	NM	20.1
	04/06/10	<100.0	20.2
	04/16/10	<100.0	20.2
	04/18/10	<100.0	20.9
	04/20/10	<100.0	19.9
	04/22/10	<100.0	20.4
	05/11/10	120.0	20.9
	05/13/10	25.5	20.1
	05/18/10	58.5	20.8
	05/20/10	<0.5	20.1
	05/23/10	NM	19.2
	05/24/10	NM	19.5
	05/28/10	NM	20.9
	06/01/10	<100.0	19.6
	06/04/10	NM	19.7
	06/07/10	NM	20.0
PMW-2-M	06/12/09	<0.5	16.6
	08/26/09	<0.5	19
	09/03/09	3.3	19.8
	09/10/09	<0.5	18.8
	10/16/09	17.2	17.2
	11/09/09	43.7	19.6
	12/04/09	3.6	16.8
	01/05/10	22.7	20.7

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)	
PMW-2-M	01/19/10	NM	20.3	
	02/11/10	<100.0	20.9	
	02/23/10	<100.0	20.9	
	02/25/10	<100.0	20.9	
	03/03/10	<100.0	20.7	
	03/05/10	<100.0	20.9	
	03/10/10	<100.0	19.6	
	03/12/10	<100.0	19.6	
	03/22/10	NM	20.9	
	03/23/10	NM	20.9	
	03/24/10	NM	20.8	
	03/28/10	NM	20.1	
	04/06/10	<100.0	20.2	
	04/16/10	<100.0	20.2	
	04/18/10	<100.0	20.9	
	04/20/10	<100.0	19.9	
	04/22/10	<100.0	20.4	
	05/11/10	<100.0	20.9	
	05/13/10	24.5	20	
	05/18/10	41.7	20.9	
	05/20/10	<0.5	20	
	05/23/10	NM	19.3	
	05/24/10	NM	19.5	
	05/26/10	NM	20.6	
	05/28/10	NM	20.9	
	06/01/10	<100.0	20.0	
	06/04/10	NM	20.1	
	06/07/10	NM	20.4	
	PMW-2-ML	06/12/09	6,902.6	<0.1
		08/26/09	13,860.3	1.6
09/04/09		15,184.0	0.5	
09/10/09		7,242.0	2.2	
09/14/09		13,318.8	1	
09/25/09		16,164.1	4.5	
09/29/09		15,416.1	4.3	
10/06/09		13,397.5	5.3	
10/13/09		7,590.9	9.3	
10/19/09		5,495.0	6.4	
10/26/09		4,820.7	3.9	
11/04/09		NM	3.2	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-2-ML	11/05/09	NM	3.9
	11/06/09	8,737.7	3.1
	11/13/09	3,457.5	7.1
	11/17/09	3,435.3	7.4
	11/20/09	NM	8.6
	11/24/09	7,147.5	6.6
	11/30/09	11,045.5	3
	12/08/09	3,052.4	13
	12/16/09	3,266.9	9.3
	12/21/09	3,338.3	8.6
	12/29/09	3,622.4	9.5
	01/04/10	3,967.0	7.6
	01/11/10	3,545.6	5.8
	01/19/10	NM	2.9
	01/20/10	5,102.2	2.3
	01/27/10	153.0	20.5
	02/04/10	1,482.2	5.6
	02/08/10	3,752.5	9.2
	02/16/10	2,381.2	9.5
	02/17/10	NM	9.5
	02/23/10	1,950.0	10.1
	02/25/10	3,200.0	11.8
	03/03/10	2,050.0	13.5
	03/05/10	1,500.0	14.6
	03/10/10	1,550.0	11
	03/12/10	1,100.0	11.8
	03/15/10	519.2	5.9
	03/22/10	NM	9.6
	03/23/10	NM	12.2
	03/24/10	NM	10.2
	03/25/10	NM	9.6
	03/26/10	NM	9.3
	03/27/10	NM	7.8
	03/28/10	NM	6.4
	04/06/10	750.0	13
	04/16/10	1,307.8	9.3
	04/18/10	1,567.3	8
	04/20/10	1,200.0	13.3
	04/22/10	620.0	18.7
	05/11/10	920.0	18.9

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-2-ML	05/13/10	3,355.0	18.5
	05/18/10	1,045.0	20.4
	05/20/10	985.0	18.6
	05/23/10	NM	17.5
	05/24/10	NM	17.0
	05/25/10	NM	17.2
	05/26/10	NM	15.3
	05/27/10	NM	15.3
	05/28/10	NM	13.9
	05/31/10	NM	12.3
	06/01/10	2,250.0	11.3
	06/04/10	NM	8.9
	06/07/10	NM	6.8
	PMW-3-U	06/15/09	<1.9
09/03/09		0.9	11.3
09/30/09		10.8	17.7
10/07/09		2.2	18.6
10/14/09		11.7	18.6
10/19/09		27.5	17.9
11/10/09		9.5	20.0
12/07/09		<0.5	18.1
01/06/10		21.5	20.1
01/19/10		NM	19.9
02/12/10		<100.0	20.9
02/23/10		<100.0	20.9
02/25/10		<100.0	20.9
03/03/10		<100.0	20.9
03/05/10		<100.0	20.3
03/22/10		NM	19.8
03/23/10		NM	20.6
03/24/10		NM	20.5
03/28/10		NM	19.5
04/06/10		<100.0	19.4
05/11/10		<100.0	20.5
05/13/10		66.5	18.6
05/18/10		26.1	19.1
05/20/10		75.5	18.1
05/23/10		NM	18.7
05/24/10		NM	18.6
05/28/10	NM	18.8	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-3-U	06/01/10	<100.0	18.5
	06/04/10	NM	18.3
	06/07/10	NM	18.9
PMW-3-M	06/15/09	<1.7	1.6
	09/03/09	<0.9	12
	09/30/09	16.2	18.9
	10/07/09	<0.5	19.2
	10/15/09	<0.5	19.5
	10/19/09	25.4	18.9
	11/10/09	7.9	20.2
	12/07/09	<0.5	17.6
	01/06/10	5.8	20.8
	01/19/10	NM	19.8
	02/12/10	<100.0	20.9
	02/23/10	<100.0	20.9
	02/25/10	<100.0	20.9
	03/03/10	<100.0	20.9
	03/05/10	<100.0	20
	03/22/10	NM	20.1
	03/23/10	NM	20.6
	03/24/10	NM	20.7
	03/28/10	NM	19.4
	04/06/10	<100.0	19.7
	05/11/10	<100.0	20.7
	05/13/10	52.9	19
	05/18/10	20.0	20.4
	05/20/10	23.0	18.7
	05/23/10	NM	19.2
	05/24/10	NM	19.0
	05/26/10	NM	19.5
	05/28/10	NM	19.3
	06/01/10	<100.0	19.2
06/04/10	NM	19.0	
06/07/10	NM	19.8	
PMW-3-ML	06/15/09	320,851.6	<0.1
	09/03/09	154,760.3	<0.1
	09/30/09	39,665.8	14.5
	10/07/09	30,715.0	16.1
	10/13/09	6,644.0	17.8
	10/19/09	14,353.0	17.9

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-3-ML	10/27/09	55,869.9	10.1
	11/04/09	NM	12.7
	11/13/09	9,859.0	18.7
	11/20/09	NM	18.0
	12/08/09	15,384.0	18.1
	01/06/10	8,752.0	19.8
	01/19/10	NM	4.4
	02/11/10	7,450.0	19.7
	02/16/10	NM	19.4
	02/17/10	NM	17.9
	02/23/10	2,800.0	19.2
	02/25/10	2,950.0	20.4
	03/03/10	1,750.0	19.7
	03/05/10	1,650.0	19.2
	03/22/10	NM	19.1
	03/23/10	NM	19.5
	03/24/10	NM	17.7
	03/25/10	NM	16.2
	03/26/10	NM	14.8
	03/27/10	NM	14
	03/28/10	NM	12.2
	04/06/10	<100.0	19.7
	05/11/10	610.0	20.3
	05/13/10	2,478.0	19.3
	05/18/10	1,815.0	20.5
	05/20/10	1,167.0	18.8
	05/23/10	NM	18.8
	05/24/10	NM	18.6
	05/25/10	NM	18.4
	05/26/10	NM	17.2
	05/27/10	NM	16.2
	05/28/10	NM	15.3
	05/31/10	NM	13.1
06/01/10	16,560.0	11.3	
06/04/10	NM	7.0	
06/07/10	NM	5.6	
PMW-4-U	06/15/09	3,235.4	0.7
	09/04/09	<0.9	12.7
	09/24/09	17.5	15.2
	09/30/09	<0.5	15.9

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-4-U	10/06/09	<0.5	17
	10/12/09	<0.5	17.5
	10/20/09	6.3	17.4
	11/10/09	13.8	18.6
	12/04/09	43.0	16.4
	01/05/10	7.9	19.6
	01/19/10	NM	19.5
	02/10/10	<100.0	20.9
	03/01/10	<100.0	20.9
	03/10/10	<100.0	20.3
	03/12/10	<100.0	20.2
	03/22/10	NM	20.5
	03/23/10	NM	20.9
	03/24/10	NM	20.7
	03/28/10	NM	19.5
	04/05/10	<100.0	20.6
	04/16/10	<100.0	20.4
	04/18/10	110.0	20.4
	04/20/10	<100.0	19.7
	04/22/10	<100.0	20.1
	05/13/10	<100.0	20.9
	05/23/10	NM	19.2
	05/24/10	NM	19.1
	05/28/10	NM	20.3
	06/01/10	<100.0	19.2
	06/04/10	NM	19.3
	06/07/10	NM	19.2
PMW-4-M	06/15/09	32,285.4	<0.1
	09/04/09	<1.1	8.3
	09/24/09	16.9	13.6
	09/30/09	<0.5	15
	10/06/09	<0.5	16.2
	10/12/09	<0.5	17.2
	10/20/09	<0.5	18.6
	11/10/09	<0.5	18.9
	12/04/09	75.7	15.1
	01/05/10	<0.5	19.2
	01/19/10	NM	18.3
	02/10/10	<100.0	20.9
	03/01/10	<100.0	20.9

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-4-M	03/10/10	<100.0	20.1
	03/12/10	<100.0	20.1
	03/22/10	NM	20.9
	03/23/10	NM	20.9
	03/24/10	NM	20.6
	03/25/10	NM	20.3
	03/26/10	NM	20.2
	03/28/10	NM	19
	04/05/10	<100.0	20.6
	04/16/10	<100.0	20.4
	04/18/10	<100.0	20.6
	04/20/10	<100.0	19.6
	04/22/10	<100.0	19.9
	05/13/10	<100.0	20.9
	05/23/10	NM	19.3
	05/24/10	NM	19.3
	05/26/10	NM	19.9
	05/28/10	NM	20.1
	06/01/10	<100.0	19.2
	06/04/10	NM	19.1
06/07/10	NM	19.0	
PMW-4-ML	06/15/09	119,422.8	<0.1
	09/15/09	55,378.9	0.3
	09/24/09	50,320.9	<0.1
	09/30/09	26,932.3	<0.1
	10/06/09	11,073.9	<0.1
	10/12/09	16,242.7	1.5
	10/20/09	7,569.8	1.7
	10/27/09	7,945.6	<0.1
	11/04/09	NM	0.3
	11/05/09	NM	0.8
	11/06/09	6,791.0	<0.1
	11/12/09	3,441.1	4.5
	11/17/09	2,403.6	4.1
	11/24/09	4,397.0	1.6
	11/30/09	5,511.0	4.2
	12/08/09	2,933.6	9.8
12/16/09	5,319.0	7.4	
12/21/09	6,810.1	7.6	
12/29/09	6,323.5	7.5	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-4-ML	01/04/10	3,187.5	4.4
	01/11/10	3,659.6	3.6
	01/19/10	NM	<0.1
	01/20/10	6,115.2	<0.1
	01/27/10	7,548.0	<0.1
	02/04/10	616.4	9.6
	02/08/10	4.3	16.9
	02/15/10	2,254.3	11.5
	02/16/10	NM	9.3
	02/17/10	NM	7.1
	02/23/10	<216.1	8.8
	03/01/10	1,281.3	8.6
	03/10/10	1,620.0	8.9
	03/12/10	500.0	10.2
	03/15/10	<121.8	8.6
	03/22/10	NM	13.7
	03/23/10	NM	12.7
	03/24/10	NM	8.8
	03/25/10	NM	7
	03/26/10	NM	4.9
	03/28/10	NM	1.1
	04/01/10	1,300.0	13.3
	04/05/10	720.0	14.4
	04/14/10	600.0	12.7
	04/16/10	<100.0	17.7
	04/18/10	210.0	18
	04/20/10	950.0	10.8
	04/22/10	<100.0	16.5
	04/26/10	1,050.0	11.2
	05/03/10	410.0	15.2
	05/13/10	260.0	17.7
	05/19/10	197.2	7.4
	05/23/10	NM	2.3
	05/24/10	NM	2.1
	05/25/10	<395.5	3.5
	05/28/10	NM	<1.0
	06/01/10	<234.1	<1.0
	06/04/10	NM	<1.0
	06/07/10	2,944.4	<1.0
	06/14/10	696.5	<1

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells
 Second Quarter 2010 Remediation Status Report
 Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-4-ML	06/21/10	<135.5	8.3
	06/29/10	<126.7	8.1
PMW-5-U	06/11/09	<2.2	0.7
	09/05/09	1.4	4.5
	09/24/09	11.9	8.4
	09/29/09	<1.1	8.7
	10/07/09	<0.8	12.2
	10/18/09	<0.5	12.1
	10/20/09	59.8	16.4
	11/10/09	<0.5	17.6
	12/04/09	<0.5	16.7
	01/05/10	<0.5	19.4
	01/19/10	NM	19.8
	02/05/10	<100.0	20.4
	02/23/10	140.0	20.9
	02/25/10	<100.0	20.9
	03/03/10	<100.0	20.2
	03/05/10	<100.0	20.6
	03/22/10	NM	20.2
	03/23/10	NM	20.3
	03/24/10	NM	20.7
	03/25/10	NM	19
	03/28/10	NM	20.2
	04/05/10	<100.0	19.9
	05/11/10	<100.0	20
	05/13/10	45.7	18.9
	05/18/10	114.0	20.9
	05/20/10	<0.5	18
	05/23/10	NM	19.4
	05/24/10	NM	19.9
05/28/10	NM	19.2	
06/01/10	<100.0	18.9	
06/04/10	NM	18.9	
06/07/10	NM	18.8	
PMW-5-M	06/11/09	10,343.7	<0.1
	09/05/09	<1.6	3.8
	09/24/09	17.4	9.5
	09/29/09	<0.9	10.4
	10/07/09	<0.7	14
	10/18/09	<0.5	14.2

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)	
PMW-5-M	10/20/09	37.6	18.1	
	11/10/09	<0.5	18.5	
	12/04/09	12.0	16.4	
	01/05/10	<0.5	19.9	
	01/19/10	NM	19.7	
	02/05/10	<100.0	20.8	
	02/23/10	<100.0	20.9	
	02/25/10	<100.0	20.9	
	03/03/10	<100.0	20.7	
	03/05/10	<100.0	20.9	
	03/22/10	NM	20.3	
	03/23/10	NM	20.2	
	03/24/10	NM	20.4	
	03/25/10	NM	19.2	
	03/28/10	NM	20.2	
	04/05/10	<100.0	20.2	
	05/11/10	<100.0	20.2	
	05/13/10	38.1	19.3	
	05/18/10	48.6	20.9	
	05/20/10	<0.5	18.5	
	05/23/10	NM	20.0	
	05/24/10	NM	20.3	
	05/26/10	NM	19.5	
	05/28/10	NM	19.9	
	06/01/10	<100.0	19.4	
	06/04/10	NM	19.3	
	06/07/10	NM	19.7	
	PMW-5-ML	06/15/09	594,134.7	<0.1
		09/15/09	819,850.0	1.9
		09/24/09	197,172.3	8.7
09/29/09		232,813.2	<0.1	
10/07/09		348,802.4	1.8	
10/12/09		>231,395.3	1	
10/16/09		96,671.3	<0.1	
10/20/09		314,329.6	<0.1	
10/27/09		292,350.9	<0.1	
11/04/09		NM	0.2	
11/05/09		88,469.3	<0.1	
11/06/09		NM	<0.1	
11/13/09		116,642.1	4.8	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-5-ML	11/16/09	128,049.1	0.8
	12/04/09	83,291.1	2.1
	12/22/09	116,626.8	7.9
	12/31/09	96,031.8	7.9
	01/04/10	65,565.0	6.8
	01/11/10	103,991.2	6
	01/19/10	NM	3.4
	01/20/10	92,732.9	3.1
	01/27/10	124,339.5	1.9
	02/04/10	45,402.3	5.1
	02/08/10	82,578.5	6.6
	02/16/10	78,256.0	7.5
	02/17/10	NM	6.3
	02/23/10	24,500.0	7.3
	02/25/10	17,000.0	14.1
	03/03/10	26,328.6	5.7
	03/05/10	26,290.2	5.8
	03/10/10	25,819.2	7.2
	03/15/10	15,176.5	6.5
	03/22/10	16,453.6	8.4
	03/23/10	NM	7.3
	03/24/10	NM	6.9
	03/25/10	NM	9.1
	03/26/10	NM	7.4
	03/27/10	NM	6
	03/28/10	NM	5.8
	04/01/10	14,500.0	11.6
	04/05/10	13,750.0	12.3
	04/14/10	8,800.0	11
	04/19/10	6,550.0	13.5
	04/29/10	6,150.0	11.7
	05/03/10	3,050.0	12
	05/11/10	1,400.0	14.7
	05/13/10	NM	8.3
	05/18/10	5,071.7	11.8
	05/19/10	2,564.0	8.3
	05/20/10	1,224.3	7.1
	05/23/10	NM	9.4
	05/24/10	NM	9.2
	05/25/10	1,134.8	9.3

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-5-ML	05/26/10	NM	9.2
	05/27/10	NM	9.2
	05/28/10	NM	8.8
	06/01/10	NM	7.5
	06/04/10	NM	6.4
	06/07/10	317.8	6.2
	06/14/10	819.6	5
	06/21/10	360.2	7.6
	06/30/10	5,847.1	4.1
PMW-6-U	06/10/09	31,514.4	<0.1
	08/07/09	28.5	12.7
	08/12/09	11.3	15.7
	08/19/09	<0.5	17.2
	08/25/09	<0.5	17.5
	09/02/09	4.3	15.7
	09/09/09	<0.5	18
	10/15/09	<0.5	19.4
	11/10/09	6.7	19.4
	12/07/09	116.2	20.7
	01/05/10	<0.5	20.1
	01/19/10	NM	20.0
	02/11/10	<100.0	20.9
	02/23/10	<100.0	20.9
	02/25/10	<100.0	20.9
	03/03/10	<100.0	20.9
	03/05/10	<100.0	20.9
	03/22/10	NM	20.1
	03/23/10	NM	20.6
	03/24/10	NM	20.3
	03/28/10	NM	20.5
	04/05/10	<100.0	20.3
	05/11/10	<100.0	20.5
	05/13/10	65.7	19.5
	05/18/10	23.7	20.9
	05/20/10	<0.5	19.1
	05/23/10	NM	20.9
05/24/10	NM	20.3	
05/28/10	NM	20.3	
06/01/10	170.0	20.1	
06/04/10	NM	19.2	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-6-U	06/07/10	NM	19.5
PMW-6-M	06/10/09	69,194.7	<0.1
	08/07/09	36.0	10.7
	08/12/09	7.6	15.1
	08/19/09	<0.5	16.6
	08/25/09	<0.5	16.6
	09/02/09	8.4	15.3
	09/09/09	<0.5	17.6
	10/15/09	<0.5	19.6
	11/10/09	7.2	19.4
	12/07/09	43.6	20.7
	01/05/10	<0.5	20.1
	01/19/10	NM	19.7
	02/11/10	<100.0	20.9
	02/23/10	<100.0	20.9
	02/25/10	<100.0	20.9
	03/03/10	<100.0	20.9
	03/05/10	<100.0	20.9
	03/22/10	NM	20.1
	03/23/10	NM	20.6
	03/24/10	NM	20.2
	03/28/10	NM	20.3
	04/05/10	<100.0	20.2
	05/11/10	<100.0	20.5
	05/13/10	40.8	19.7
	05/18/10	26.1	20.9
	05/20/10	<0.5	19.3
	05/23/10	NM	20.9
	05/24/10	NM	20.5
	05/26/10	NM	20.1
	05/28/10	NM	20.5
	06/01/10	<100.0	20.4
	06/04/10	NM	19.2
	06/07/10	NM	19.5
PMW-6-ML	06/15/09	424,569.6	<0.1
	08/07/09	63,831.8	9.7
	08/12/09	21,617.7	12.8
	08/19/09	503,041.0	2.1
	08/25/09	583,434.8	1
	09/02/09	436,529.6	<0.1

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-6-ML	09/09/09	729,594.7	<0.1
	09/14/09	505,337.1	0.5
	09/24/09	218,907.1	1.9
	09/29/09	116,292.1	<0.1
	10/07/09	46,880.4	2.4
	10/12/09	18,000.6	4.8
	10/19/09	24,317.5	8.5
	10/26/09	23,656.2	5.6
	11/04/09	NM	6.6
	11/05/09	38,665.3	4.6
	11/13/09	49,002.0	15.0
	11/16/09	17,782.5	13.7
	11/20/09	NM	15.9
	11/24/09	23,283.1	11.2
	11/30/09	36,635.5	7.7
	12/07/09	23,301.0	16.5
	12/16/09	13,643.0	18.8
	12/21/09	8,466.0	19.4
	12/30/09	9,423.0	19.1
	01/04/10	18,069.0	18.1
	01/11/10	35,461.0	16.7
	01/19/10	NM	10.3
	02/12/10	11,250.0	18.9
	02/16/10	NM	17.5
	02/17/10	NM	16.5
	02/23/10	5,600.0	17.3
	02/25/10	4,750.0	18.6
	03/03/10	5,450.0	16
	03/05/10	6,200.0	15.2
	03/22/10	NM	17.9
	03/23/10	NM	17.4
	03/24/10	NM	15.9
	03/25/10	NM	15.8
	03/26/10	NM	14.7
	03/27/10	NM	14.4
	03/28/10	NM	14
	04/05/10	3,250.0	18.5
	05/11/10	1,850.0	20.7
	05/13/10	2,920.0	19.7
	05/18/10	1,637.0	20.9

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-6-ML	05/20/10	1,017.4	19.7
	05/23/10	NM	20.9
	05/24/10	NM	20.3
	05/25/10	NM	18.7
	05/26/10	NM	18.7
	05/27/10	NM	18.2
	05/28/10	NM	18.3
	06/01/10	4,000.0	17.0
	06/04/10	NM	15.3
	06/07/10	NM	14.2
PMW-7-U	06/11/09	<1.0	12.4
	08/13/09	<0.5	16.5
	08/19/09	<0.5	17.3
	08/25/09	<0.5	17.2
	09/03/09	<0.5	16.1
	09/09/09	<0.5	17.1
	10/15/09	<0.5	18.9
	11/10/09	9.5	19.1
	12/01/09	30.2	19.9
	01/05/10	14.7	20.2
	01/19/10	NM	20.6
	02/08/10	<100.0	20.8
	03/01/10	<100.0	20.9
	03/22/10	NM	20.4
	03/23/10	NM	20.5
	03/24/10	NM	20.3
	03/28/10	NM	20.1
	04/05/10	<100.0	19.9
	04/27/10	<0.5	20.5
	04/29/10	<0.5	20.6
	05/04/10	8.9	19.7
	05/06/10	<0.5	19.8
	05/17/10	<100.0	20.8
	05/23/10	NM	20.2
	05/24/10	NM	20.1
	05/28/10	NM	19.8
	06/01/10	180.0	20.1
	06/04/10	NM	18.8
06/07/10	NM	19.3	
PMW-7-M	06/11/09	<0.9	10.9

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-7-M	08/13/09	<0.7	13.9
	08/19/09	10.3	15.5
	08/25/09	<0.5	16.1
	09/03/09	<0.5	14.6
	09/09/09	<0.5	16.8
	10/15/09	<0.5	19.1
	11/10/09	6.5	18.9
	12/01/09	25.7	19.7
	01/05/10	17.9	20.1
	01/19/10	NM	20.5
	02/08/10	<100.0	20.6
	03/01/10	<100.0	20.7
	03/22/10	NM	20.0
	03/23/10	NM	20.3
	03/24/10	NM	20.1
	03/28/10	NM	20.1
	04/05/10	<100.0	19.6
	04/27/10	<0.5	20.2
	04/29/10	<0.5	20.3
	05/04/10	13.5	19.4
	05/06/10	0.6	19.5
	05/17/10	<100.0	20.7
	05/23/10	NM	19.9
	05/24/10	NM	19.9
	05/26/10	NM	19.4
	05/28/10	NM	19.9
	06/01/10	<100.0	20.1
	06/04/10	NM	19.1
	06/07/10	NM	19.4
	PMW-7-ML	06/11/09	76,553.7
08/13/09		275.2	19.7
08/19/09		8,806.6	2.4
08/25/09		1,259.0	18.1
09/04/09		996.8	4.7
09/09/09		3,068.0	3.1
09/15/09		780.0	5.3
09/24/09		804.4	6.4
09/29/09		80.6	7.7
10/07/09		165.8	12.8
10/16/09	171.5	11.5	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-7-ML	10/20/09	122.4	13.6
	10/26/09	249.3	11
	11/04/09	NM	12
	11/05/09	42.4	9.5
	11/13/09	60.4	15.0
	11/16/09	167.6	15.4
	11/20/09	NM	17.2
	11/24/09	216.9	15.7
	11/30/09	275.2	14.4
	12/08/09	84.7	17.4
	12/16/09	260.3	17.1
	12/21/09	112.3	17.4
	12/30/09	311.1	17.5
	01/04/10	306.9	13.9
	01/19/10	NM	10.8
	02/08/10	<100.0	15.9
	02/16/10	NM	16.2
	02/17/10	NM	15.4
	03/01/10	<100.0	14.7
	03/22/10	NM	16.1
	03/23/10	NM	16.1
	03/24/10	NM	15.7
	03/25/10	NM	16.2
	03/26/10	NM	16.6
	03/27/10	NM	15.5
	03/28/10	NM	15.8
	04/05/10	<100.0	17.8
	04/27/10	3.0	16.1
	04/29/10	<0.5	16.9
	05/04/10	16.1	18.3
	05/06/10	1.1	18.6
	05/17/10	<100.0	20.9
	05/23/10	NM	20.1
	05/24/10	NM	19.9
	05/25/10	NM	18.7
	05/26/10	NM	19.2
05/27/10	NM	18.9	
05/28/10	NM	19.3	
06/01/10	<100.0	19.4	
06/04/10	NM	18.3	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-7-ML	06/07/10	NM	18.8
PMW-8-U	06/11/09	<0.9	10.5
	06/27/09	<0.5	18.3
	06/30/09	<0.5	20.2
	07/09/09	<0.5	17.8
	07/16/09	<0.5	17.4
	07/23/09	<0.5	17.5
	07/29/09	<0.5	16.2
	08/06/09	<0.5	19.9
	08/13/09	<0.5	20.7
	08/19/09	<0.5	20.2
	09/04/09	<0.5	19.9
	10/16/09	<0.5	18.7
	11/11/09	<0.5	19.1
	12/01/09	<0.5	18.8
	01/06/10	13.4	21.3
	01/20/10	NM	20.7
	02/08/10	<100.0	20.7
	03/01/10	<100.0	20.9
	03/22/10	NM	19.6
	03/23/10	NM	20.3
	03/24/10	NM	20.5
	03/25/10	NM	20.7
	03/26/10	NM	20.9
	03/27/10	NM	20.9
	03/28/10	NM	20.8
	04/05/10	<100.0	20
	05/17/10	<100.0	20.9
	05/23/10	NM	20.6
	05/24/10	NM	20.8
	05/28/10	NM	20.6
	06/01/10	<100.0	19.2
	06/04/10	NM	19.2
	06/07/10	NM	20.4
PMW-8-M	06/11/09	6,773.0	<0.1
	06/27/09	<1.1	8.9
	06/30/09	<0.7	13.4
	07/09/09	NM	NM
	07/16/09	<0.5	18.8
	07/23/09	<0.5	15.3

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-8-M	07/29/09	<0.6	14.5
	08/06/09	<0.5	20.2
	08/13/09	<0.5	20.5
	08/19/09	1.7	20.5
	09/04/09	<0.5	20.1
	10/16/09	<0.5	19.3
	10/20/09	15.3	19.5
	11/11/09	12.3	19.5
	12/01/09	11.2	19.7
	01/06/10	7.9	20.7
	01/20/10	NM	20.6
	02/08/10	<100.0	20.3
	03/01/10	<100.0	20.9
	03/22/10	NM	19.6
	03/23/10	NM	20.3
	03/24/10	NM	20.7
	03/25/10	NM	20.8
	03/26/10	NM	20.9
	03/27/10	NM	20.9
	03/28/10	NM	20.8
	04/05/10	<100.0	20
	05/17/10	<100.0	20.3
	05/23/10	NM	20.6
	05/24/10	NM	20.5
	05/26/10	NM	20.6
	05/28/10	NM	20.6
	06/01/10	<100.0	19.3
	06/04/10	NM	19.7
	06/07/10	NM	20.9
	PMW-8-ML	06/11/09	224,079.3
06/27/09		63,316.9	6.2
06/30/09		44,293.1	6.1
07/09/09		46,170.0	1.4
07/16/09		49,799.9	1.3
07/23/09		49,087.7	1.4
07/29/09		43,007.5	6.4
08/06/09		25,189.8	11.5
08/13/09		15,802.5	13.9
08/19/09		15,032.2	12.4
09/04/09		9,034.0	16.8

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-8-ML	10/20/09	4,488.0	16.5
	10/27/09	8,235.9	9.7
	11/04/09	NM	11.7
	11/13/09	157.8	16.4
	11/20/09	NM	17.3
	12/01/09	4,635.9	7.5
	01/06/10	1,248.0	18.5
	01/20/10	NM	6.5
	02/08/10	1,250.0	17
	02/16/10	NM	18.7
	02/17/10	NM	17.1
	03/01/10	110.0	19.1
	03/22/10	NM	19.9
	03/23/10	NM	16.8
	03/24/10	NM	15.4
	03/25/10	NM	14.4
	03/26/10	NM	12.6
	03/27/10	NM	13.6
	03/28/10	NM	12.4
	04/05/10	<100.0	18.3
	05/17/10	<100.0	18.2
	05/23/10	NM	17.9
	05/24/10	NM	17.8
	05/25/10	NM	15.0
	05/26/10	NM	14.2
	05/27/10	NM	12.1
	05/28/10	NM	10.1
	05/31/10	NM	6.5
	06/01/10	<191.6	2.7
	06/04/10	NM	<1.0
	06/07/10	NM	<1.0
	06/30/10	<100.0	18.9
PMW-9-U	06/02/09	16,583.5	0.5
	06/09/09	3,202.5	<0.1
	06/17/09	<1.9	0.9
	06/23/09	<1.4	5.4
	06/29/09	<0.7	15.3
	07/09/09	<0.5	15.3
	07/16/09	<0.7	14.7
	07/23/09	<0.5	15.6

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)	
PMW-9-U	07/29/09	<0.5	15	
	08/06/09	<0.5	18.5	
	08/13/09	3.9	19.4	
	08/19/09	<0.5	18.1	
	09/14/09	<0.5	19.0	
	10/19/09	50.9	19.1	
	11/12/09	1.0	19.8	
	12/01/09	2.2	20.4	
	01/05/10	<0.5	19.3	
	01/20/10	NM	20.5	
	02/05/10	<100.0	20.8	
	03/01/10	<100.0	20.9	
	03/22/10	NM	19.1	
	03/23/10	NM	20.6	
	03/24/10	NM	20.3	
	03/25/10	NM	20.5	
	03/26/10	NM	20.5	
	03/27/10	NM	20.9	
	03/28/10	NM	20.3	
	04/05/10	<100.0	20.9	
	05/10/10	<100.0	20.8	
	05/23/10	NM	19.9	
	05/24/10	NM	19.6	
	05/28/10	NM	19.0	
	06/01/10	<100.0	19.3	
	06/04/10	NM	19.2	
	06/07/10	NM	19.6	
	PMW-9-M	06/02/09	38,809.3	0.7
		06/09/09	25,977.3	<0.1
		06/17/09	2,760.5	0.9
06/23/09		<1.3	7.5	
06/29/09		18.2	18.4	
07/09/09		<0.7	13.6	
07/16/09		<0.8	12.4	
07/23/09		<0.7	14.1	
07/29/09		<0.6	14.7	
08/06/09		<0.5	19.7	
08/13/09		4.1	20	
08/19/09		<0.5	18.6	
09/14/09		<0.5	19.8	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-9-M	10/19/09	54.7	19.4
	11/12/09	<0.5	20.0
	12/01/09	5.2	19
	01/05/10	<0.5	19.6
	01/20/10	NM	19.7
	02/05/10	<100.0	20.7
	03/01/10	<100.0	20.9
	03/22/10	NM	19.2
	03/23/10	NM	20.7
	03/24/10	NM	20.2
	03/25/10	NM	20.4
	03/26/10	NM	20.3
	03/27/10	NM	20.6
	03/28/10	NM	19.8
	04/05/10	<100.0	20.9
	05/10/10	<100.0	20.8
	05/23/10	NM	20.1
	05/24/10	NM	19.7
	05/26/10	NM	19.4
	05/28/10	NM	18.7
PMW-9-ML	06/02/09	83,643.6	0.9
	06/10/09	119,072.0	<0.1
	06/17/09	74,624.1	2.6
	06/23/09	32,154.4	<0.1
	06/30/09	NM	2.4
	07/09/09	9,965.3	0.4
	07/16/09	13,919.7	0.3
	07/23/09	13,472.0	0.1
	07/29/09	13,980.9	0.2
	08/06/09	5,337.6	4.2
	08/13/09	5,553.2	9.5
	08/19/09	6,181.7	1.2
	08/28/09	<0.5	17.6
	09/04/09	17,007.9	9.1
	09/10/09	2,596.5	5.1
	09/16/09	6,032.7	5.9
	09/23/09	4,660.8	4.2

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-9-ML	09/30/09	5,735.0	5.4
	10/06/09	4,671.0	5.4
	10/13/09	4,277.4	8
	10/19/09	3,604.6	9.8
	10/26/09	3,565.4	1.3
	11/04/09	NM	0.6
	11/05/09	NM	1.7
	11/06/09	8,743.3	<0.1
	11/12/09	4,311.6	10.0
	11/17/09	1,494.3	12.1
	11/20/09	NM	7.8
	11/23/09	5,068.0	2.8
	11/30/09	5,117.9	0.6
	12/07/09	5,101.7	3.1
	12/16/09	3,863.8	11.5
	12/21/09	4,085.4	13.7
	12/29/09	4,030.5	11.5
	01/04/10	4,754.4	11.7
	01/11/10	3,824.8	10.2
	01/20/10	NM	1.9
	02/05/10	1,800.0	10.2
	02/16/10	NM	13.8
	02/17/10	NM	10.9
	03/01/10	2,600.0	11.9
	03/22/10	NM	13.5
	03/23/10	NM	15.1
	03/24/10	NM	10.8
	03/25/10	NM	9.5
	03/26/10	NM	8.5
	03/27/10	NM	10.9
	03/28/10	NM	10.1
	04/05/10	1,650.0	15.5
	05/10/10	950.0	15.4
	05/23/10	NM	12.4
	05/24/10	NM	12.8
	05/25/10	NM	6.9
05/26/10	NM	5.9	
05/27/10	NM	4.8	
05/28/10	NM	3.3	
06/01/10	287.4	1.0	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-9-ML	06/04/10	NM	<1.0
	06/07/10	NM	<1.0
	06/30/10	790.0	15.4
PMW-10-U	05/22/09	<0.5	5.4
	06/02/09	1.4	5.6
	06/10/09	46.0	6.2
	06/17/09	<1.4	6.3
	06/22/09	<1.3	7.8
	06/30/09	<1.2	10.7
	07/09/09	<0.9	12.0
	07/16/09	<0.9	12.5
	07/23/09	<1.0	12.1
	07/29/09	<1.0	12.3
	08/06/09	<0.5	15.4
	08/13/09	<0.5	16.6
	08/20/09	3.6	17.0
	09/03/09	<0.5	15.6
	10/16/09	<0.5	17.6
	11/11/09	13.3	17.8
	12/01/09	10.7	17.9
	01/05/10	2.5	18.7
	01/20/10	NM	19.0
	02/10/10	<100.0	20.9
	03/01/10	<100.0	20.4
	03/22/10	NM	18.4
	03/23/10	NM	20.0
	03/24/10	NM	19
	03/25/10	NM	18.8
	03/26/10	NM	19.5
	03/27/10	NM	19.6
	03/28/10	NM	19.3
	04/05/10	<100.0	19.1
	05/11/10	<100.0	19
05/23/10	NM	18.9	
05/24/10	NM	18.9	
05/28/10	NM	17.7	
06/01/10	<100.0	17.4	
06/04/10	NM	17.6	
06/07/10	NM	17.6	
PMW-10-M	05/22/09	<0.5	4.5

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-10-M	06/02/09	1.5	4.8
	06/10/09	<2.3	4.6
	06/17/09	<1.6	4.9
	06/22/09	<1.7	5.3
	06/30/09	NM	12.2
	07/09/09	<1.0	9.9
	07/16/09	<1.0	10.8
	07/23/09	<1.0	10.1
	07/29/09	<1.2	9.5
	08/06/09	<0.5	12.4
	08/13/09	7.3	14.1
	08/20/09	13.9	15.3
	09/03/09	0.7	14.2
	10/20/09	141.9	13.9
	11/11/09	26.3	13.2
	12/01/09	<0.7	14
	01/05/10	<0.5	16
	01/20/10	NM	16.3
	02/05/10	<100.0	14.9
	03/01/10	<100.0	17.2
	03/22/10	NM	12.7
	03/23/10	NM	15.9
	03/24/10	NM	14.1
	03/25/10	NM	14.1
	03/26/10	NM	14.3
	03/27/10	NM	16.1
	03/28/10	NM	15.9
	04/05/10	<100.0	12.7
	05/11/10	<100.0	14.7
	05/23/10	NM	15.4
	05/24/10	NM	15.6
	05/26/10	NM	13.6
	05/28/10	NM	13.2
05/31/10	NM	14.3	
06/01/10	<100.0	13.3	
06/04/10	NM	13.0	
06/07/10	NM	14.0	
PMW-10-L	05/22/09	<0.5	0.3
	06/02/09	222.6	1.1
	06/10/09	<2.3	6

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-10-L	06/17/09	<1.8	1.2
	06/22/09	<1.8	0.9
	06/30/09	<2.1	2.3
	07/09/09	<1.9	2
	07/16/09	<1.9	2.5
	07/23/09	<2.2	1.7
	07/29/09	<2.3	1.5
	08/06/09	<0.5	5.2
	08/13/09	<1.5	3.9
	08/20/09	15.4	4.4
	08/28/09	419.3	3.6
	09/04/09	<1.5	4.2
	09/10/09	<1.4	5.3
	09/15/09	49.5	4.7
	09/23/09	43.8	3.7
	09/30/09	4.3	4.2
	10/06/09	248.1	4
	10/16/09	236.1	4.1
	10/19/09	133.8	4.8
	10/26/09	195.0	4.2
	11/04/09	NM	5.2
	11/06/09	325.8	3.2
	11/12/09	58.2	5.3
	11/17/09	25.0	5.4
	11/20/09	NM	5.5
	11/23/09	<1.4	4.7
	11/30/09	58.9	4.5
	12/07/09	135.7	5.7
	12/16/09	<1.3	6.2
	12/21/09	37.4	6.5
	12/29/09	<1.3	6
	01/04/10	266.1	5.1
	01/11/10	15.1	5.2
	01/20/10	<1.5	4.8
	01/27/10	115.2	8
	02/04/10	195.3	6.9
02/08/10	<1.4	5.2	
02/16/10	16.7	4.9	
02/22/10	31.4	5.2	
03/01/10	<158.3	4.6	

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells
 Second Quarter 2010 Remediation Status Report
 Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-10-L	03/10/10	NM	4.6
	03/16/10	<189.1	3.5
	03/22/10	<152.4	5.2
	03/28/10	NM	8.5
	04/01/10	<196.5	9.7
	04/05/10	<100.0	11.2
	04/14/10	<249.1	7.2
	04/19/10	<100.0	11.5
	04/26/10	<353.8	2.5
	05/04/10	<206.9	8.9
	05/11/10	<137.9	7.8
	05/19/10	<240.8	2.6
	05/23/10	NM	8.6
	05/24/10	NM	8.1
	05/25/10	<425.0	2.2
	05/28/10	NM	<1.0
	06/01/10	<242.7	<1.0
	06/04/10	NM	<1.0
	06/07/10	<310.8	<1.0
	06/14/10	<171.0	2.6
06/21/10	<154.5	5.6	
06/30/10	<172.3	3.5	
PMW-11-U	12/01/09	23,741.0	<0.1
	05/15/10	<199.0	<1.0
PMW-11-M	12/02/09	5,902.0	4.6
	05/15/10	<164.9	4.9
PMW-11-L	12/02/09	146,041.2	<0.1
	05/15/10	288,550.0	<1.0
PMW-12-U	12/02/09	<0.5	16.1
	05/16/10	<100.0	16.9
PMW-12-M	12/02/09	<0.5	15.1
	05/16/10	<100.0	15.8
PMW-12-L	12/02/09	<1.4	5.6
	05/16/10	<133.3	7.3
PMW-13-U	12/02/09	445.5	16.1
	05/16/10	<100.0	16.3
PMW-13-M	12/02/09	1,310.8	14.5
	05/16/10	<100.0	14.8
PMW-13-L	12/02/09	27,040.0	<0.1

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
PMW-13-L	05/16/10	8,457.5	<1.0
PMW-14-UR	05/16/10	<100.0	18.4
PMW-14-M	02/11/10	<100.0	18.7
	05/16/10	<100.0	17.1
PMW-14-ML	02/11/10	12,432.6	1.1
	05/16/10	10,159.5	<1.0
PMW-15-U	02/08/10	<100.0	19.2
	05/18/10	<100.0	18.5
PMW-15-M	02/08/10	<100.0	18.9
	05/18/10	<100.0	19.1
PMW-15-ML	02/08/10	<100.0	12.1
	05/18/10	<141.1	7.5
P-24-M	06/01/09	80,903.2	<0.1
	12/01/09	218,616.0	<0.1
	02/11/10	212,727.3	<1.0
	05/16/10	57,552.6	7.4
P-24-L	06/01/09	NM	NM
	12/01/09	96.0	<0.1
	02/11/10	37,300.0	14.5
	05/16/10	38,250.0	19.2
P-25-L	06/02/09	NM	NM
	12/01/09	<1.9	10.8
	02/09/10	<100.0	16.1
	05/16/10	NM	NM
P-24-U	06/01/09	51,048.3	<0.1
	12/01/09	<1.5	6.2
	02/11/10	<100.0	13.4
	05/16/10	190.0	20.9
P-25-U	06/02/09	<1.7	8.5
	12/01/09	<0.5	16.9
	02/09/10	<100.0	17.8
	05/15/10	<100.0	16.1
P-25-M	06/02/09	<1.4	8.0
	12/01/09	<0.8	12.3
	02/09/10	<100.0	14
	05/15/10	<126.2	7.9
P-26-M	06/01/09	176,080.4	<0.1
	12/01/09	52,435.5	<0.1
	02/09/10	43,034.5	<1.0

TABLE F-1

Total Petroleum Hydrocarbons and Oxygen Concentrations for Soil Vapor Monitoring Wells

Second Quarter 2010 Remediation Status Report

Honeywell 34th Street Facility, Phoenix, Arizona

LOCATION ID	Date	TPH Concentration (ppm)	Oxygen Concentration (%)
P-26-M	05/14/10	15,141.3	<1.0
P-26-L	06/01/09	NM	NM
	12/01/09	49,845.1	<0.1
	02/09/10	66,717.0	<1.0
	05/14/10	19,648.1	<1.0
P-26-U	06/01/09	230,620.7	<0.1
	12/01/09	80,986.3	<0.1
	02/09/10	83,200.0	<1.0
	05/14/10	31,548.8	<1.0
	05/20/10	10,909.5	7.1
	05/21/10	15,421.5	3
P-30-U	06/19/09	<0.7	13.2
	09/12/09	<0.5	16.8
	11/19/09	11.1	20.2
	02/11/10	<100.0	20.9
	05/13/10	<100.0	20.9
P-30-M	06/19/09	43,820.1	<0.1
	09/12/09	3,222.0	3.0
	11/19/09	3,585.8	14.9
	02/11/10	720.0	17.2
	05/13/10	520.0	19.5
P-30-L	06/19/09	27,798.8	<0.1
	09/12/09	287.4	3.3
	11/19/09	82.3	16.0
	02/11/10	<100.0	17.8
	05/13/10	<100.0	20.6

Notes:

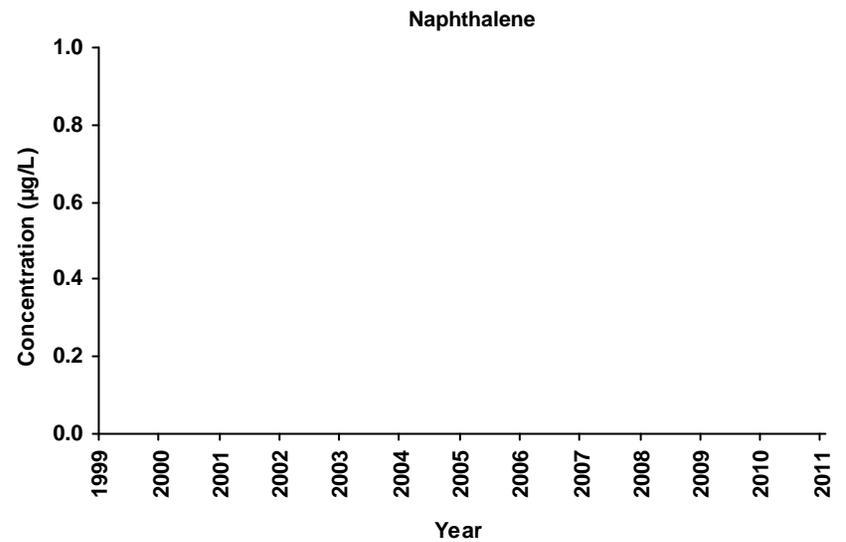
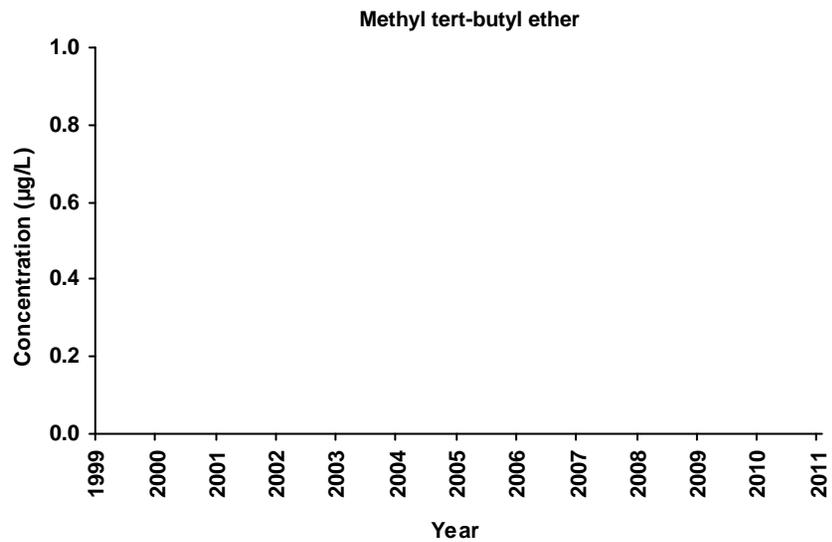
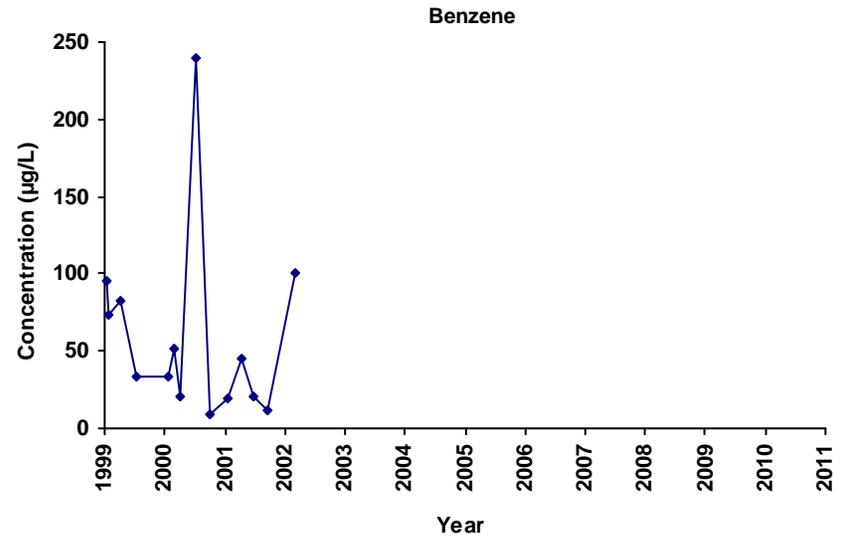
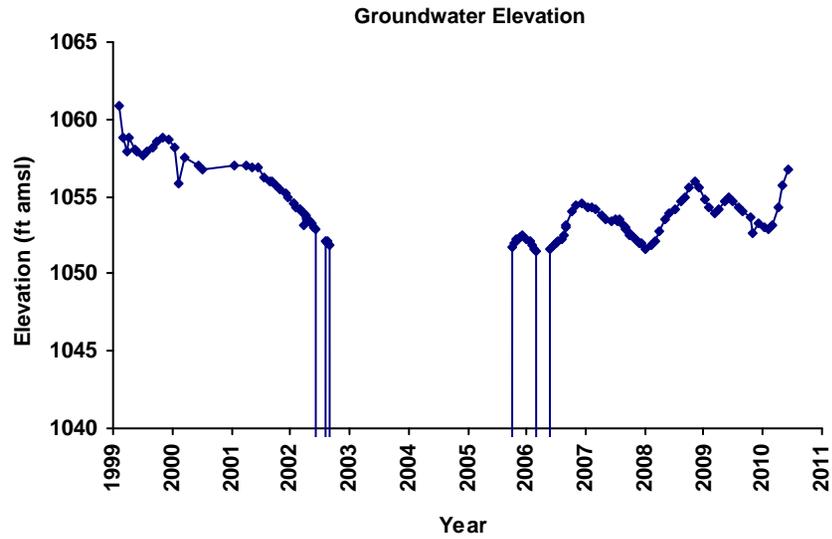
% = percent

TPH = Total Petroleum Hydrocarbon

ppm = parts per million

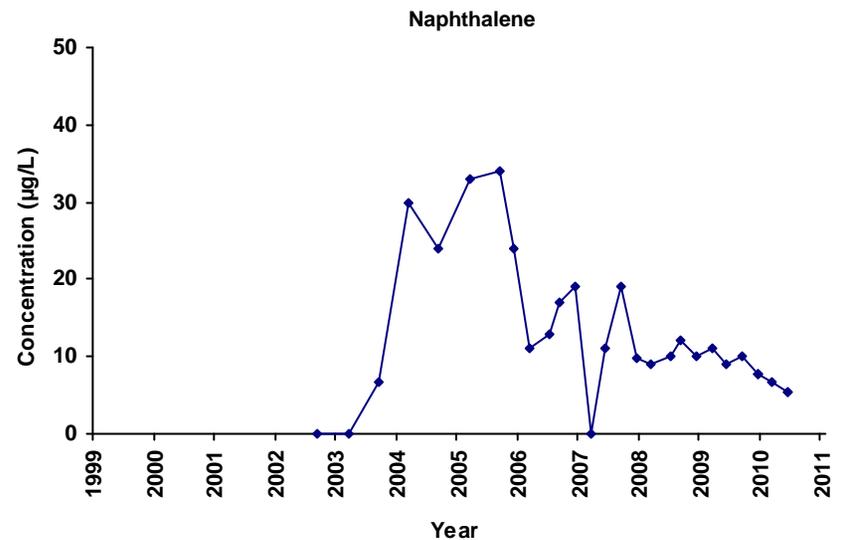
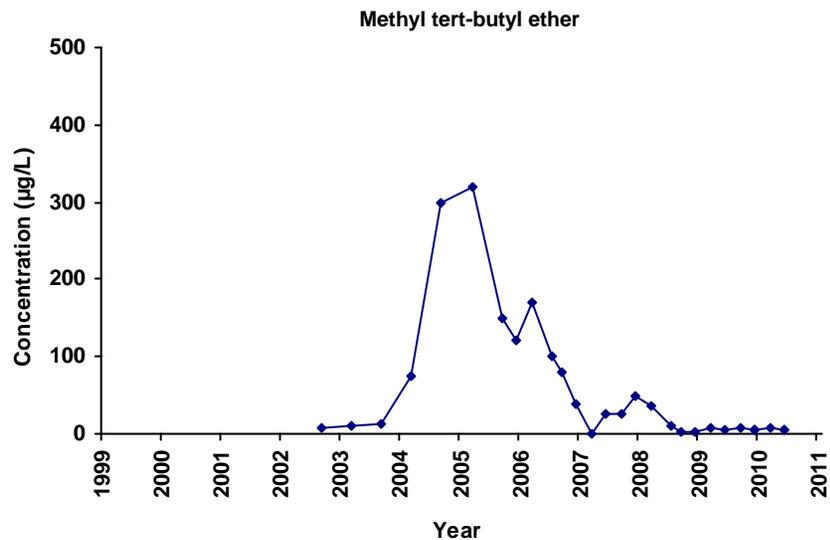
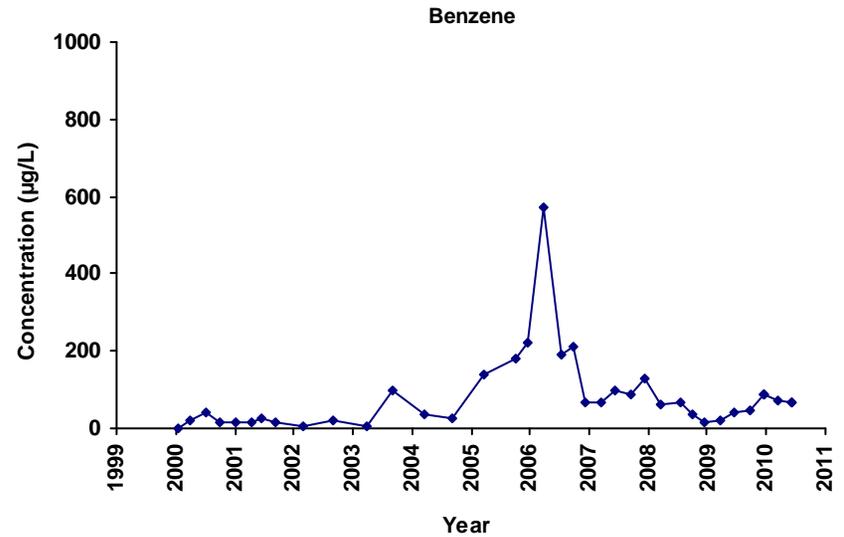
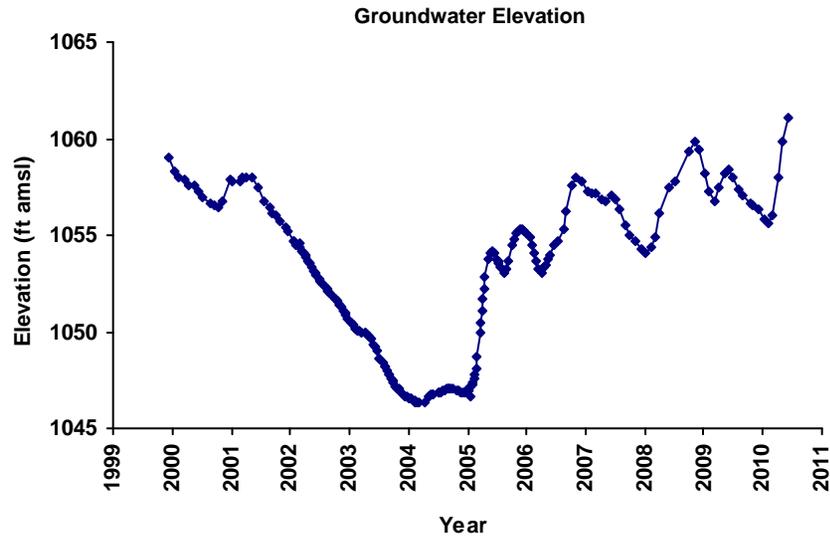
NM = not measured

Appendix G
Water Level and Water Quality Hydrographs



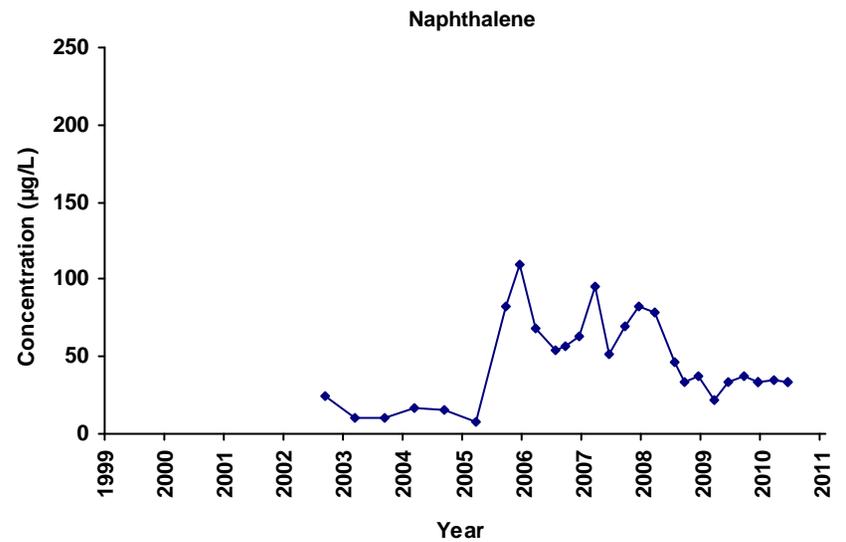
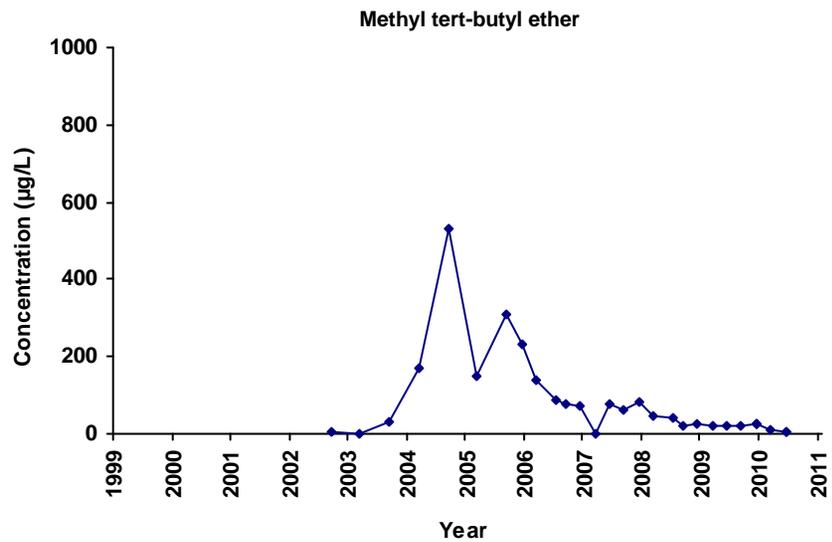
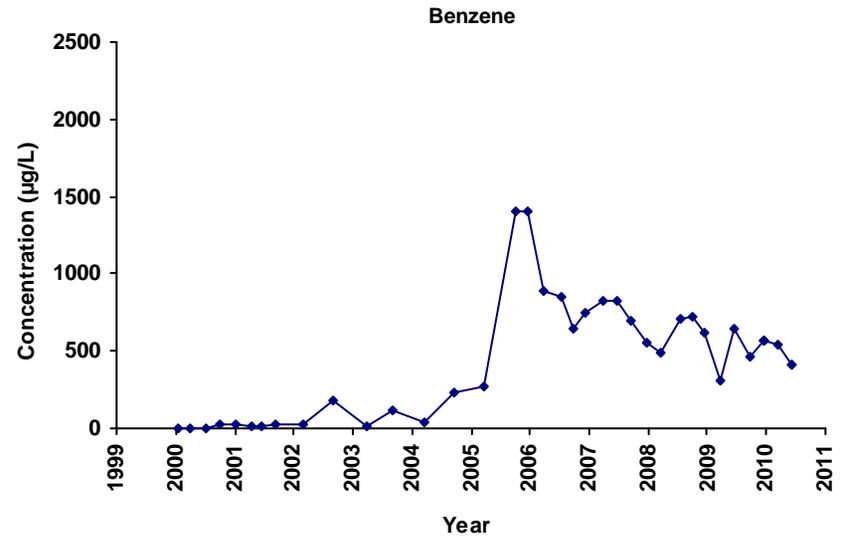
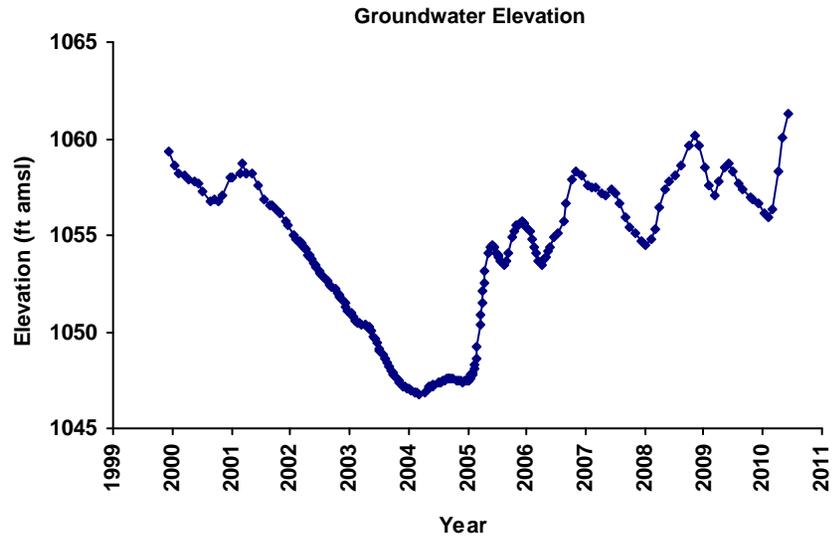
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-1
 ASE-19A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



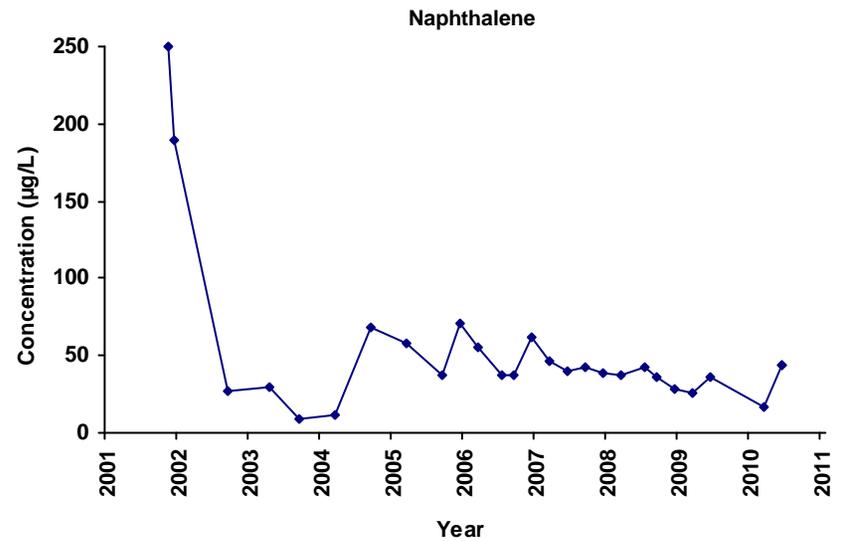
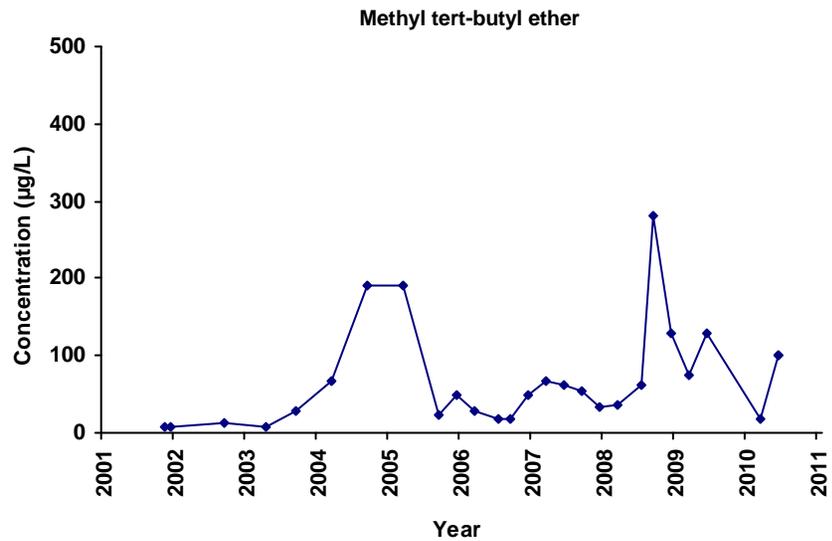
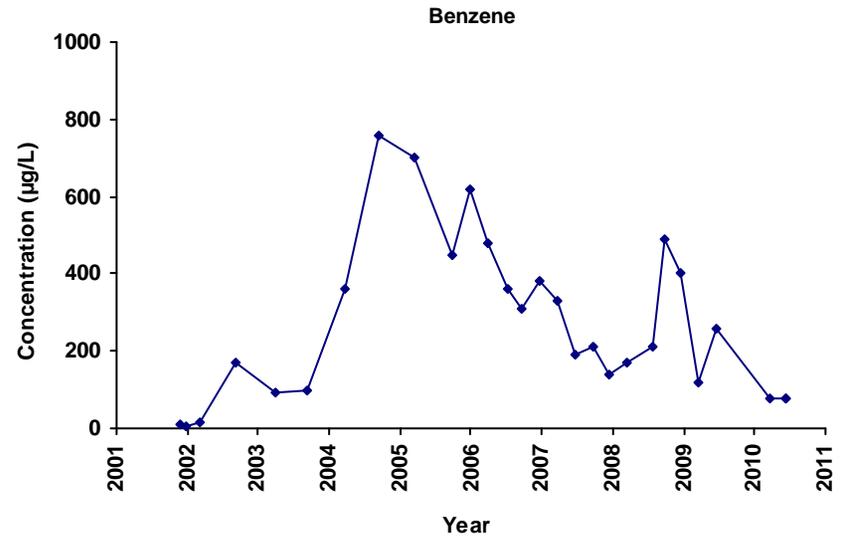
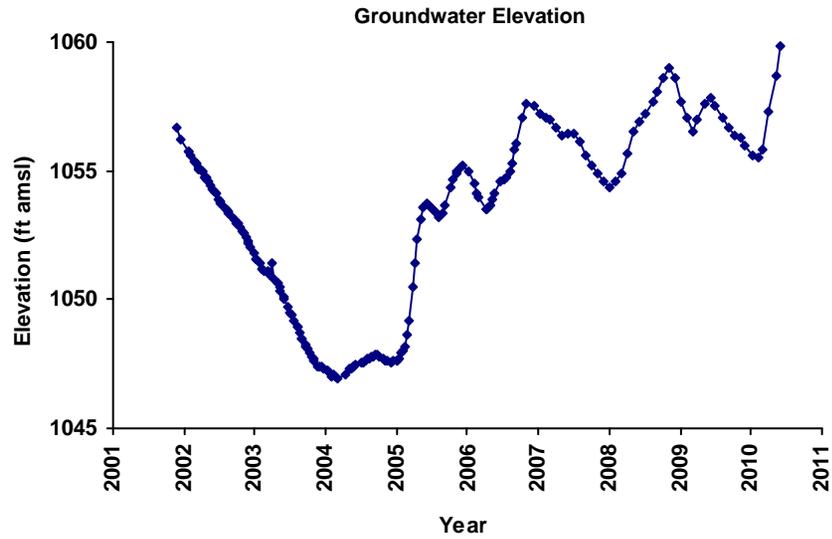
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-2
 ASE-37A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



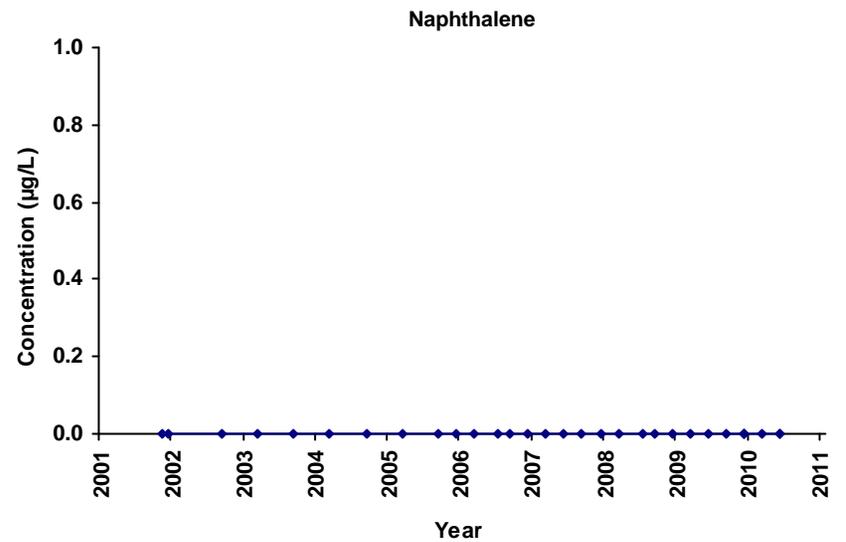
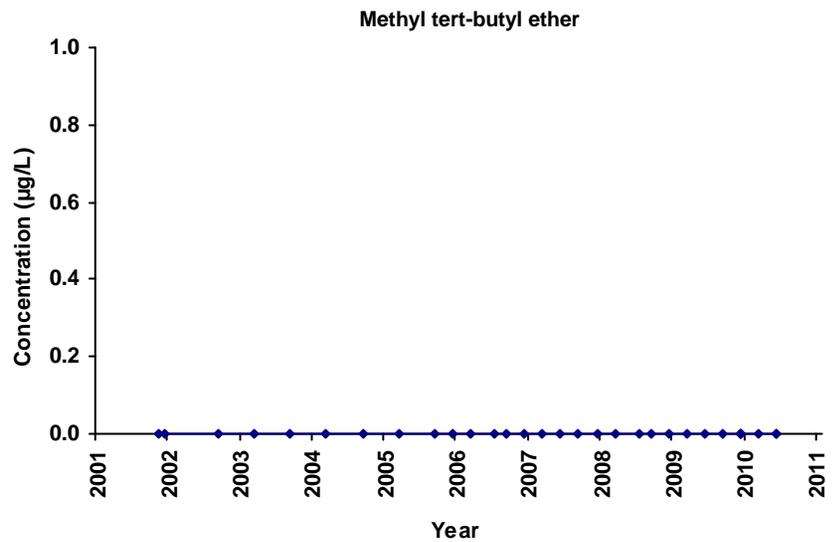
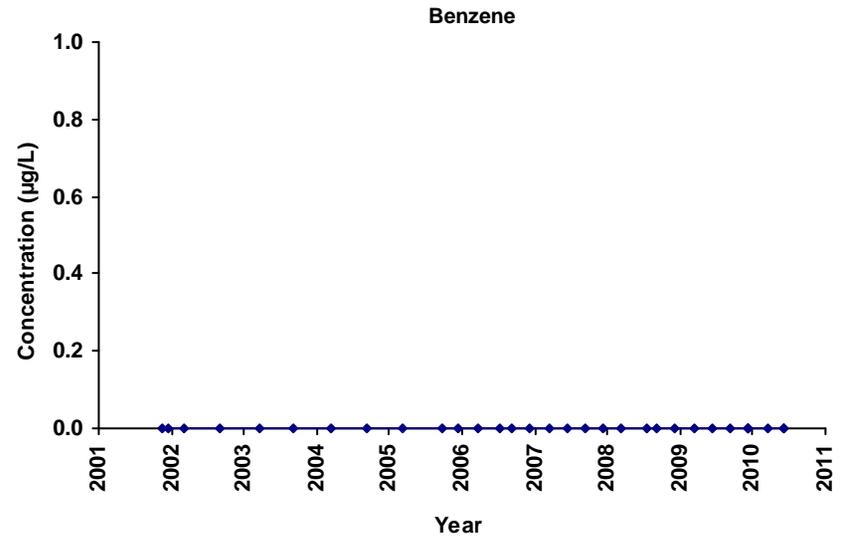
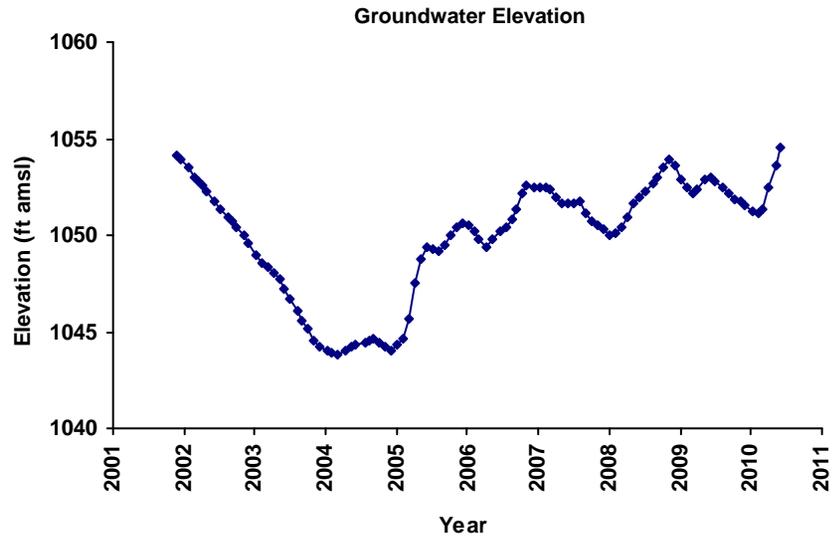
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-3
 ASE-38A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



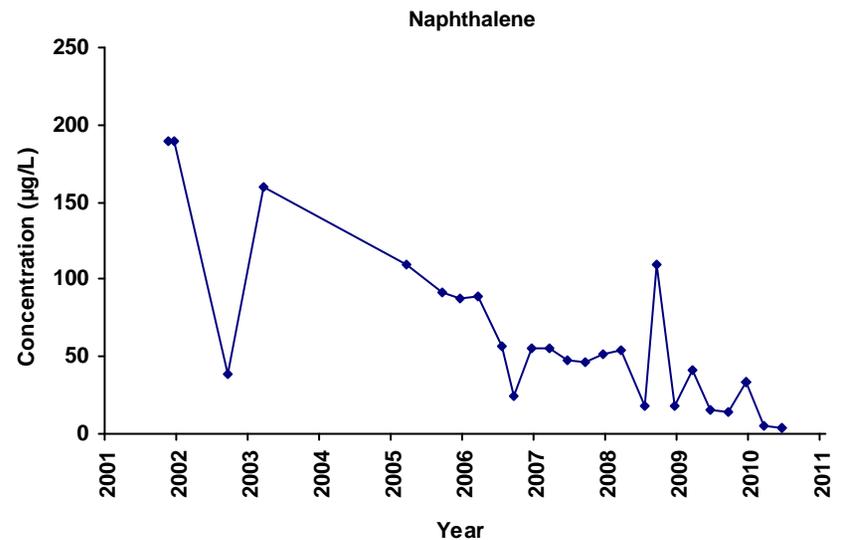
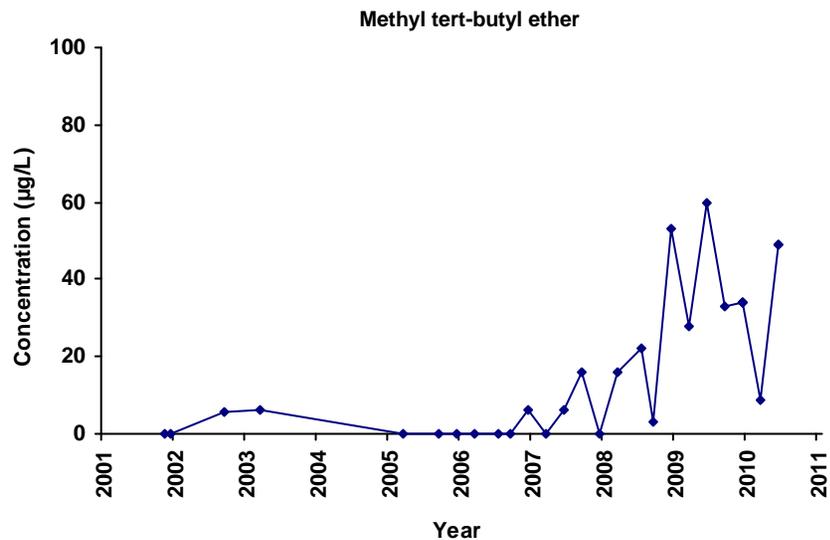
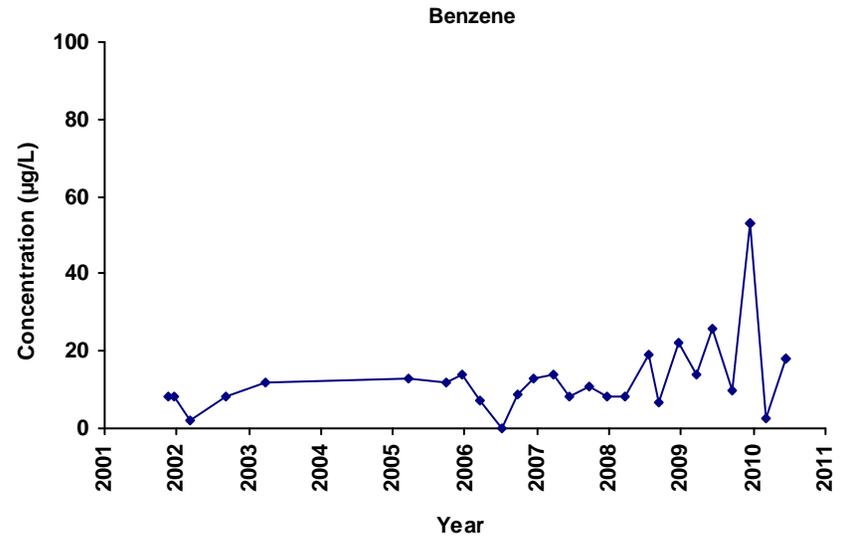
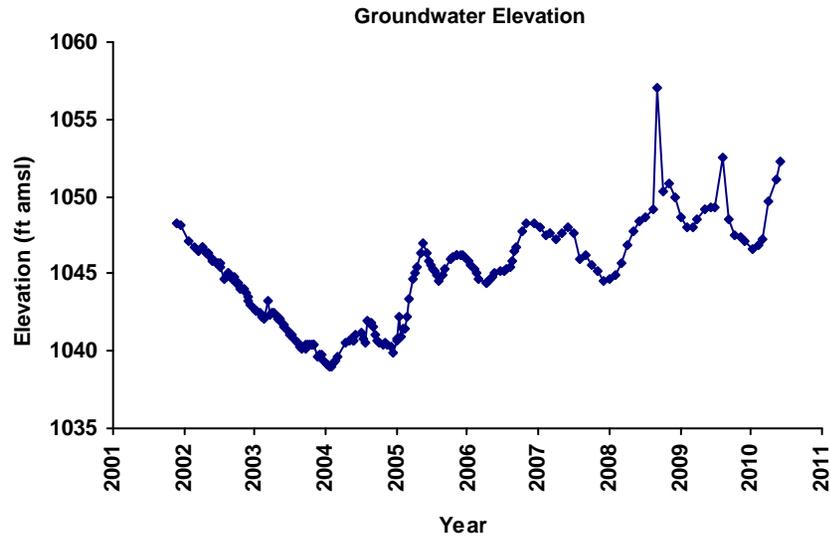
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-4
 ASE-52A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



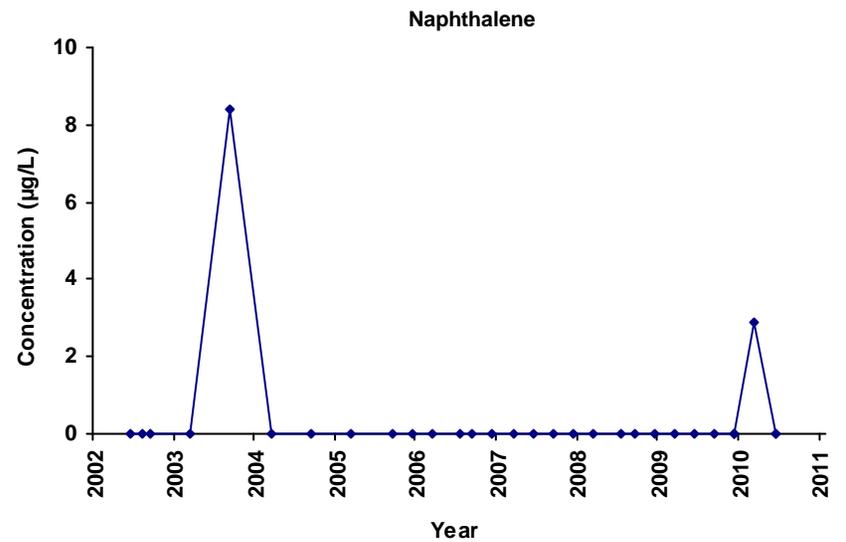
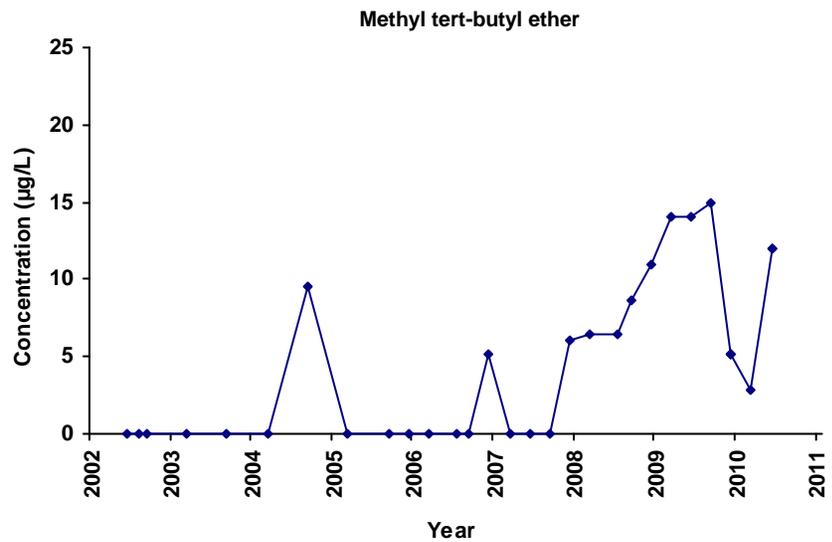
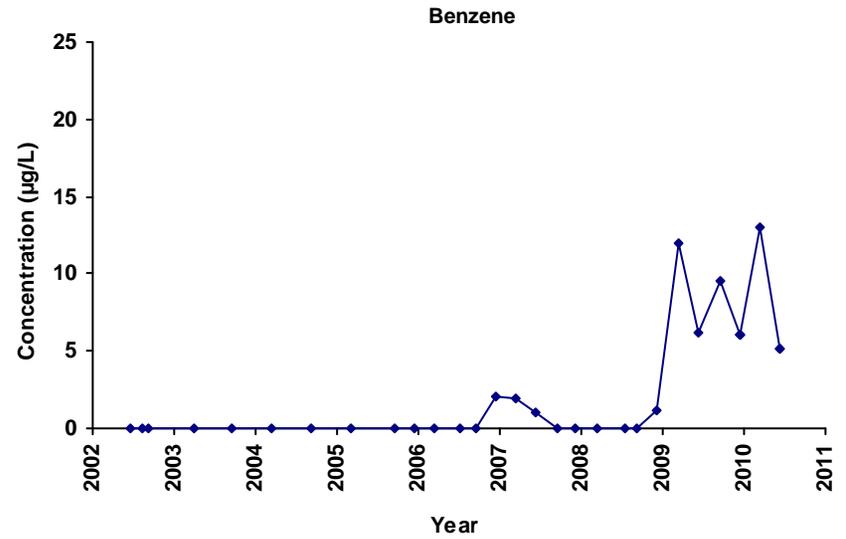
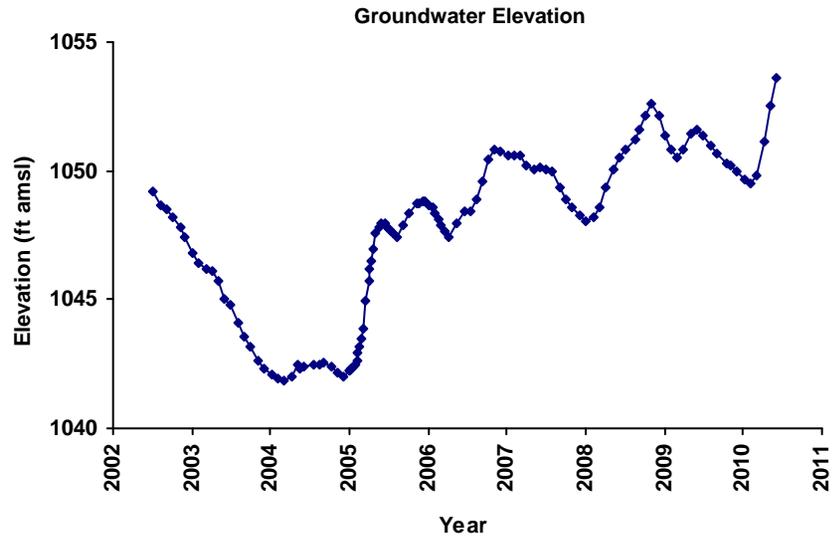
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-5
 ASE-54A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



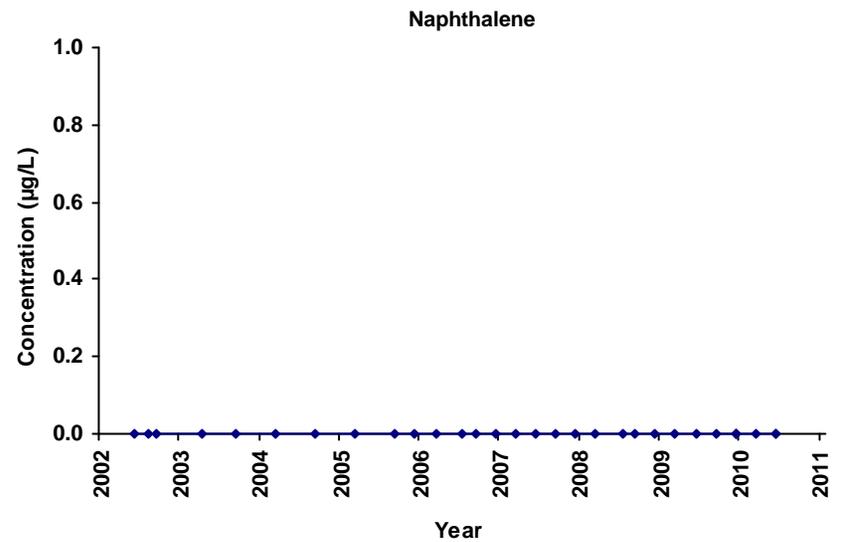
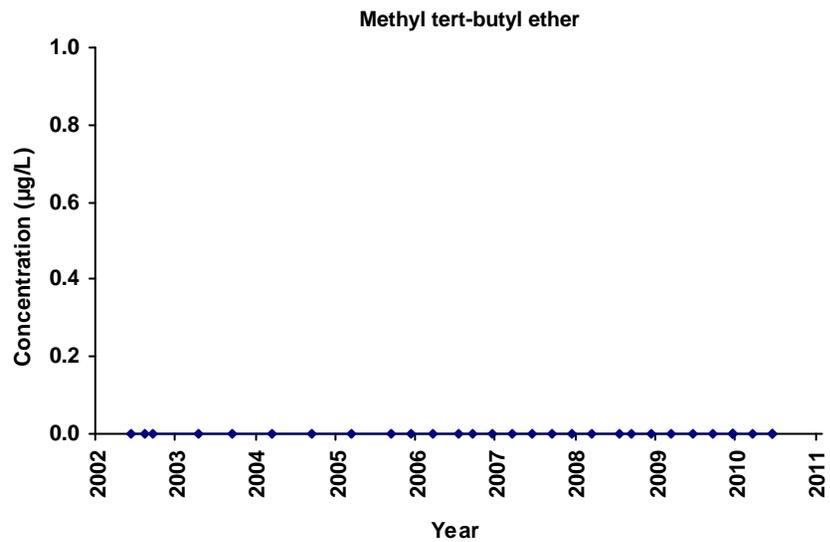
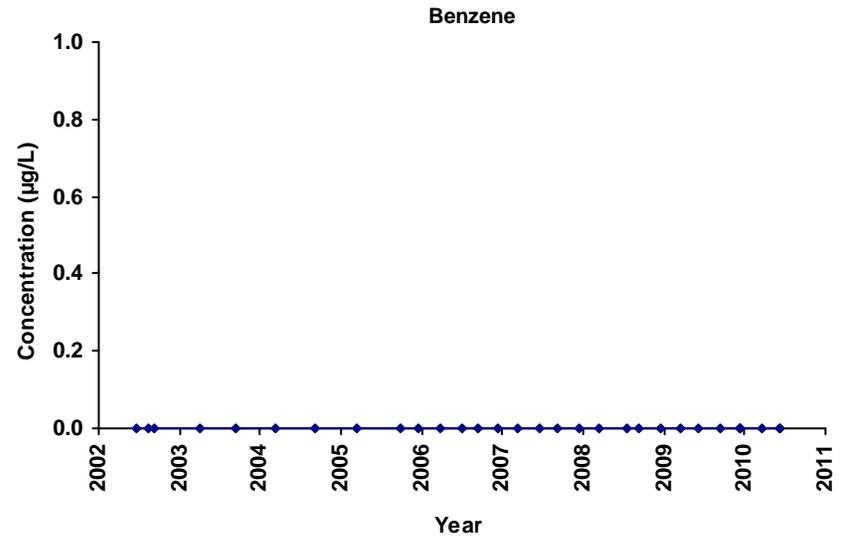
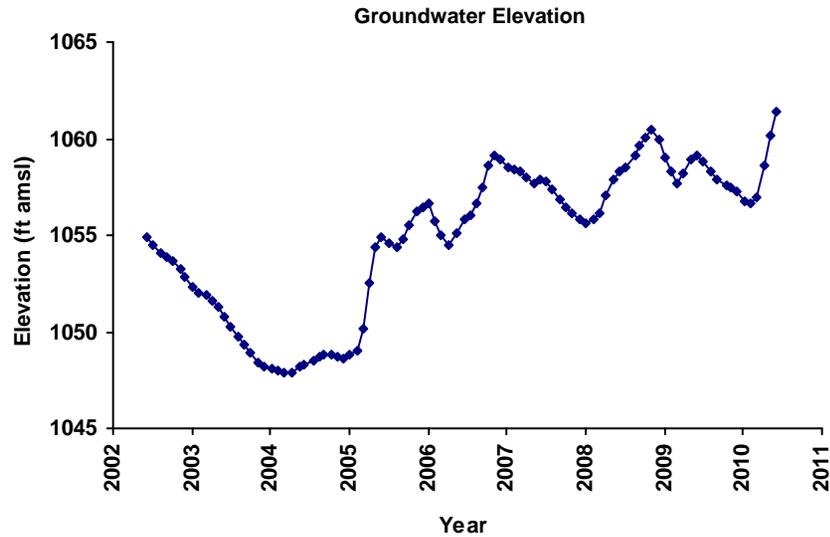
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-6
 ASE-55A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



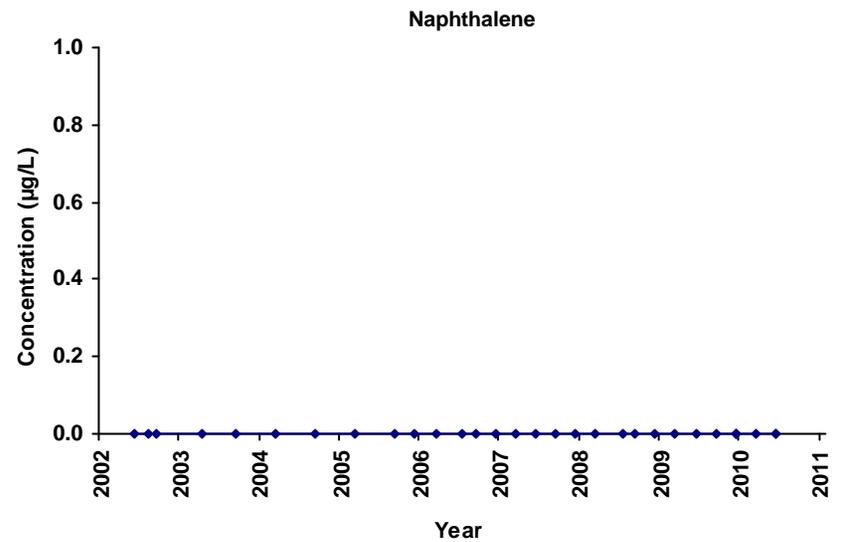
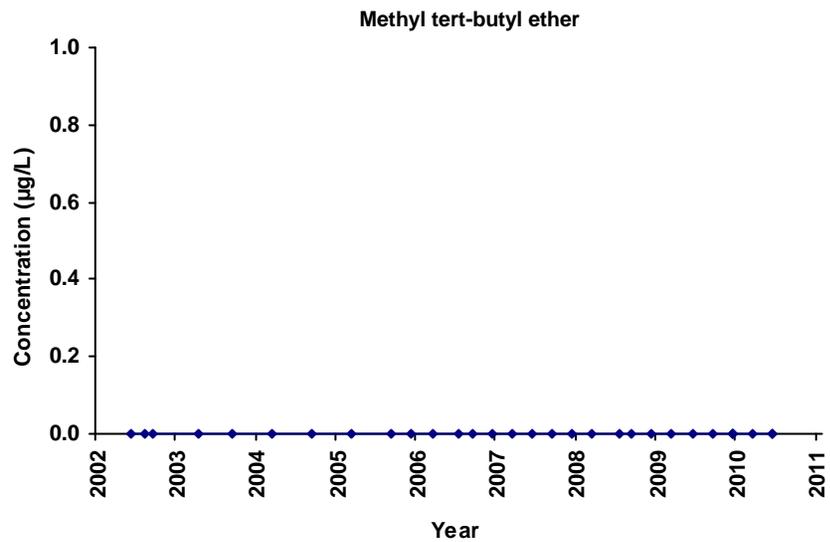
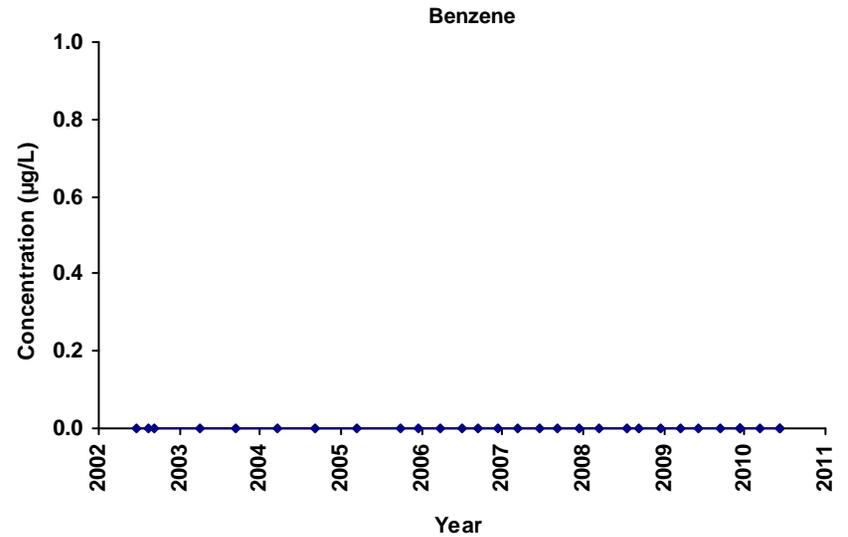
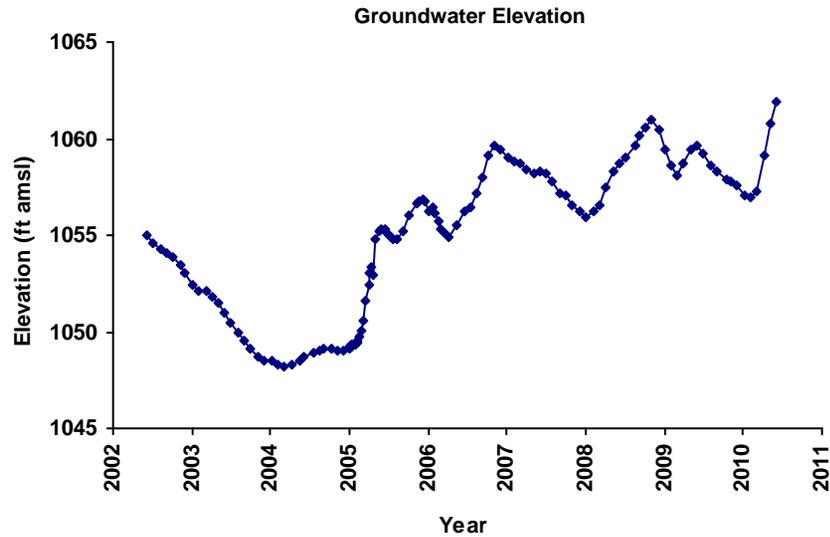
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-7
 ASE-58A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



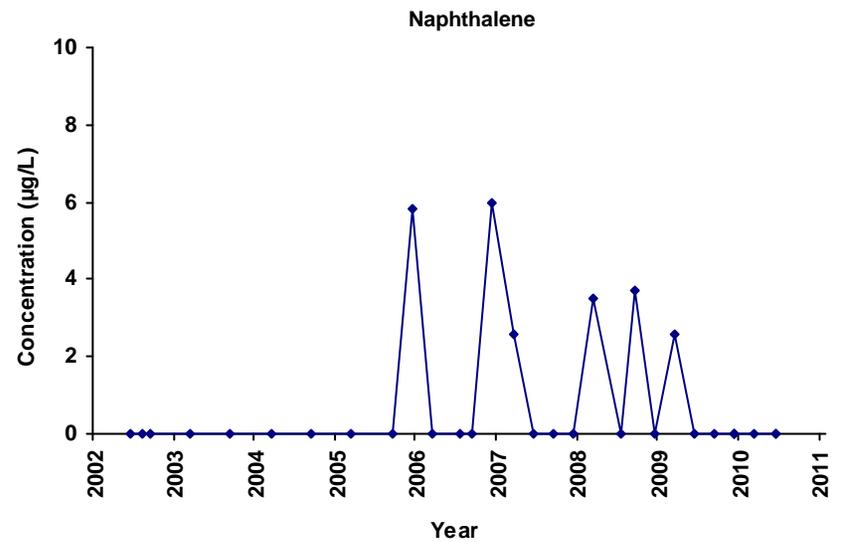
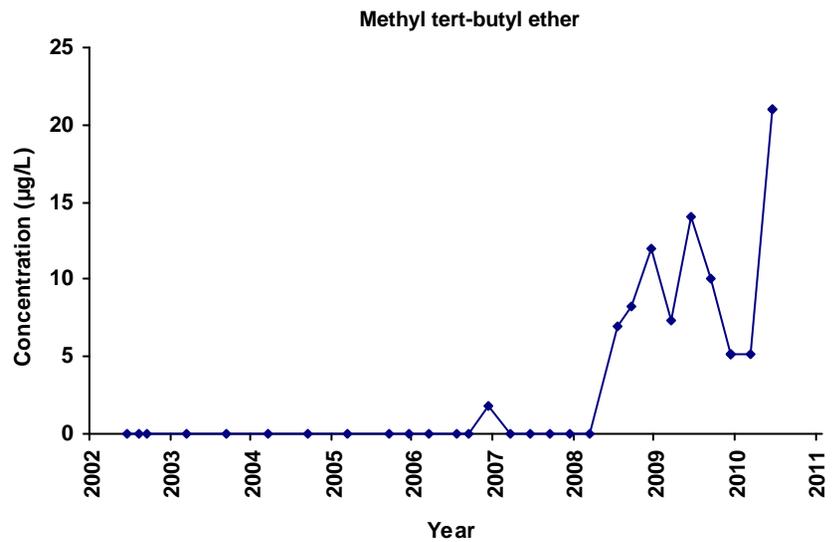
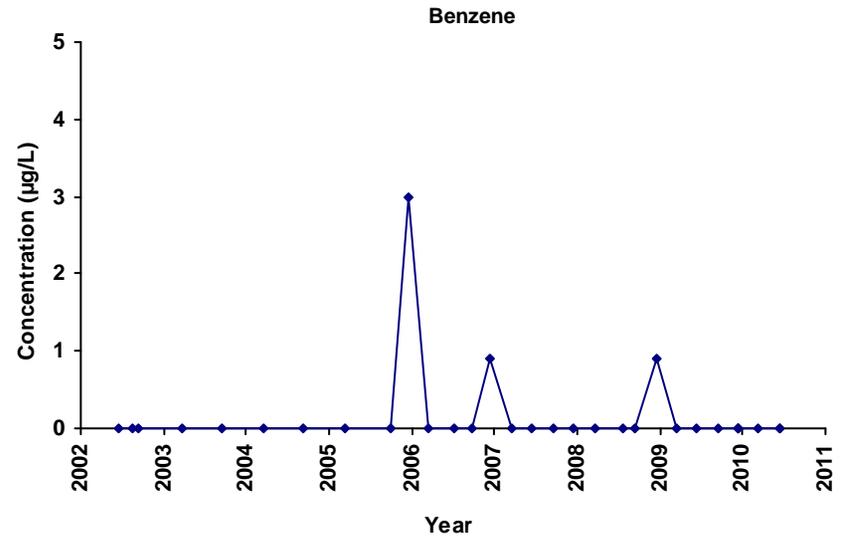
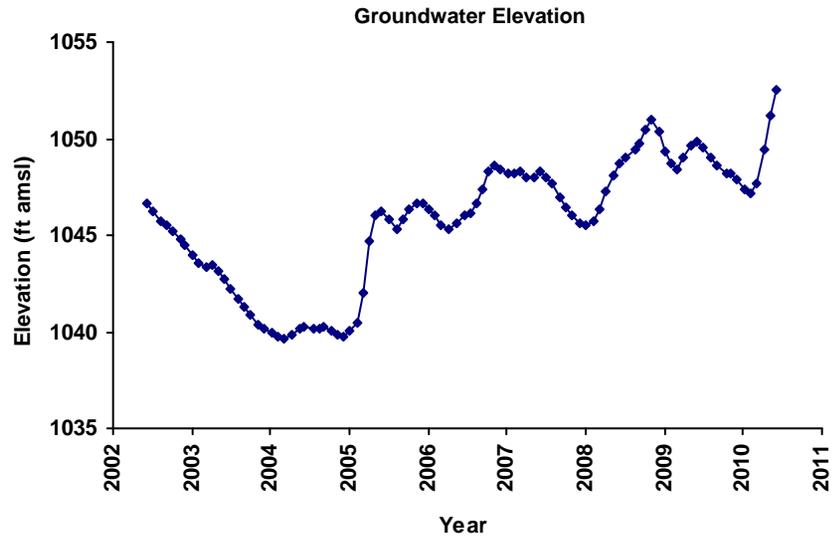
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-8
 ASE-60A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



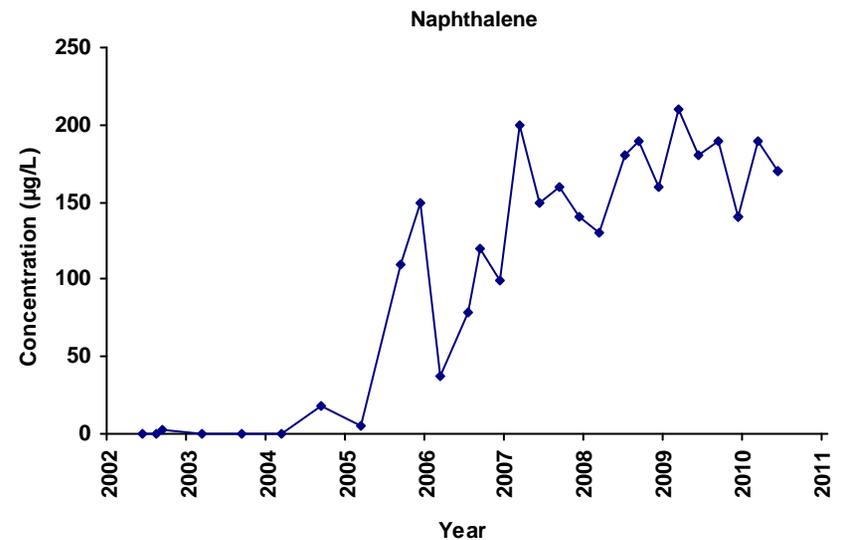
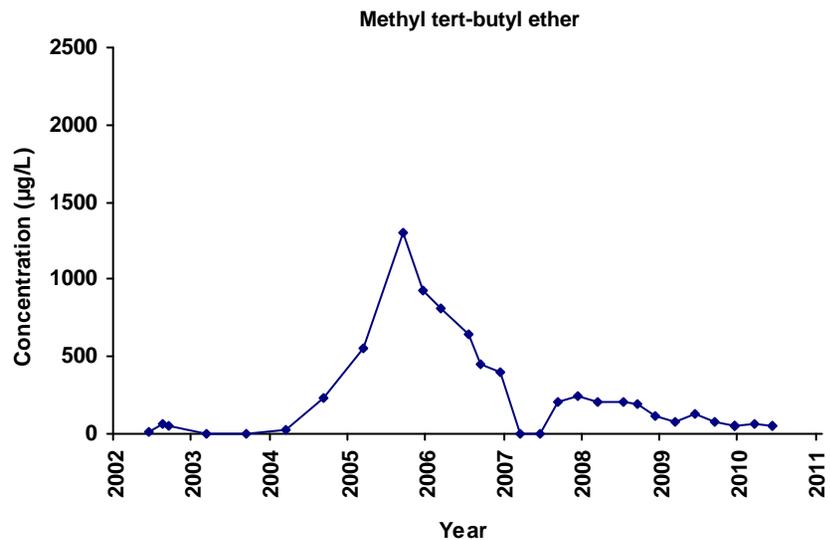
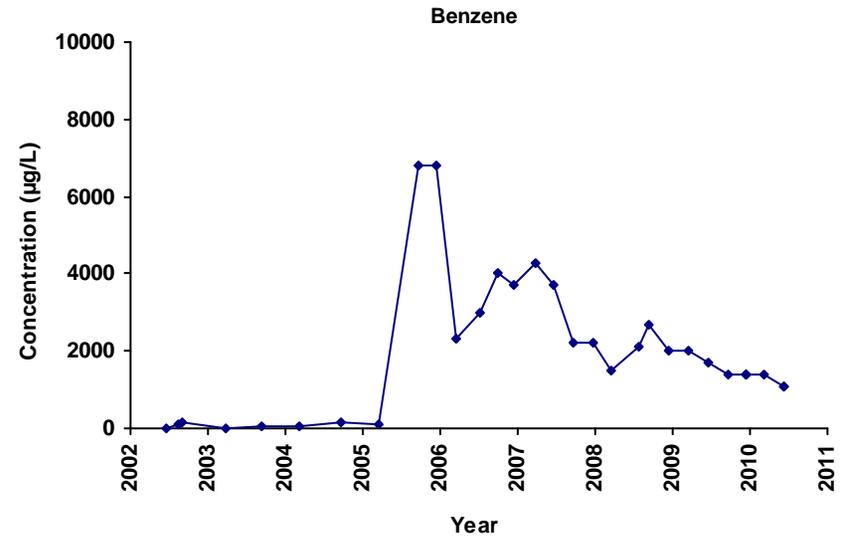
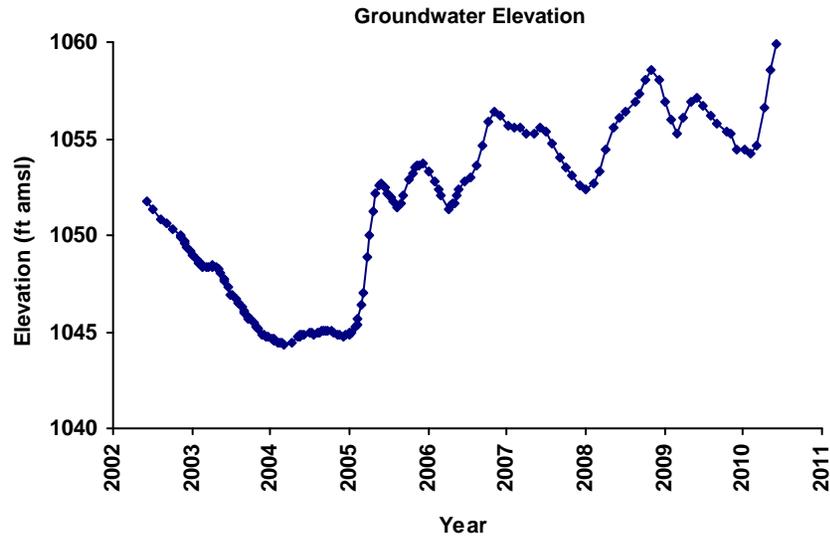
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-9
 ASE-61A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



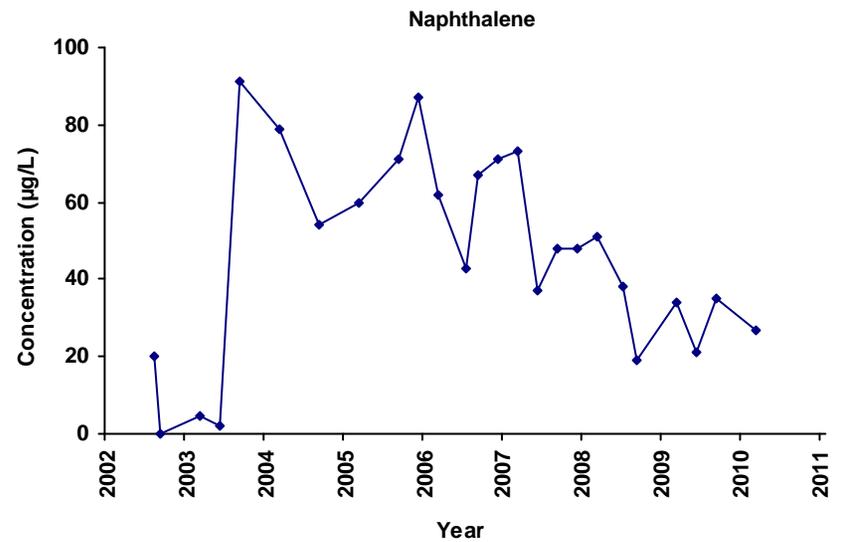
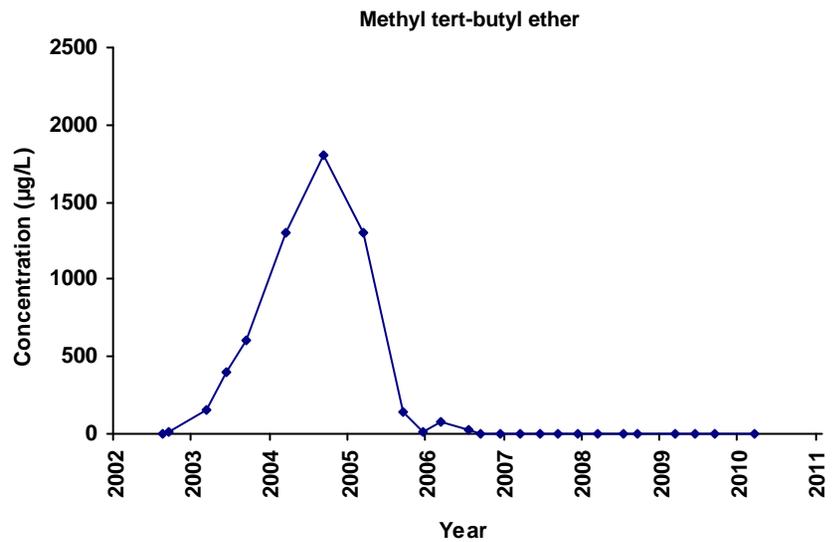
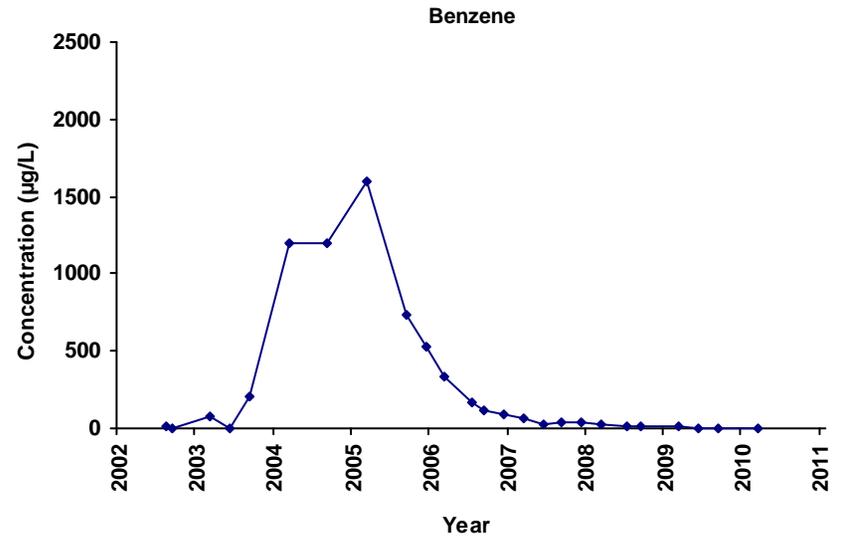
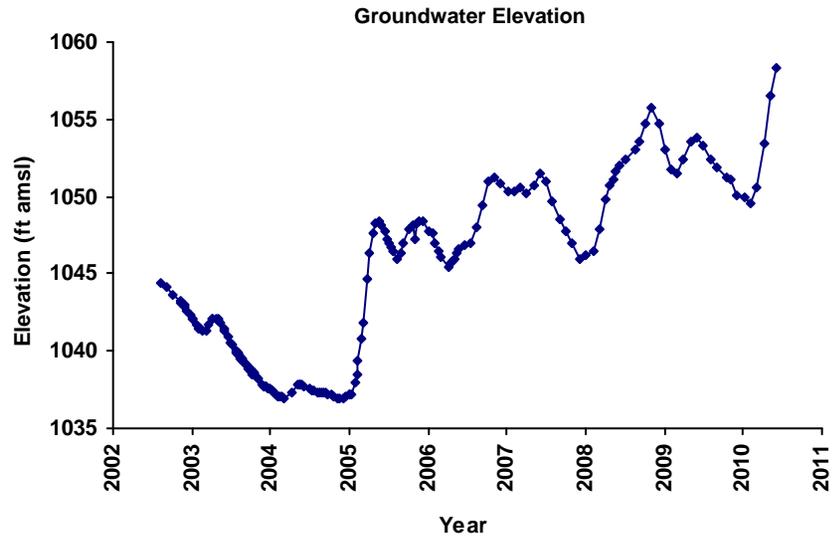
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-10
 ASE-62A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



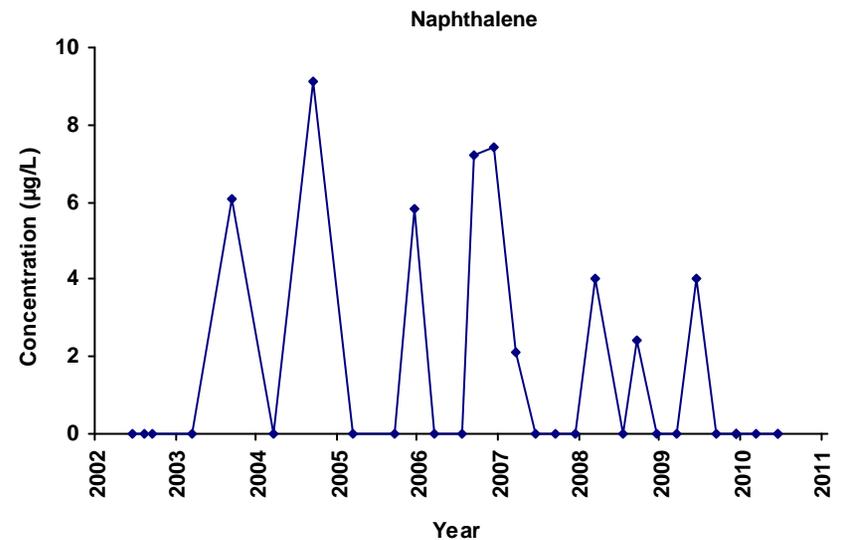
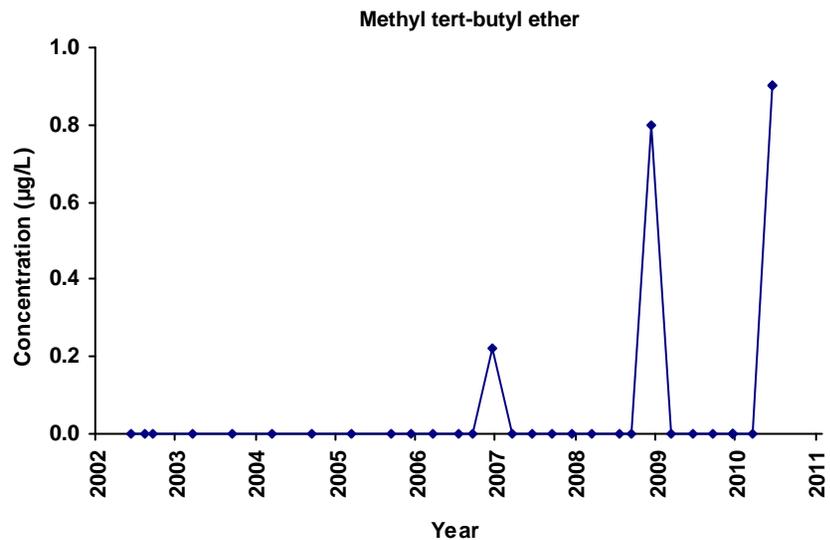
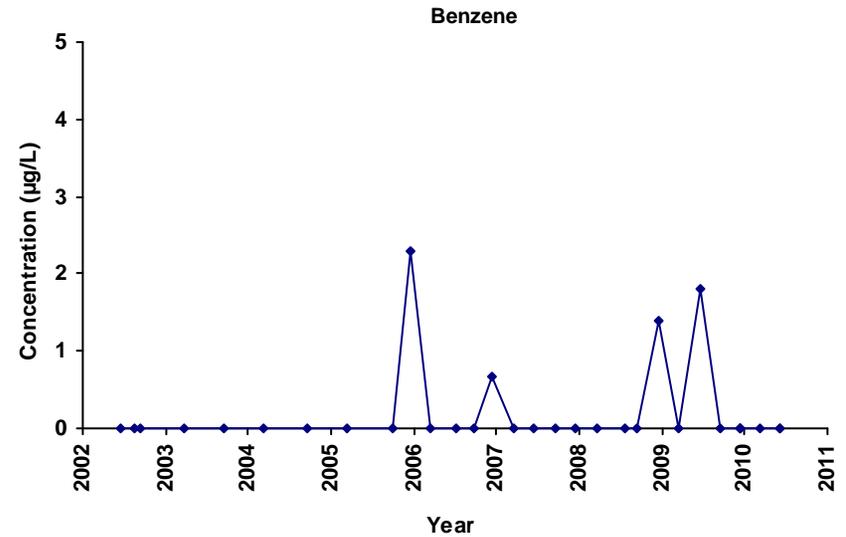
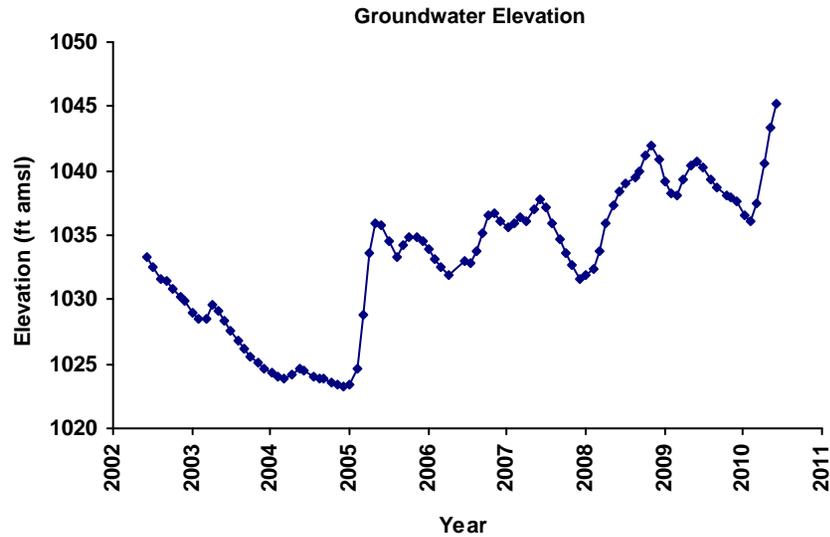
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-11
 ASE-63A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



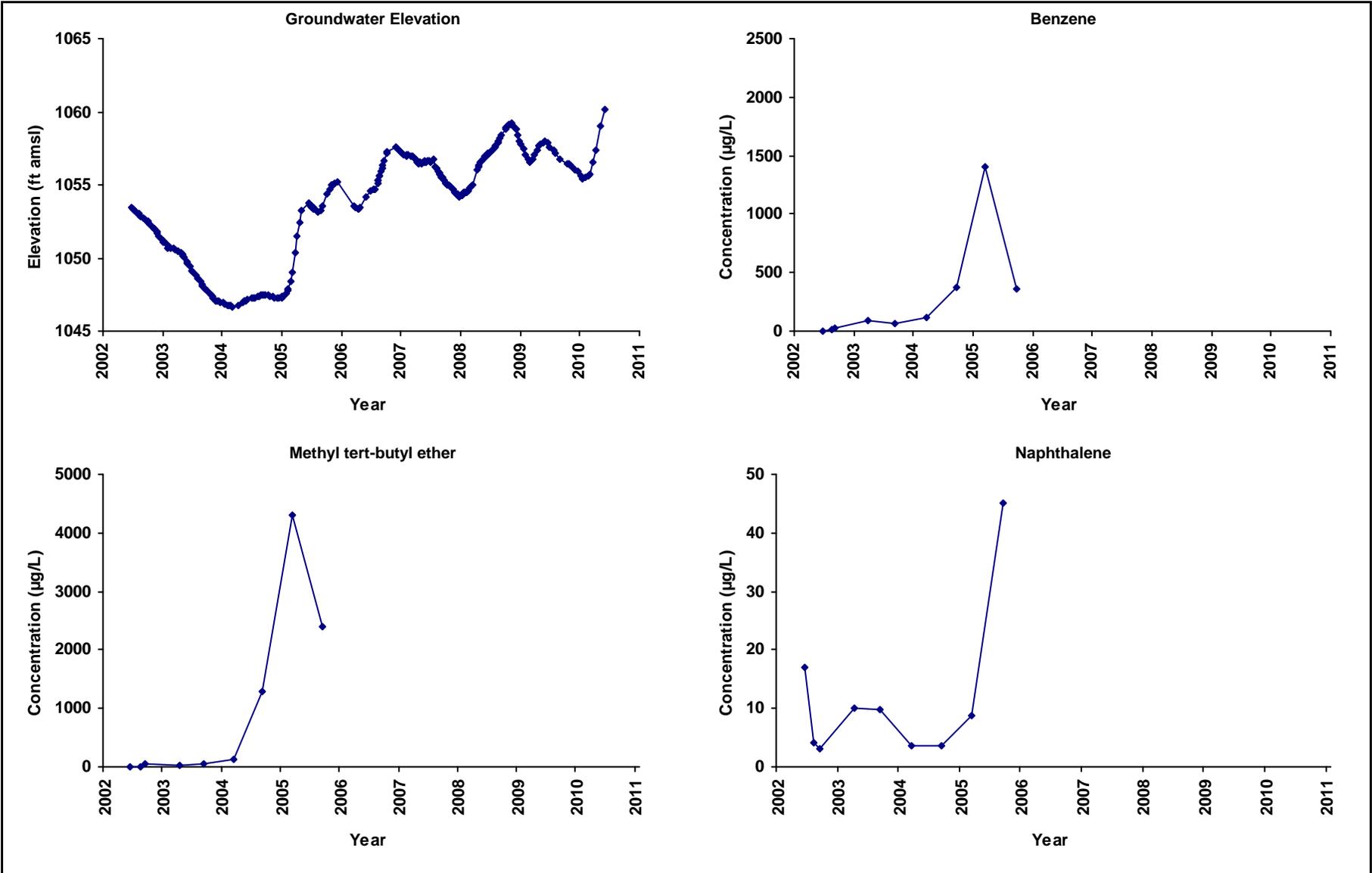
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-12
 ASE-64A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



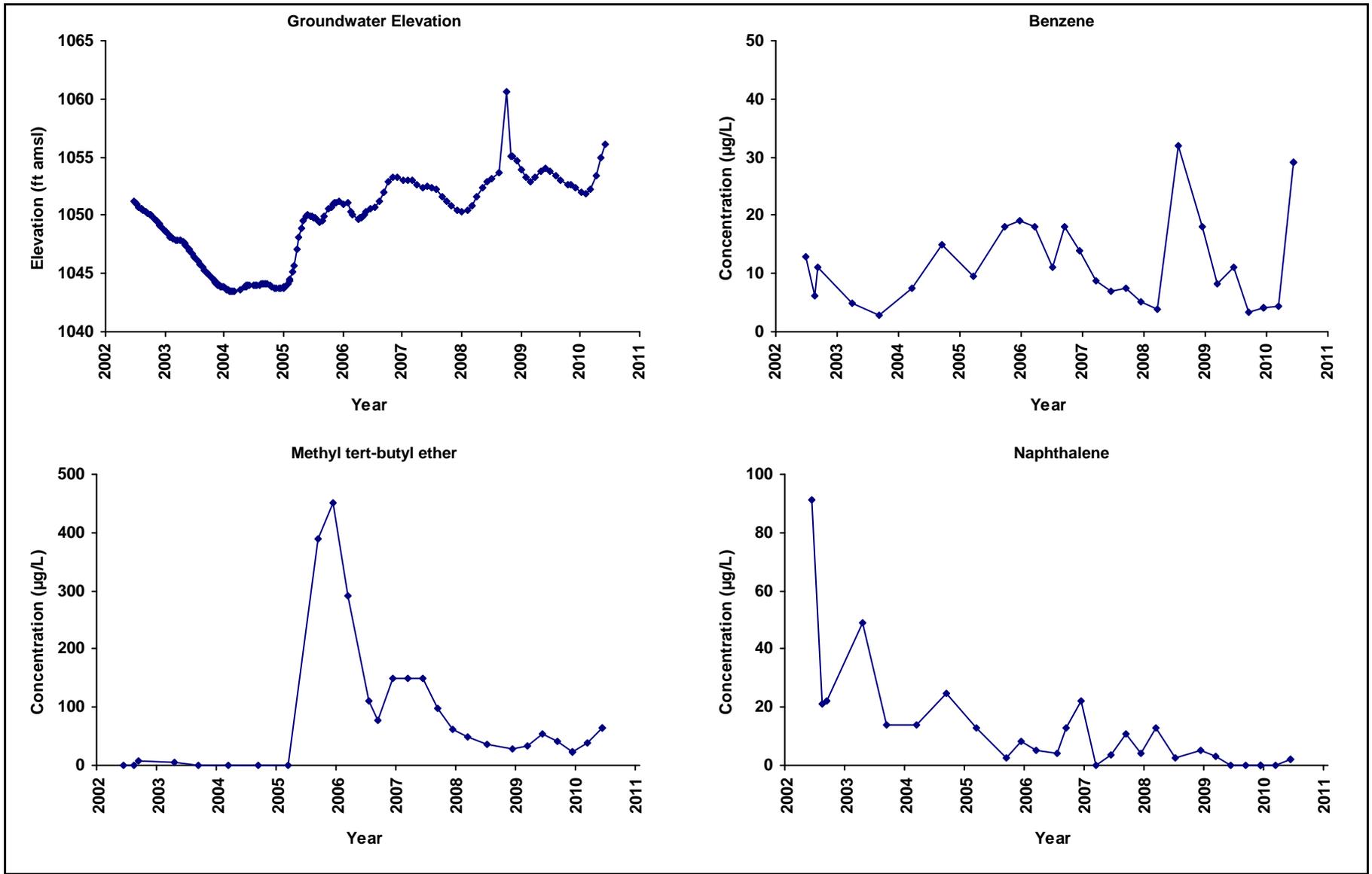
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-13
 ASE-65A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



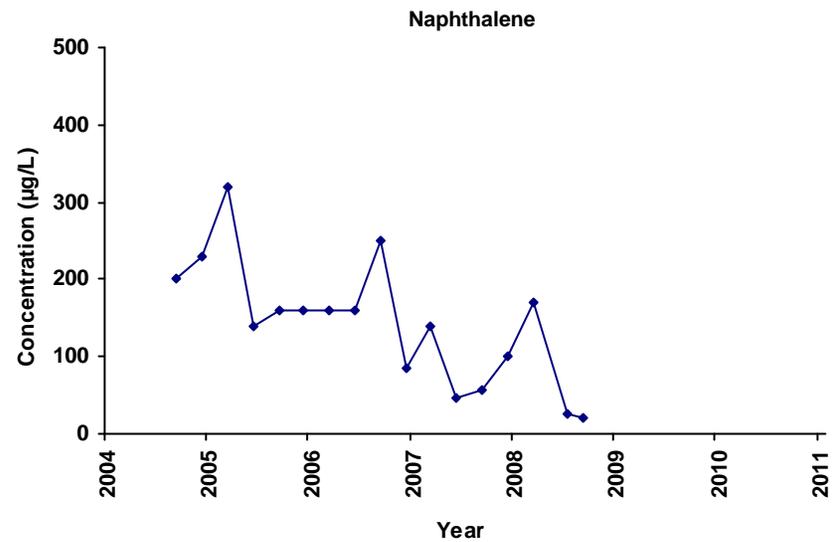
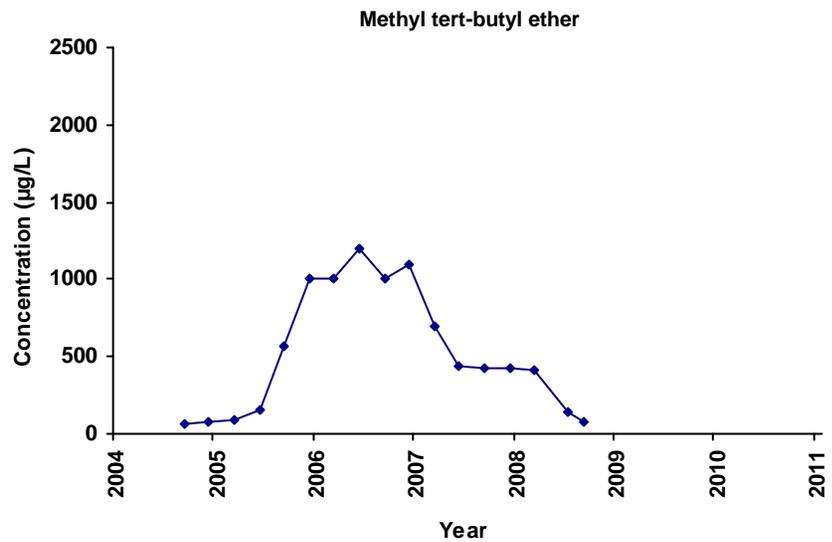
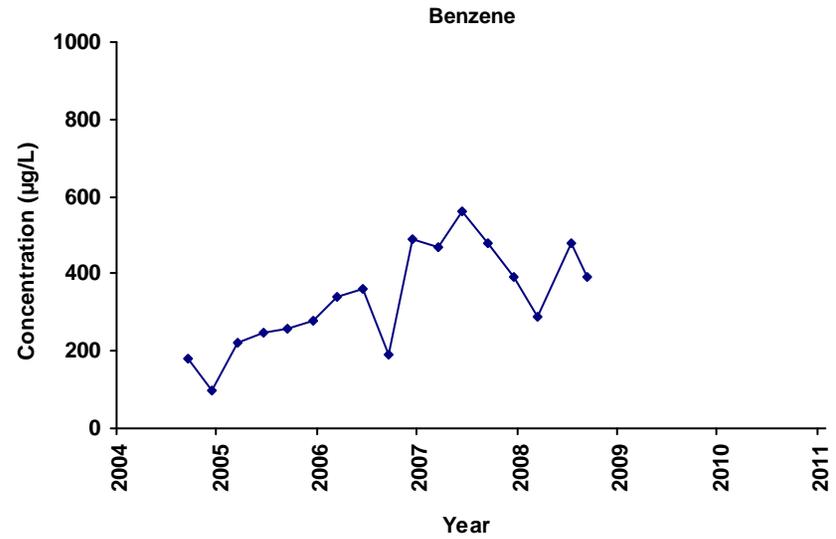
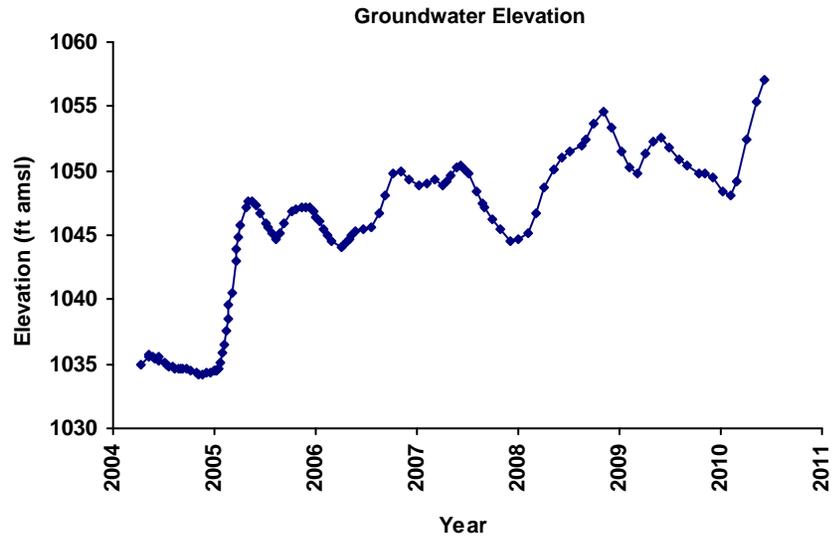
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-14
 ASE-67A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



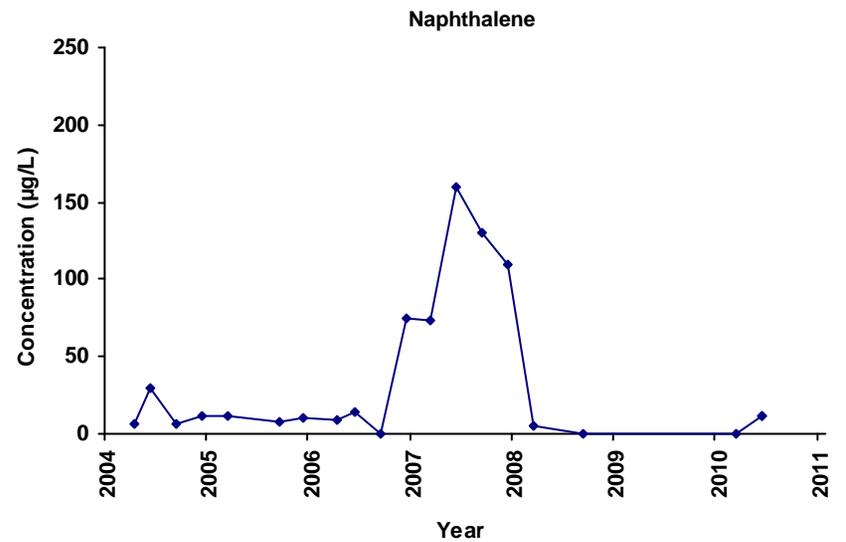
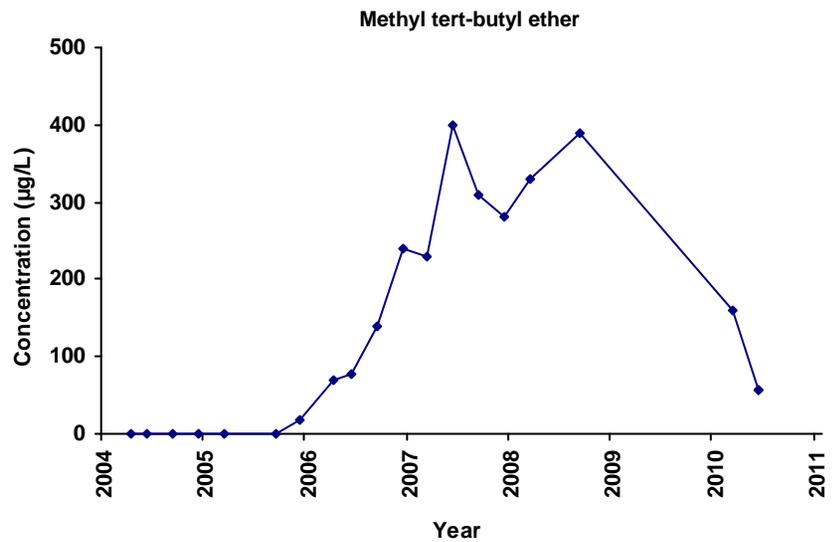
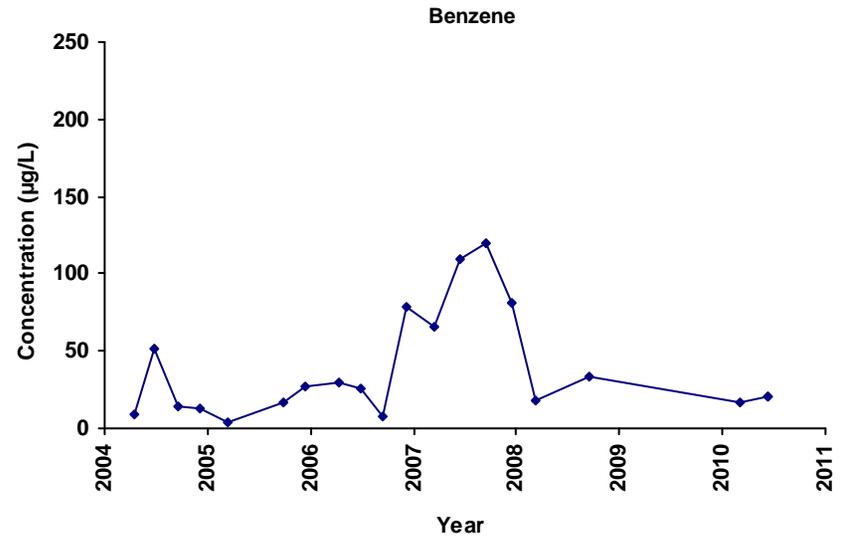
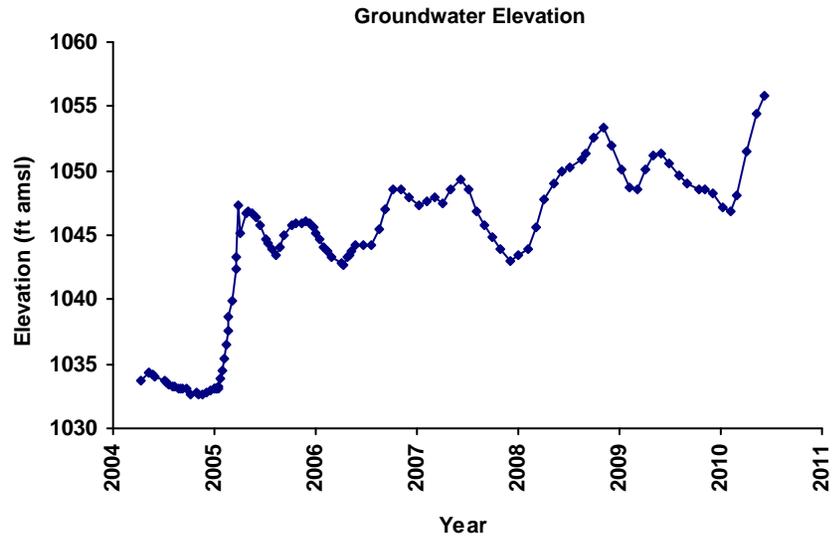
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-15
 ASE-68A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



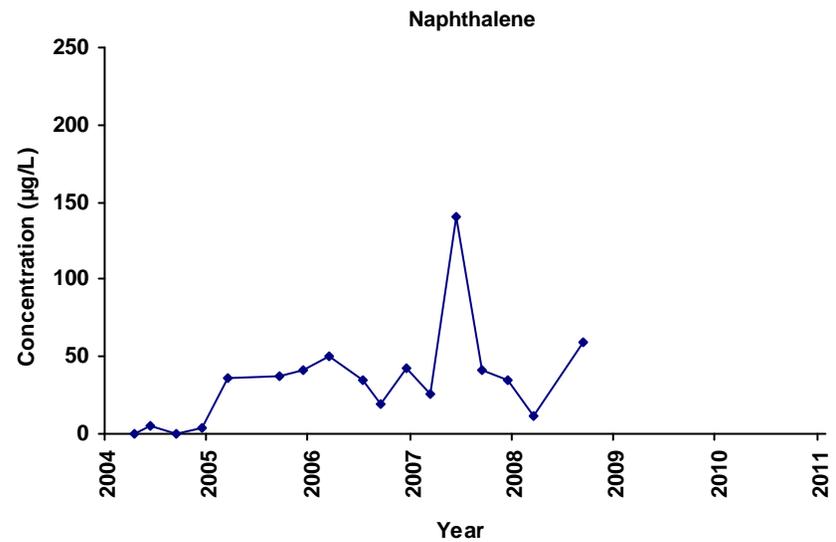
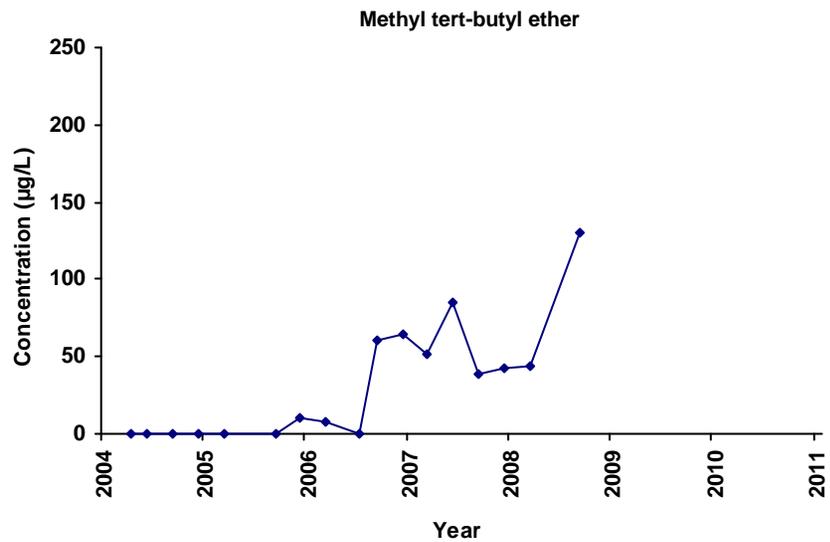
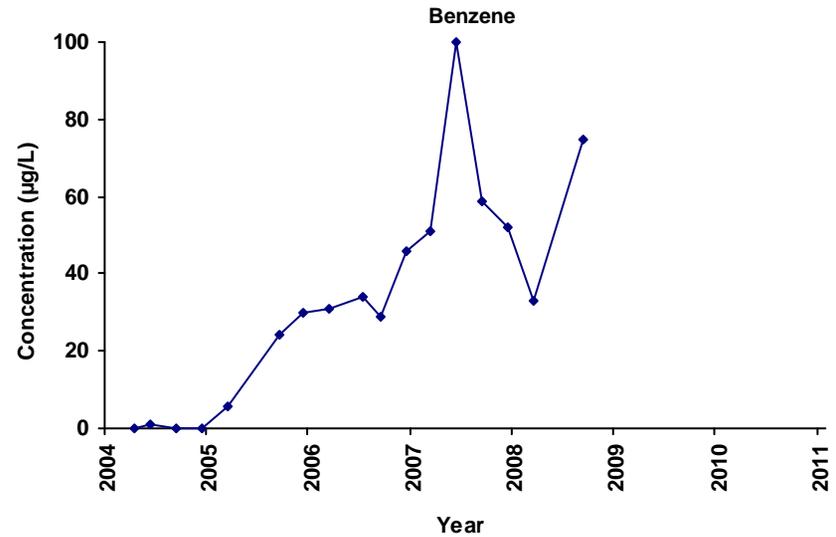
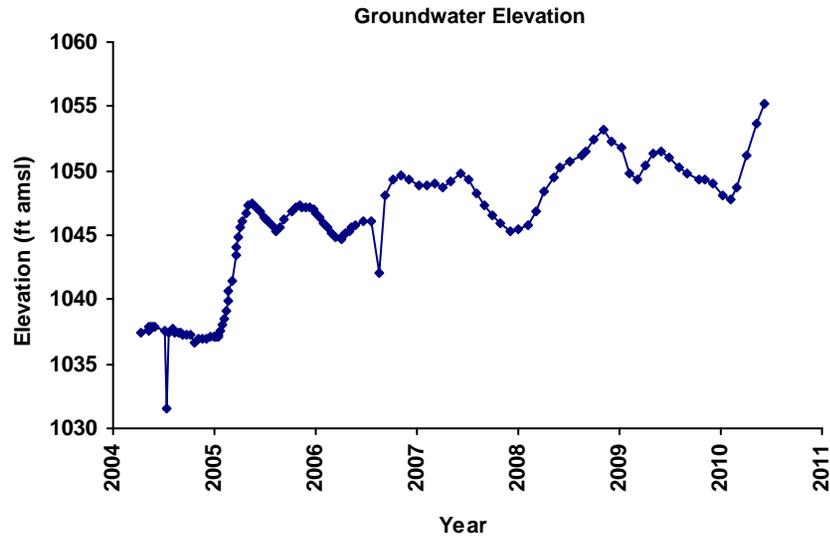
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-16
 ASE-89A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



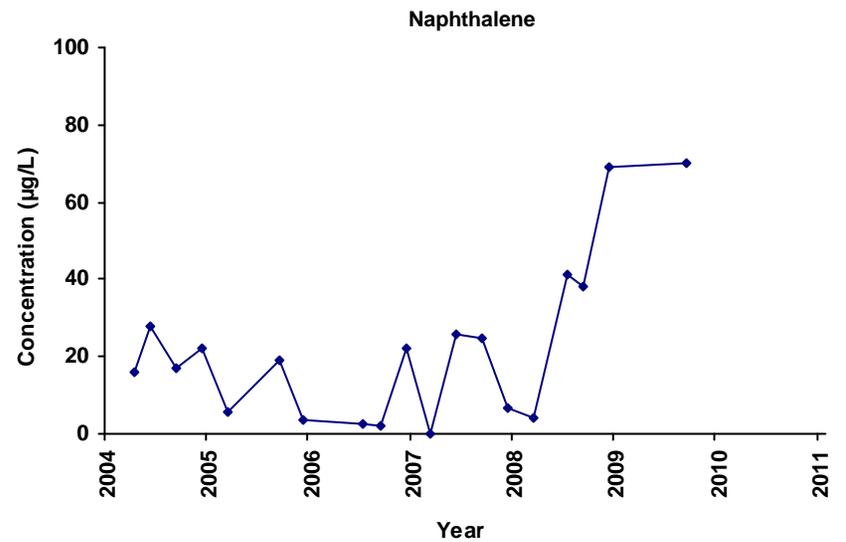
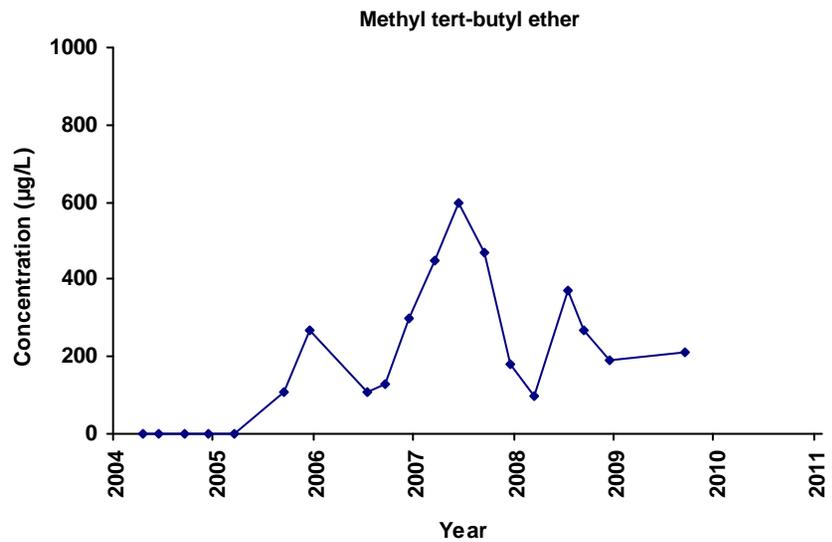
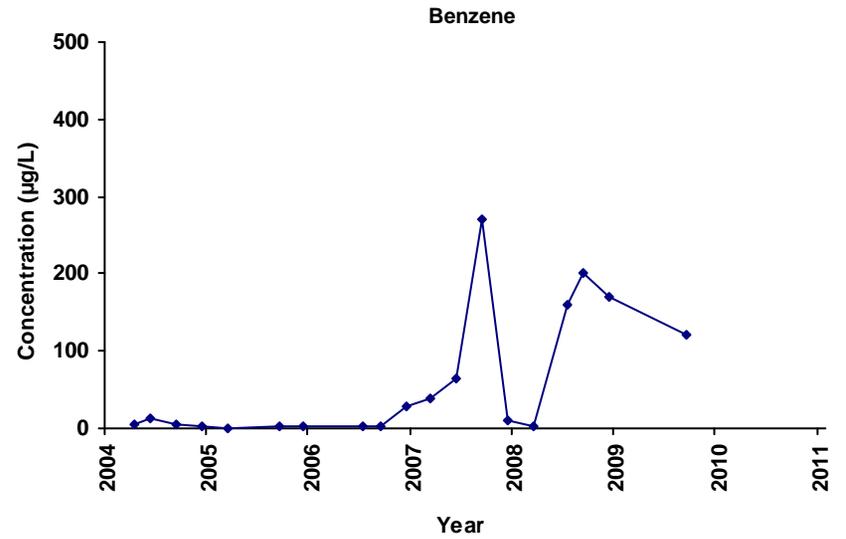
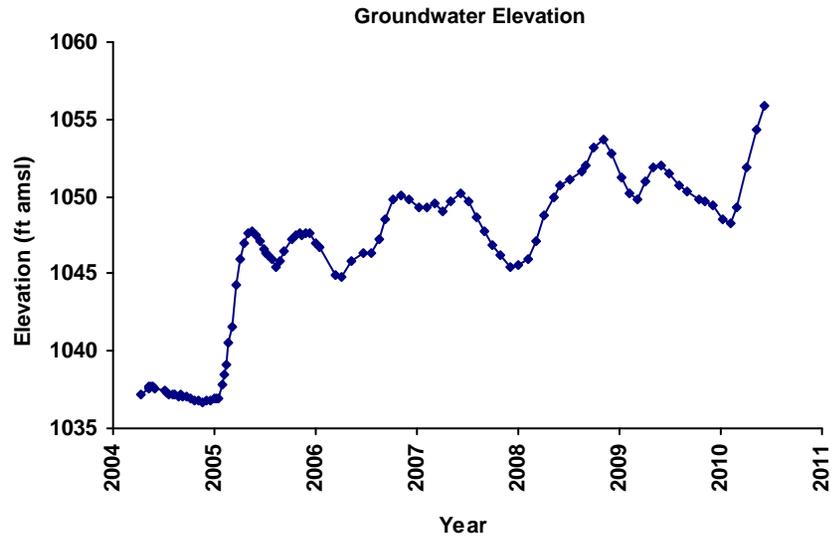
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-17
 ASE-90A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



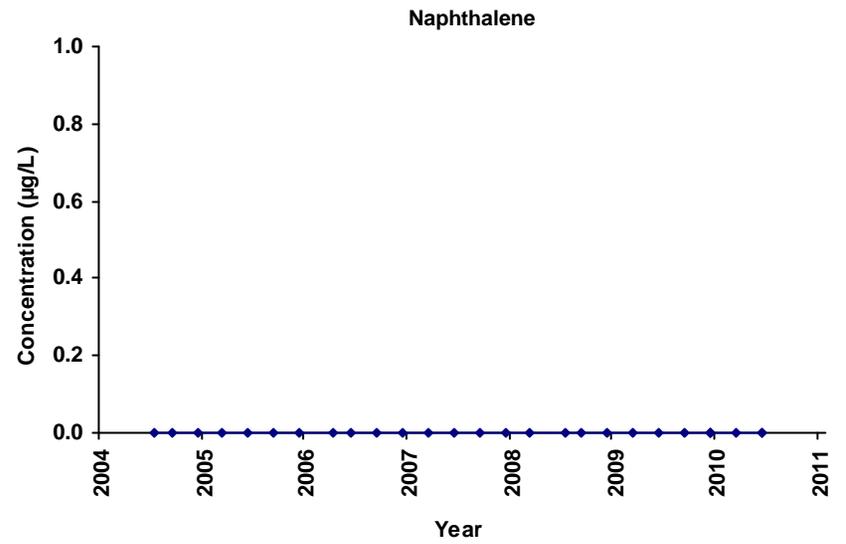
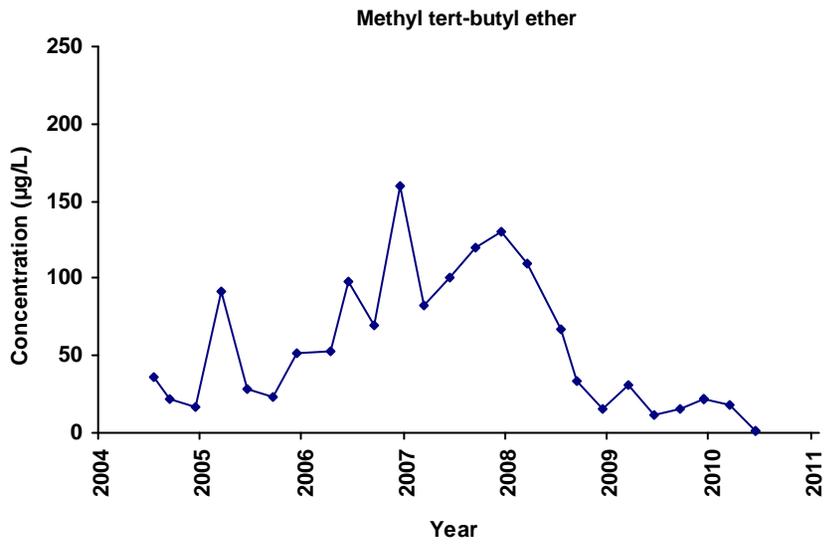
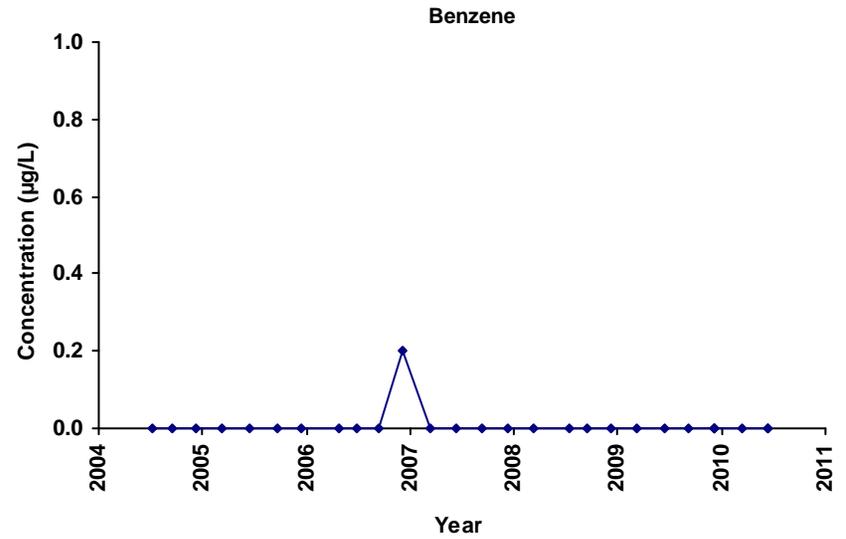
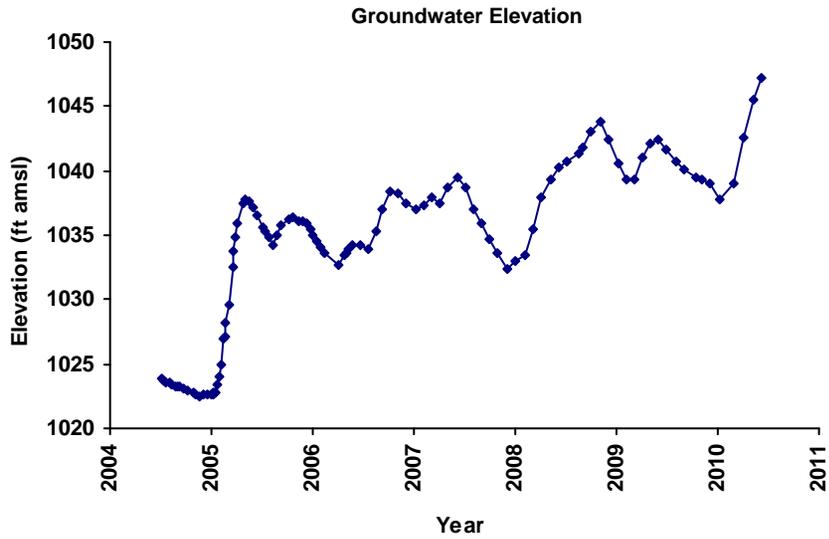
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-18
 ASE-91A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



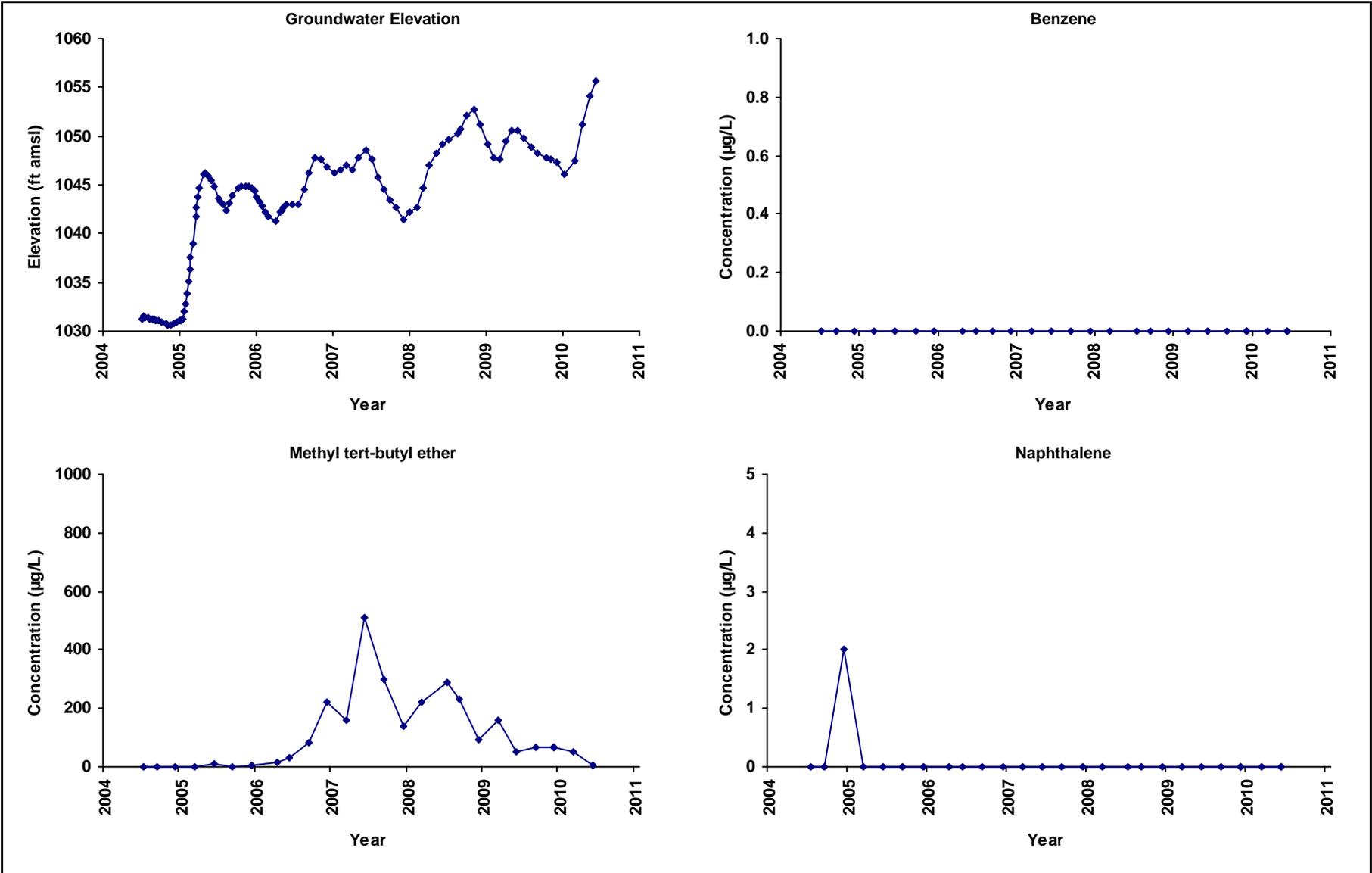
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-19
 ASE-92A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



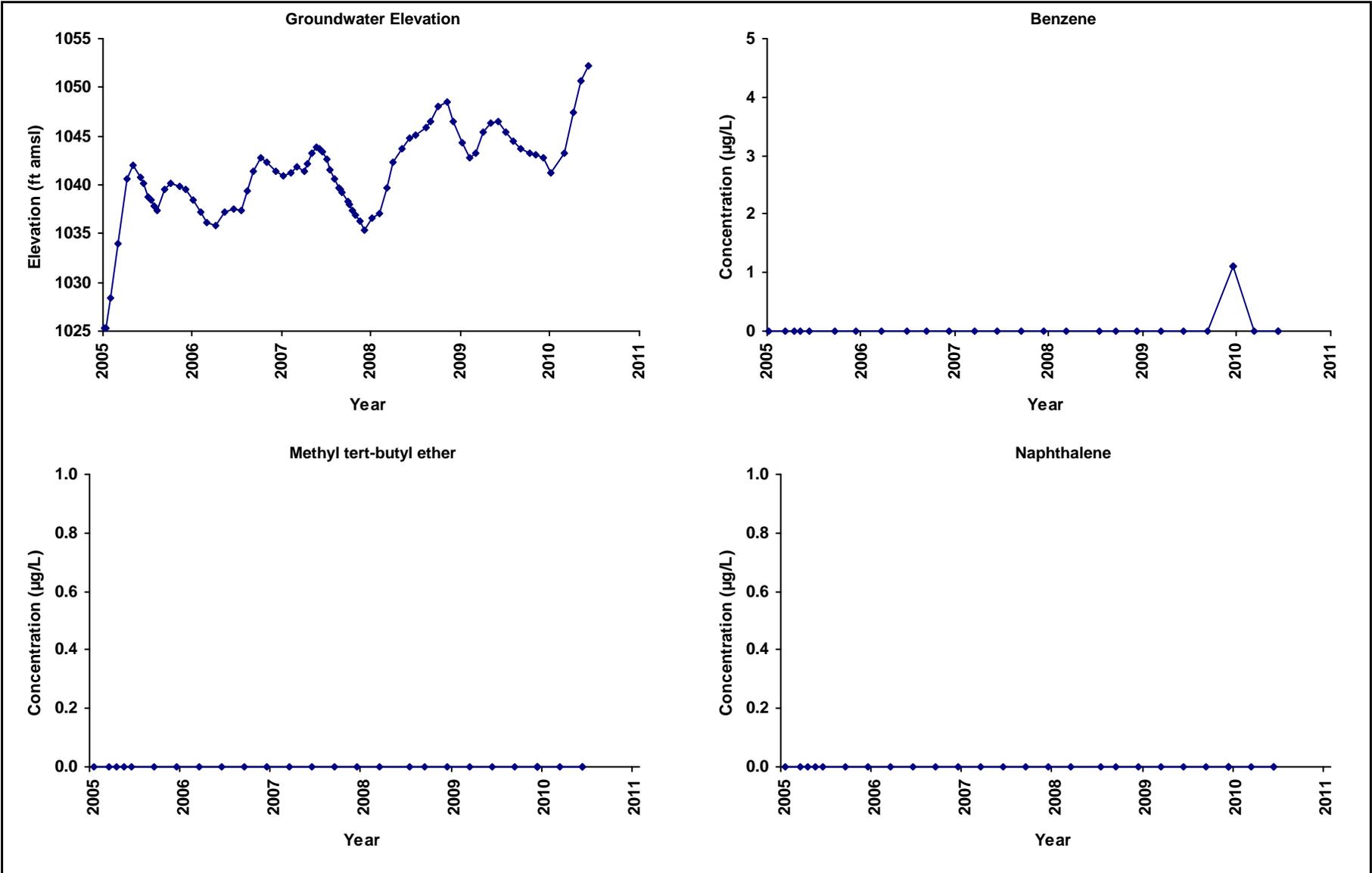
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-20
 ASE-95A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



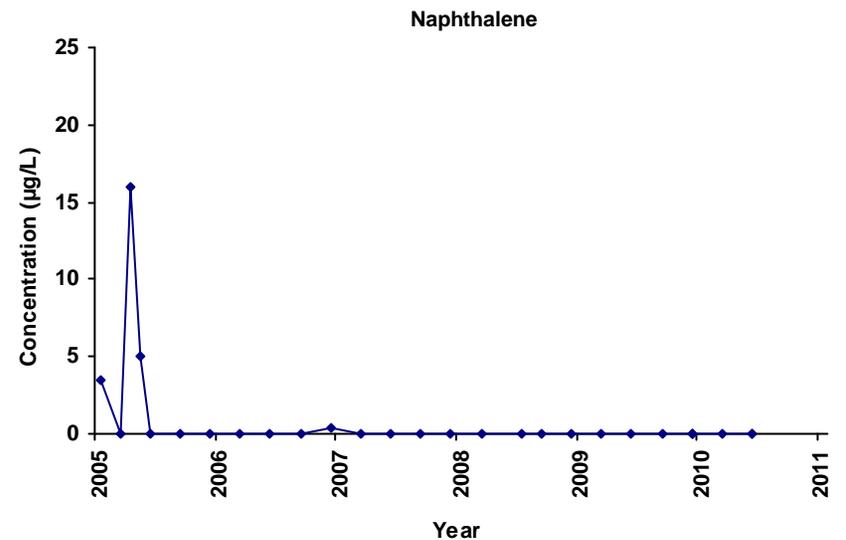
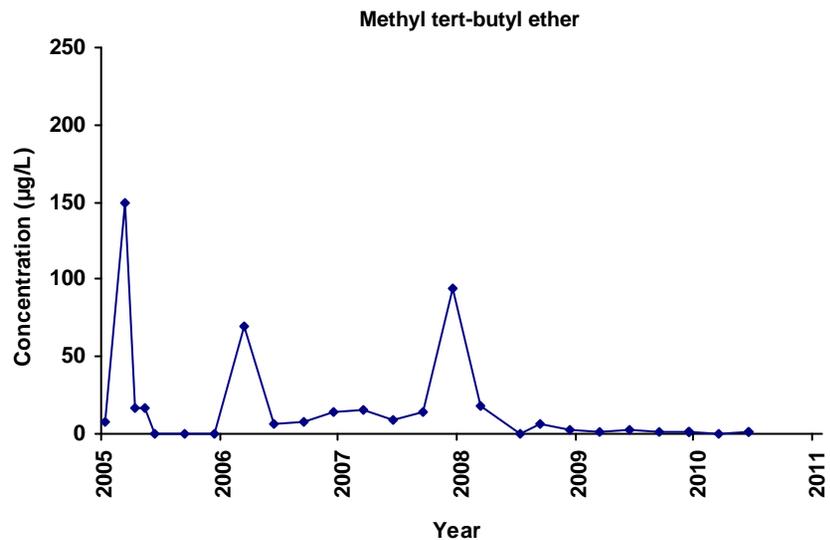
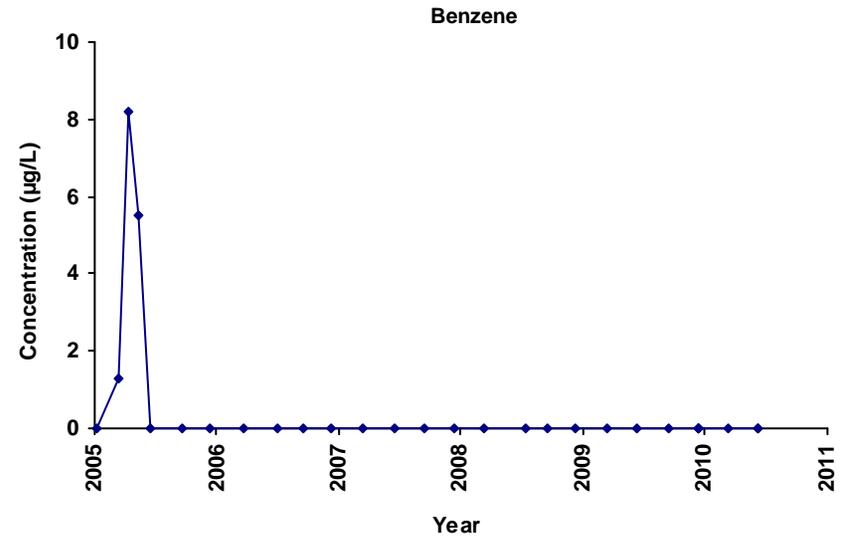
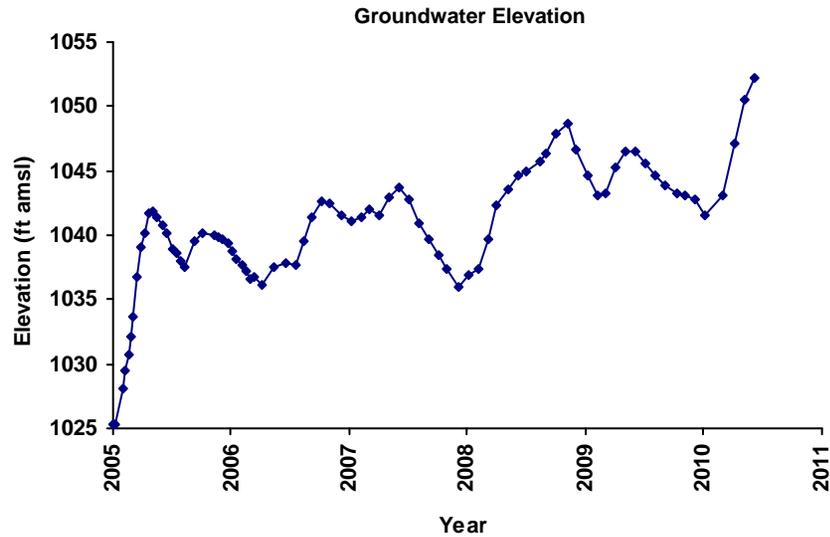
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-21
 ASE-96A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



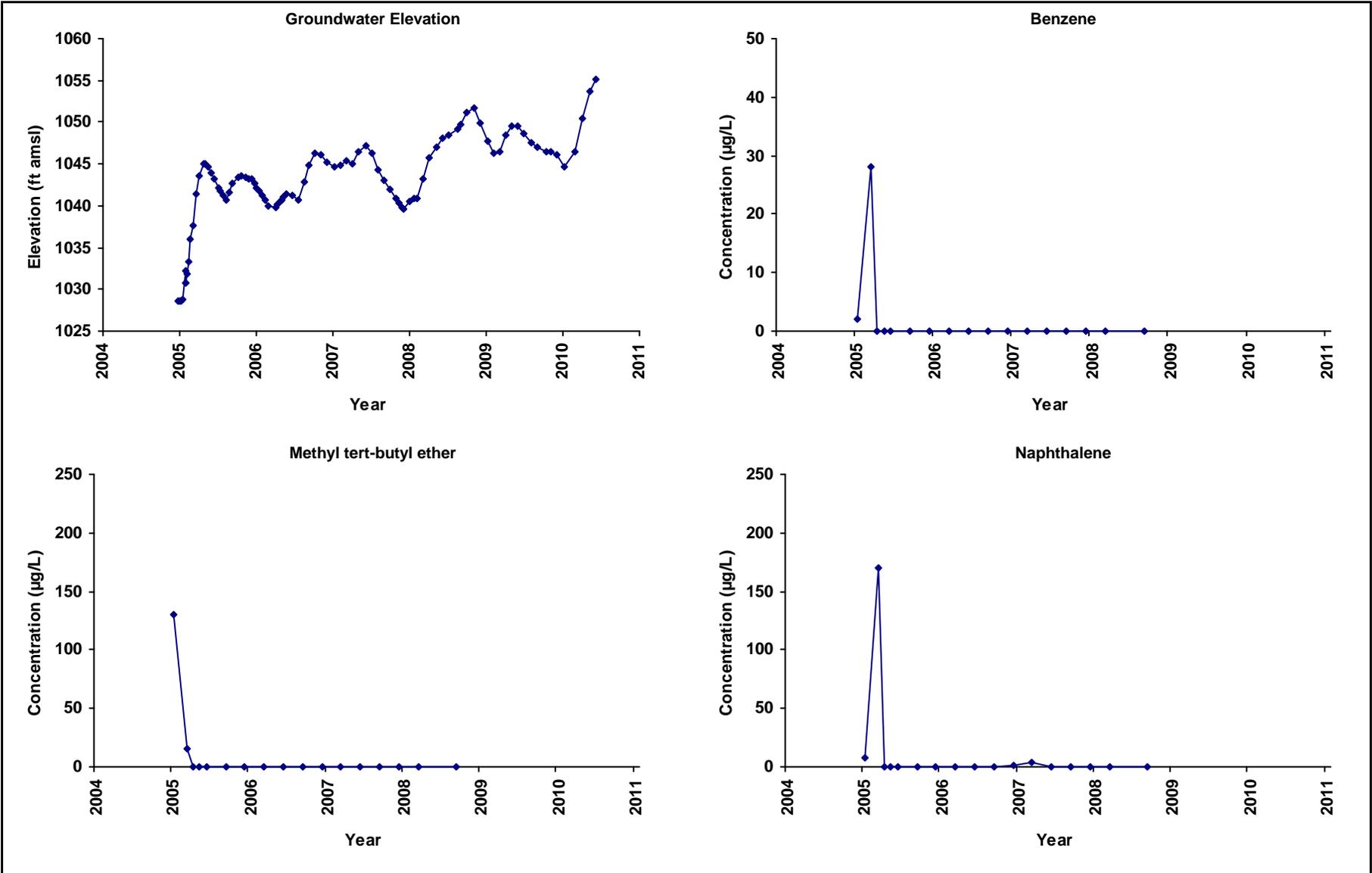
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-22
 ASE-98A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



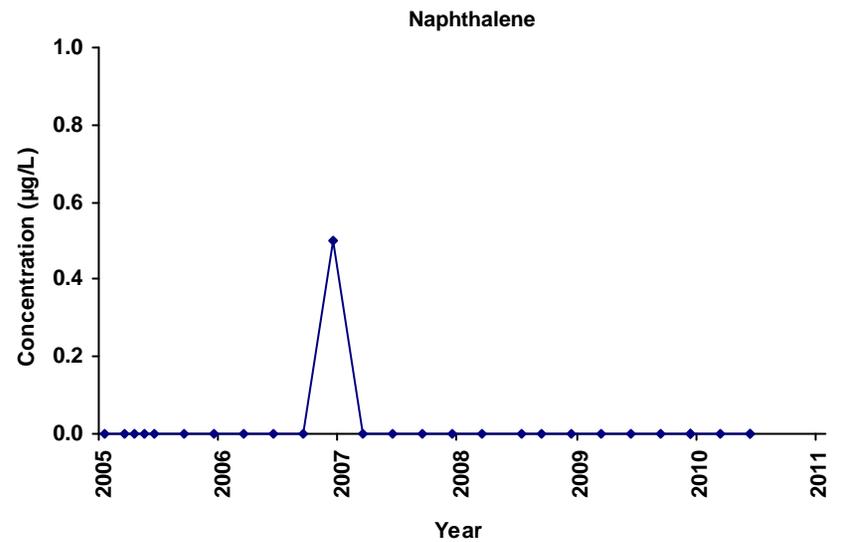
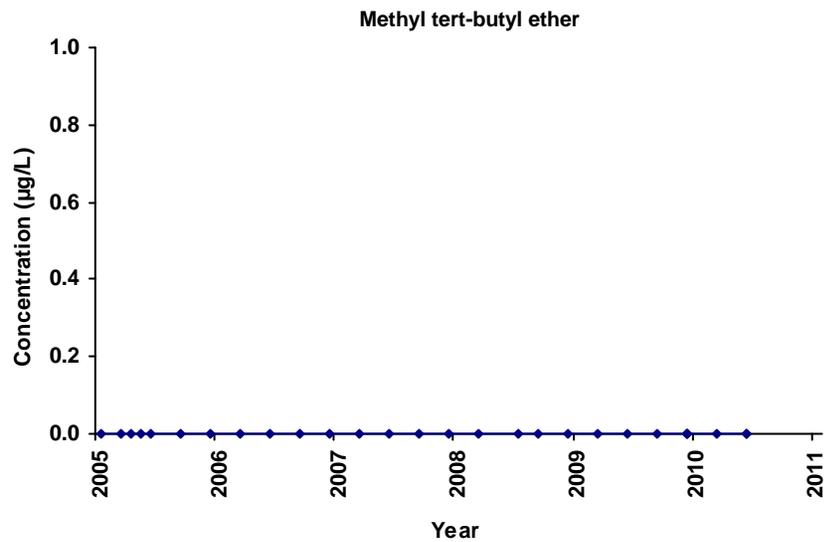
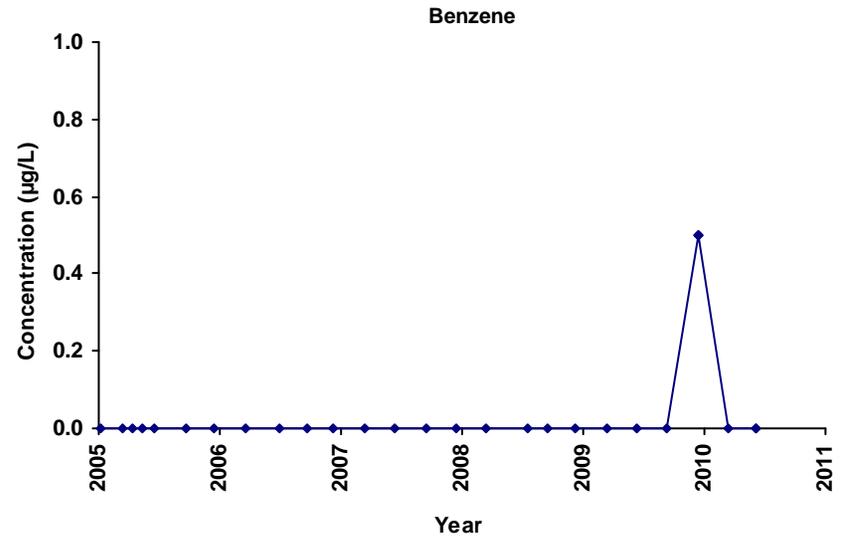
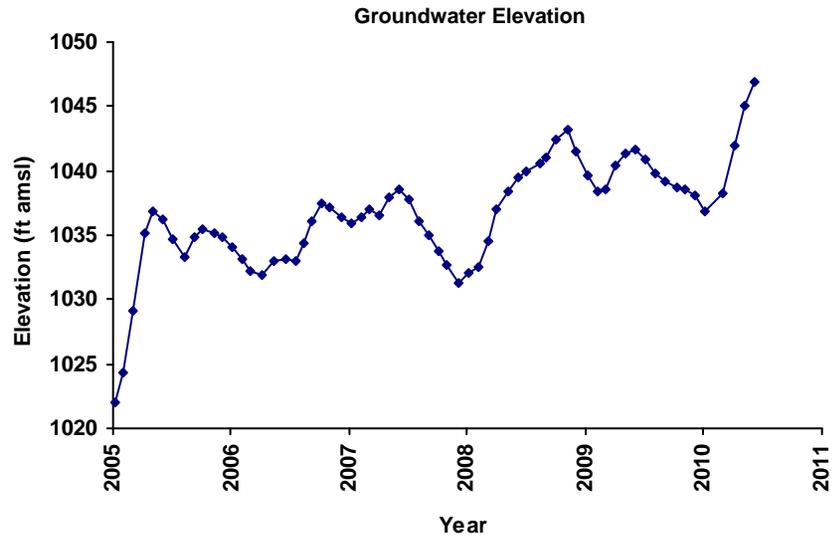
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-25
 ASE-101A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



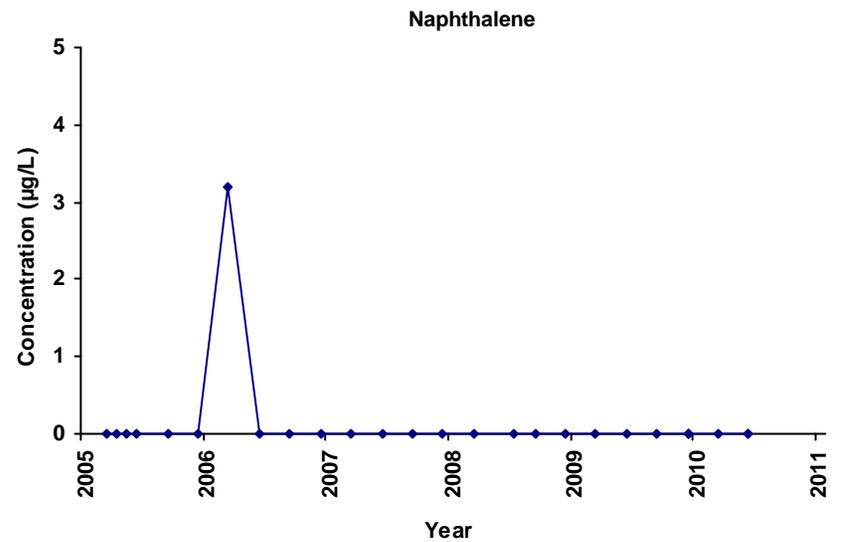
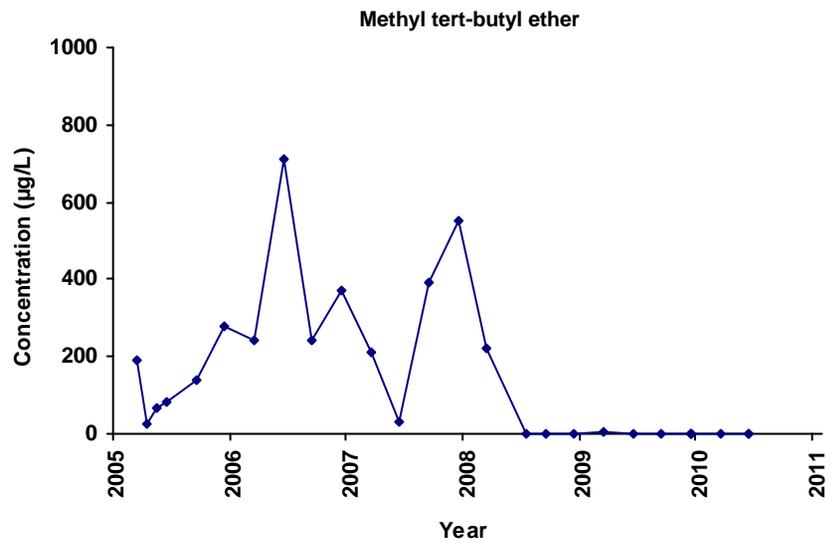
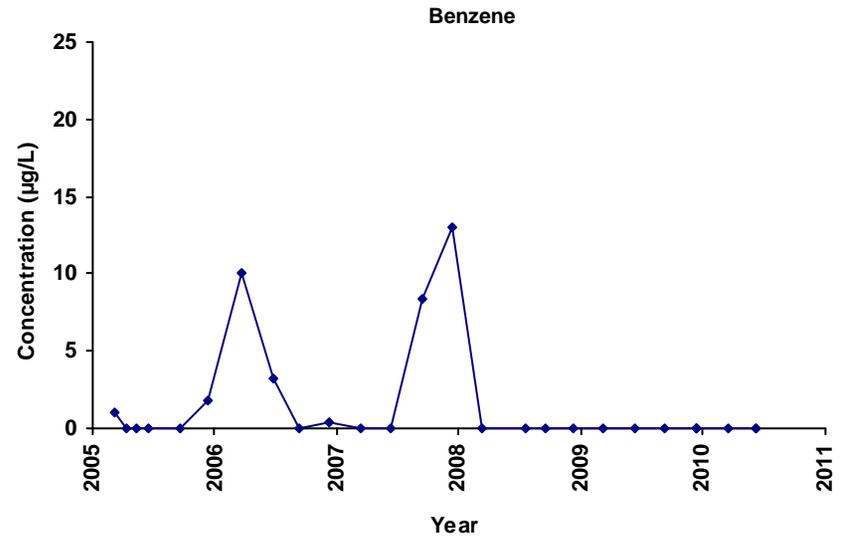
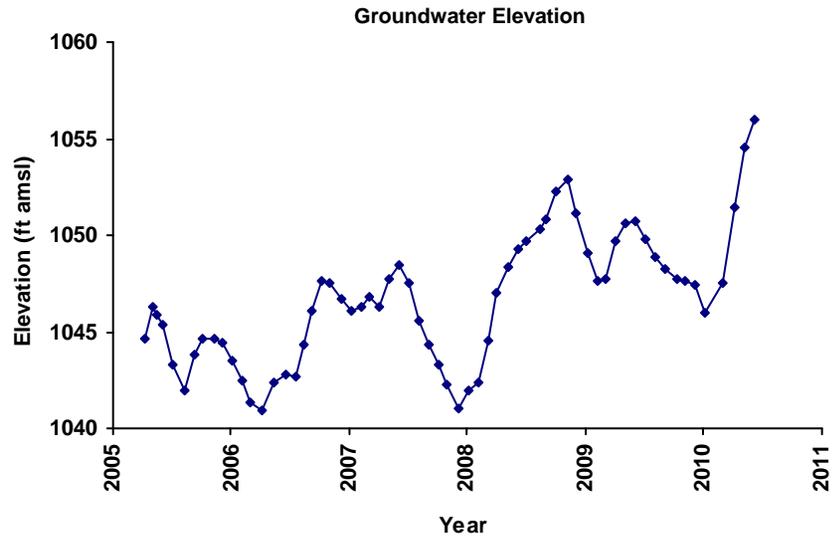
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-26
 ASE-102A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



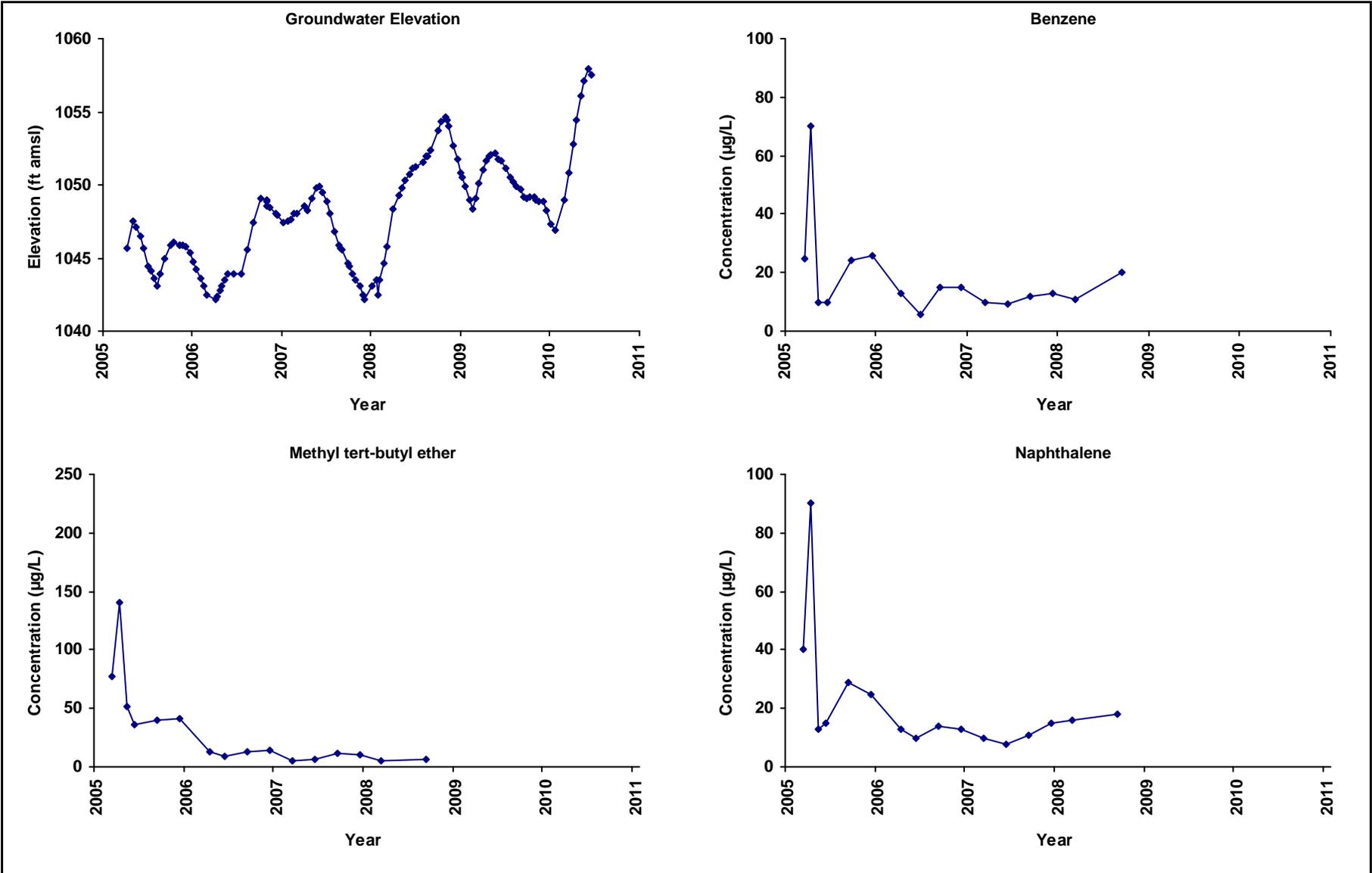
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-27
 ASE-103A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



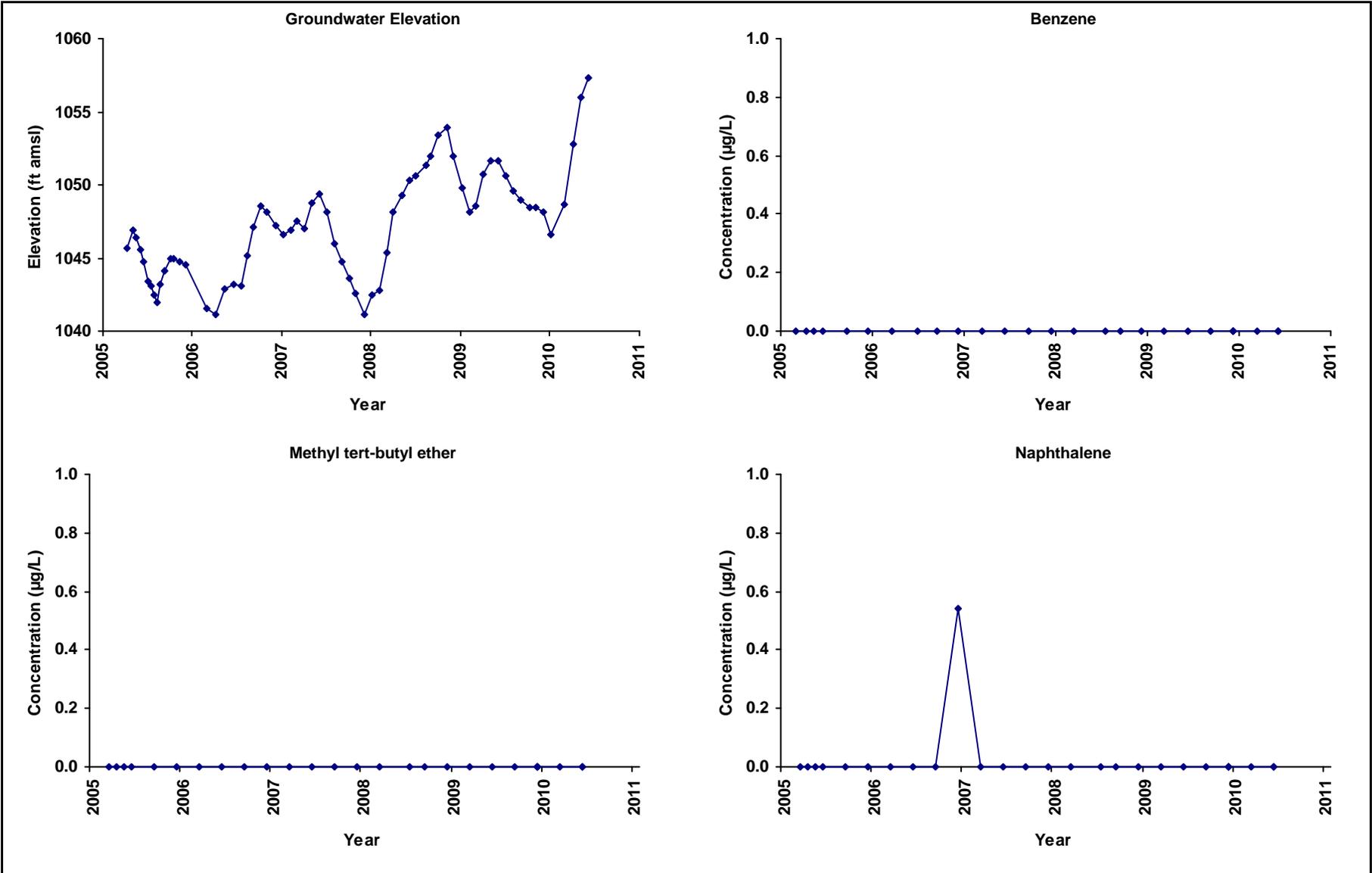
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-29
 ASE-106A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



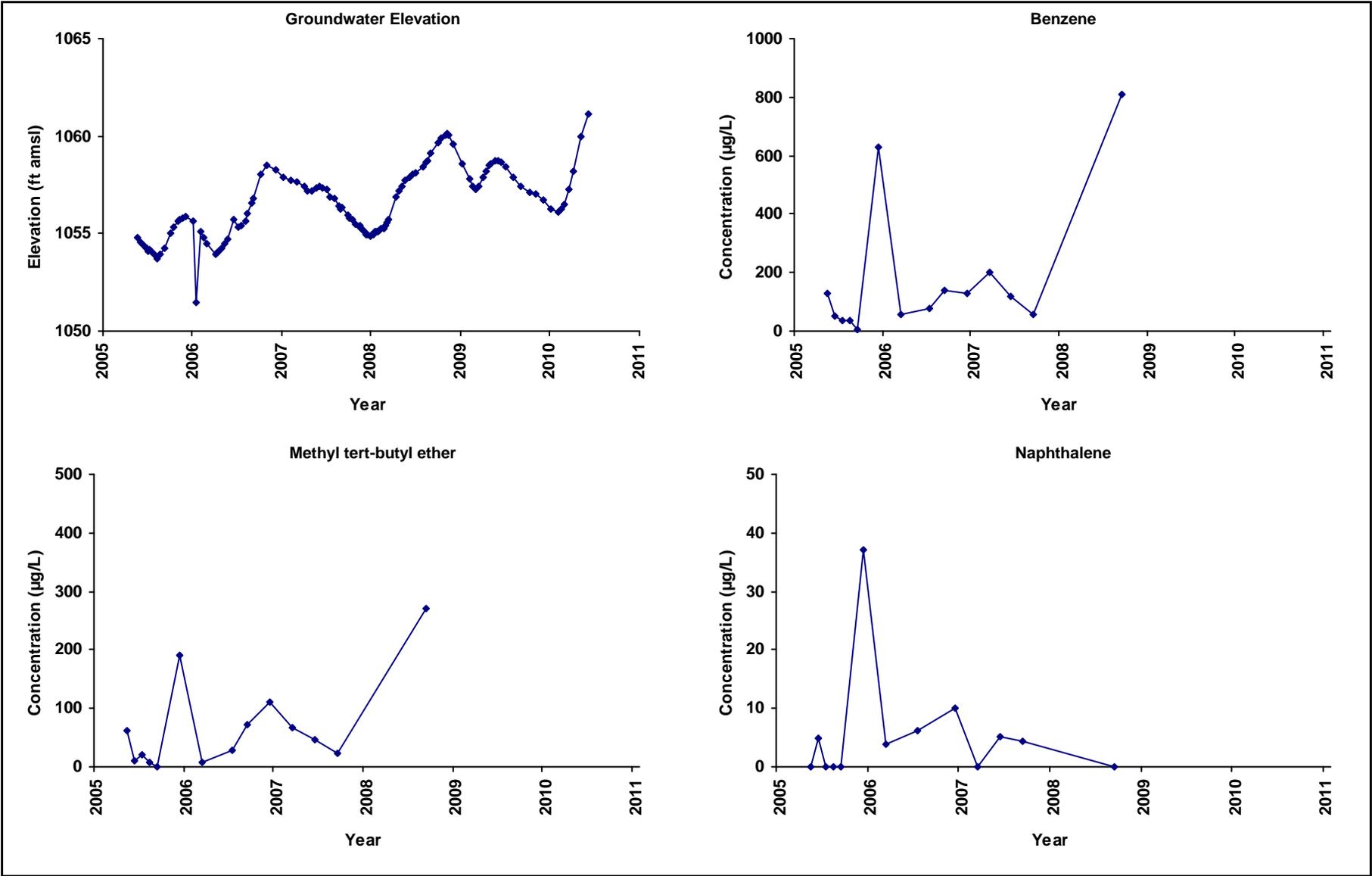
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-30
 ASE-107A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



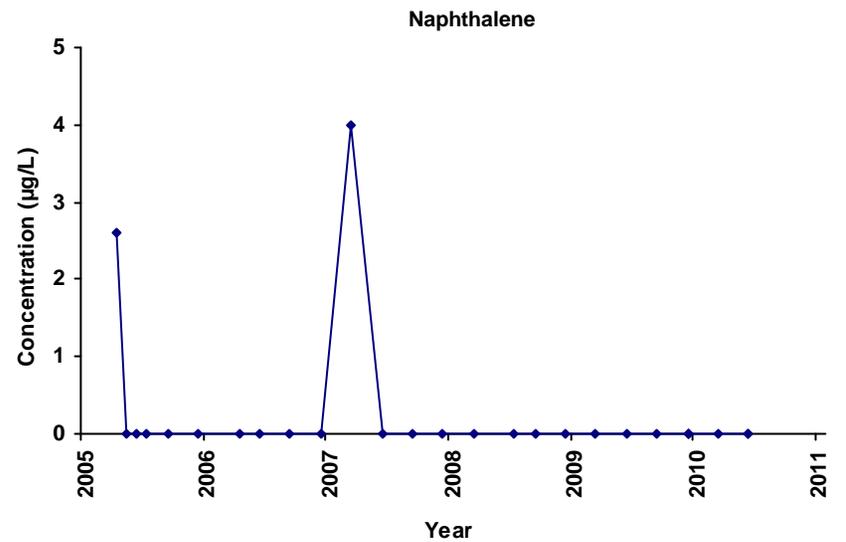
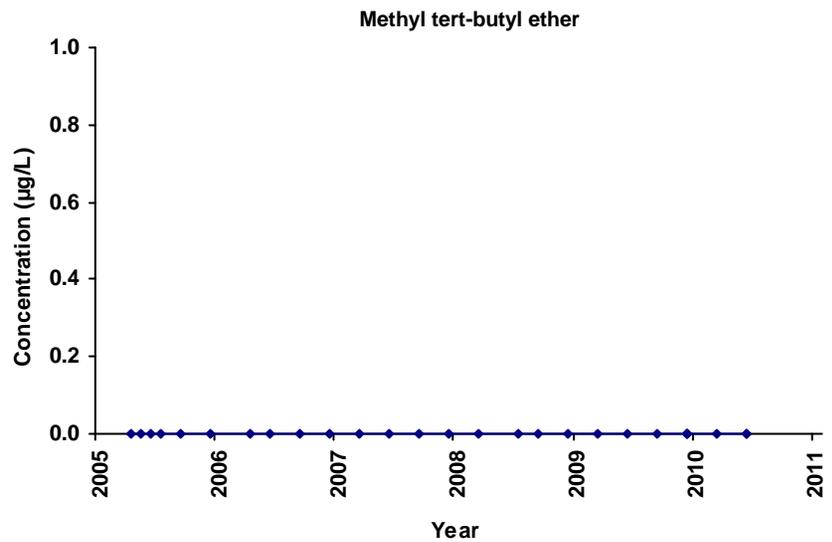
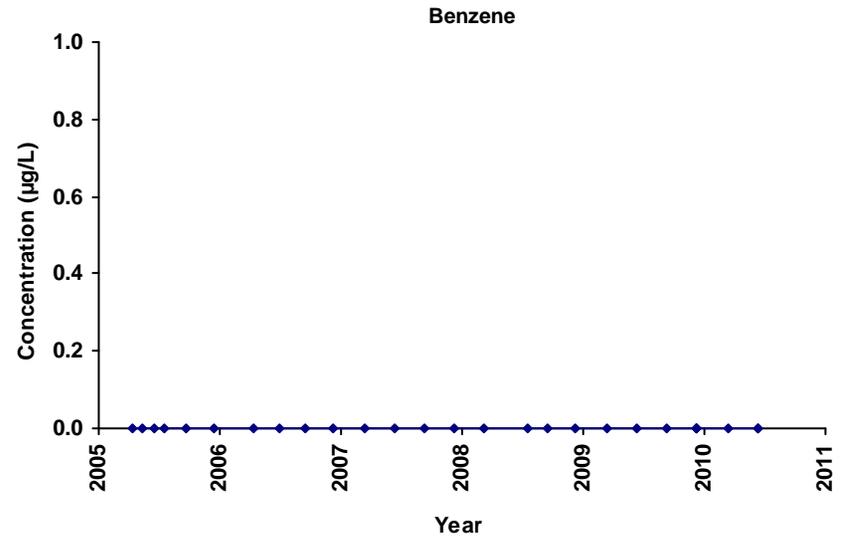
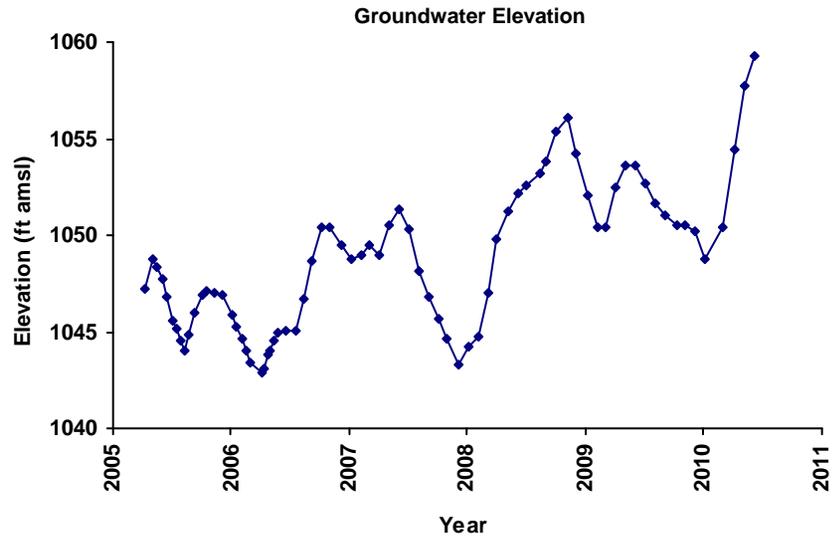
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-33
 ASE-110A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



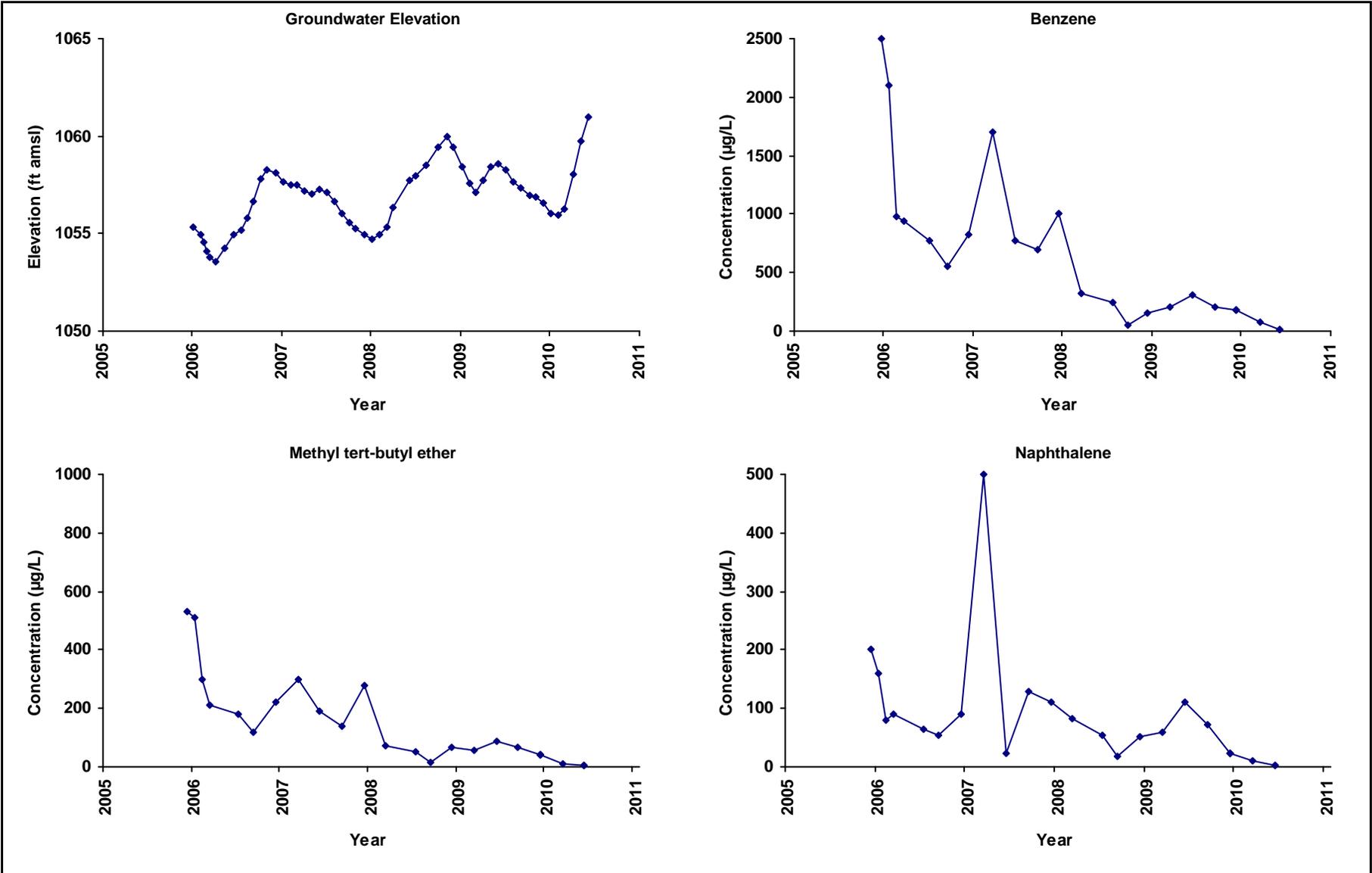
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-34
 ASE-111A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



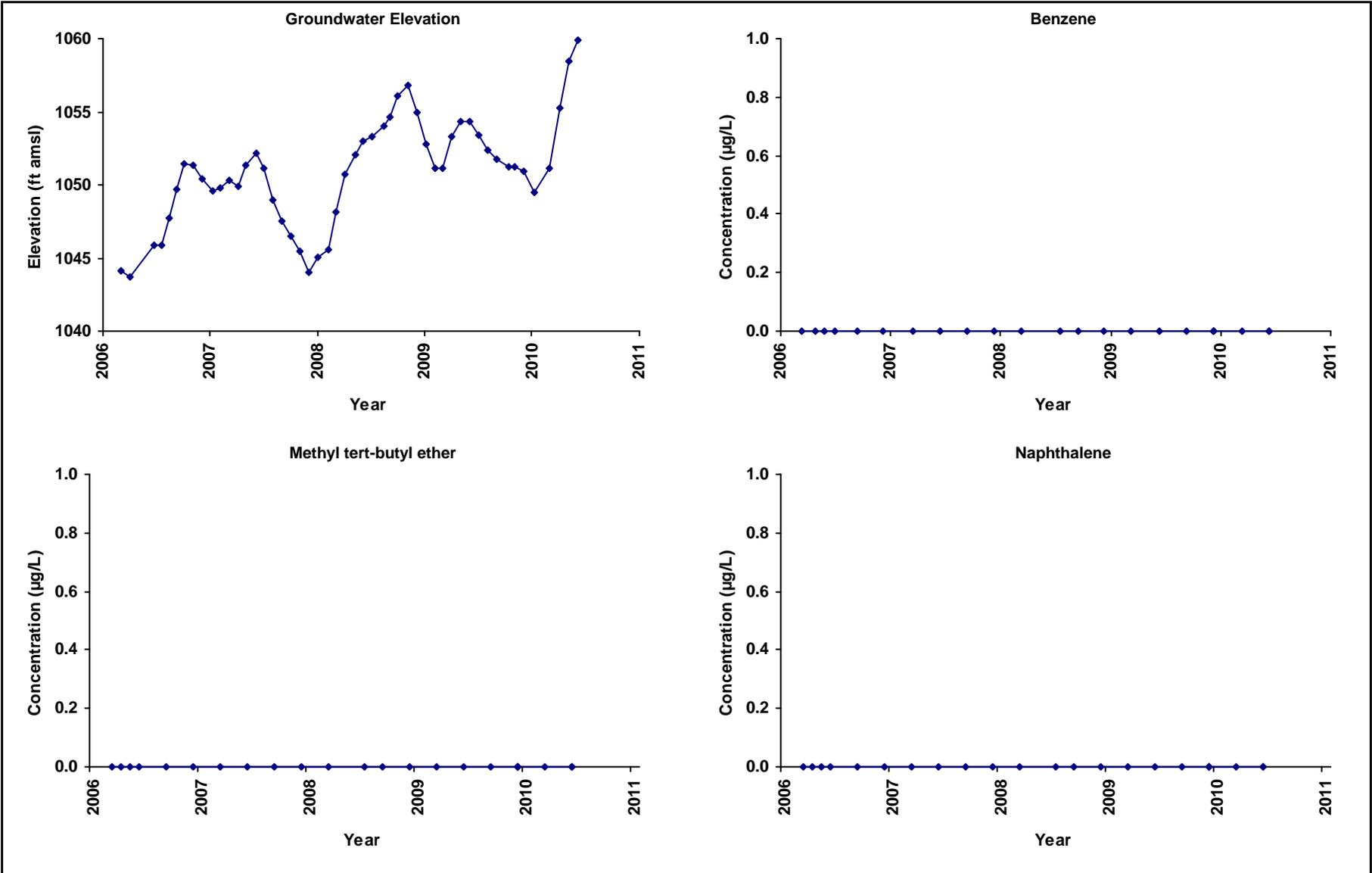
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-36
 ASE-113A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



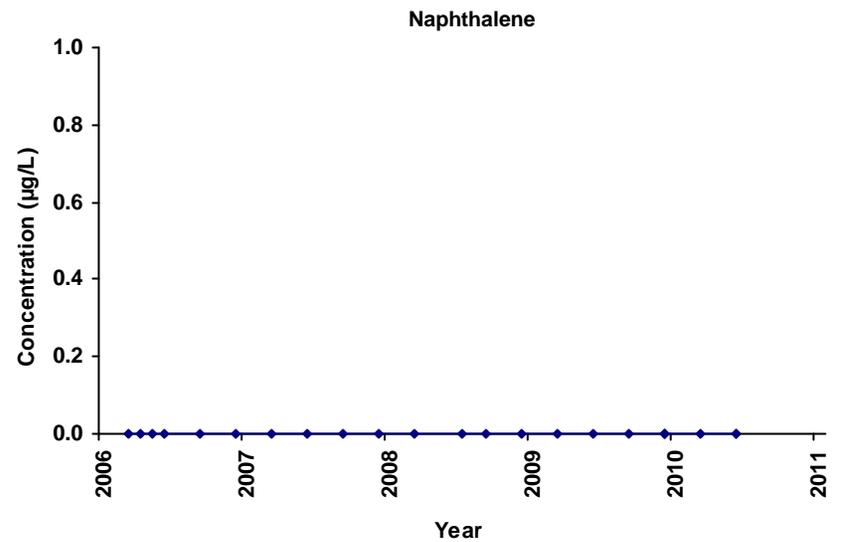
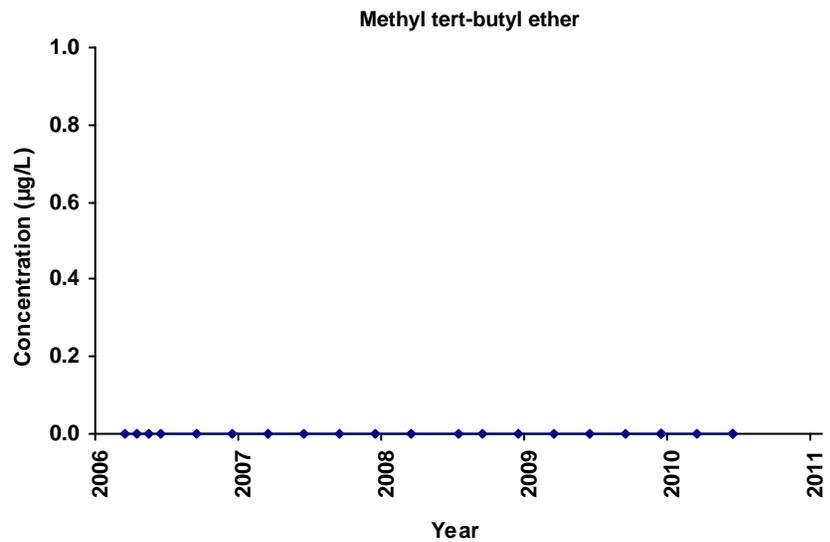
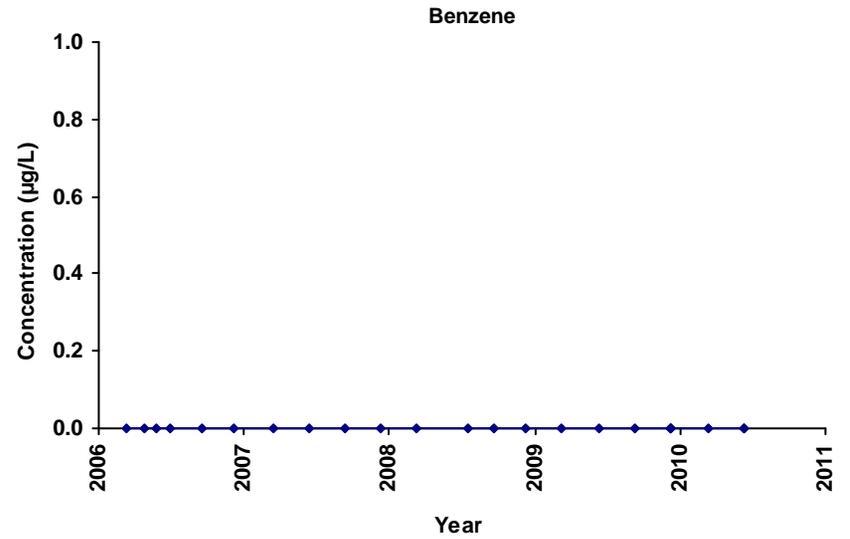
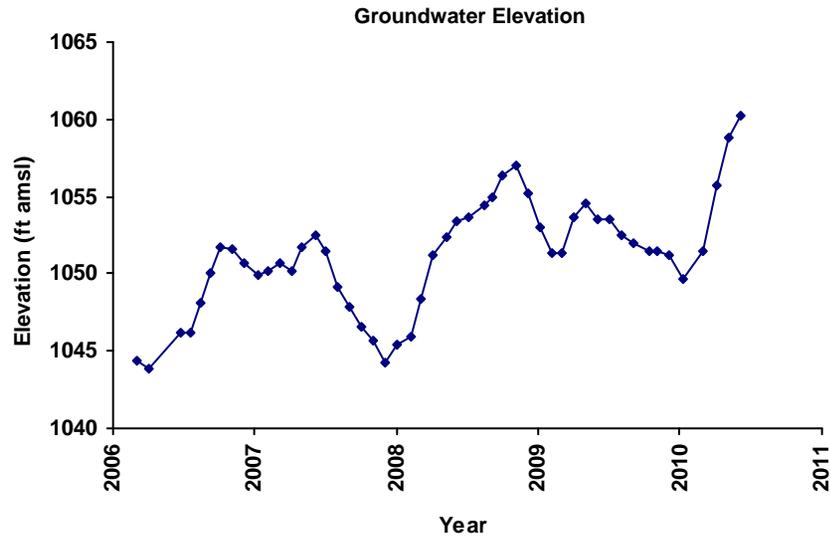
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-39
 ASE-116A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



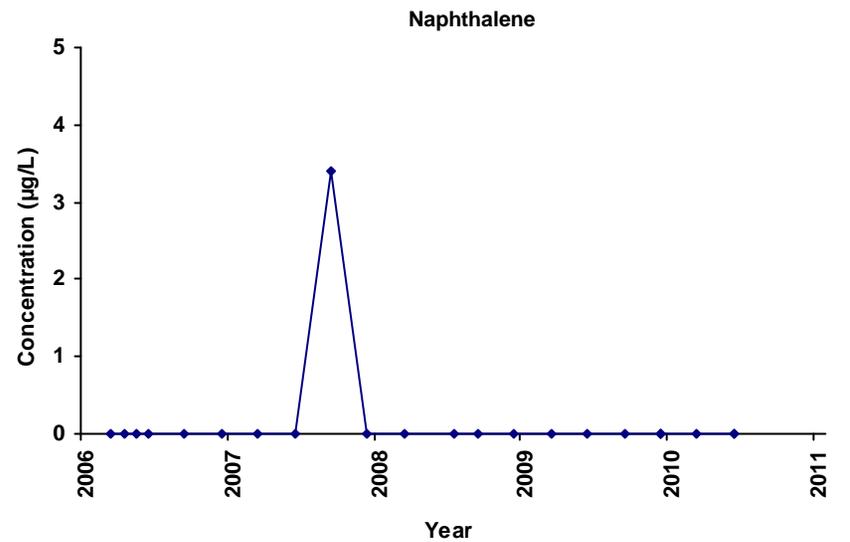
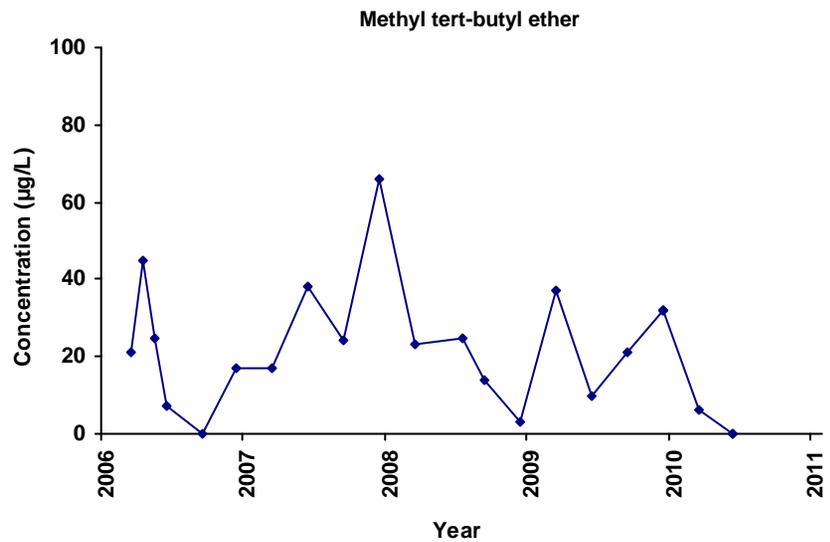
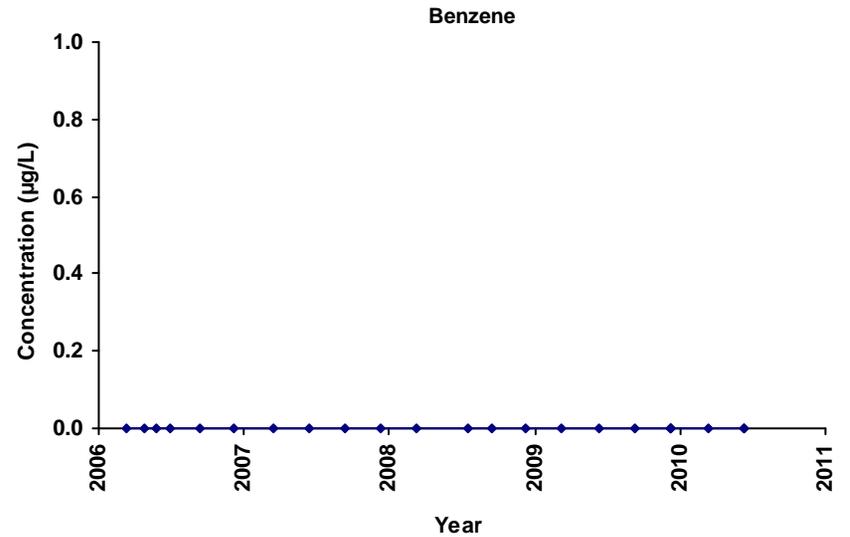
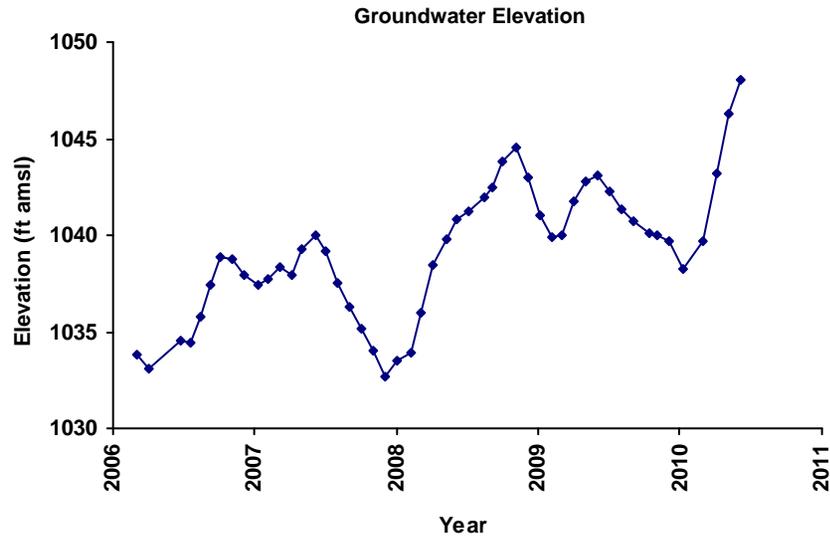
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-40
 ASE-122A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



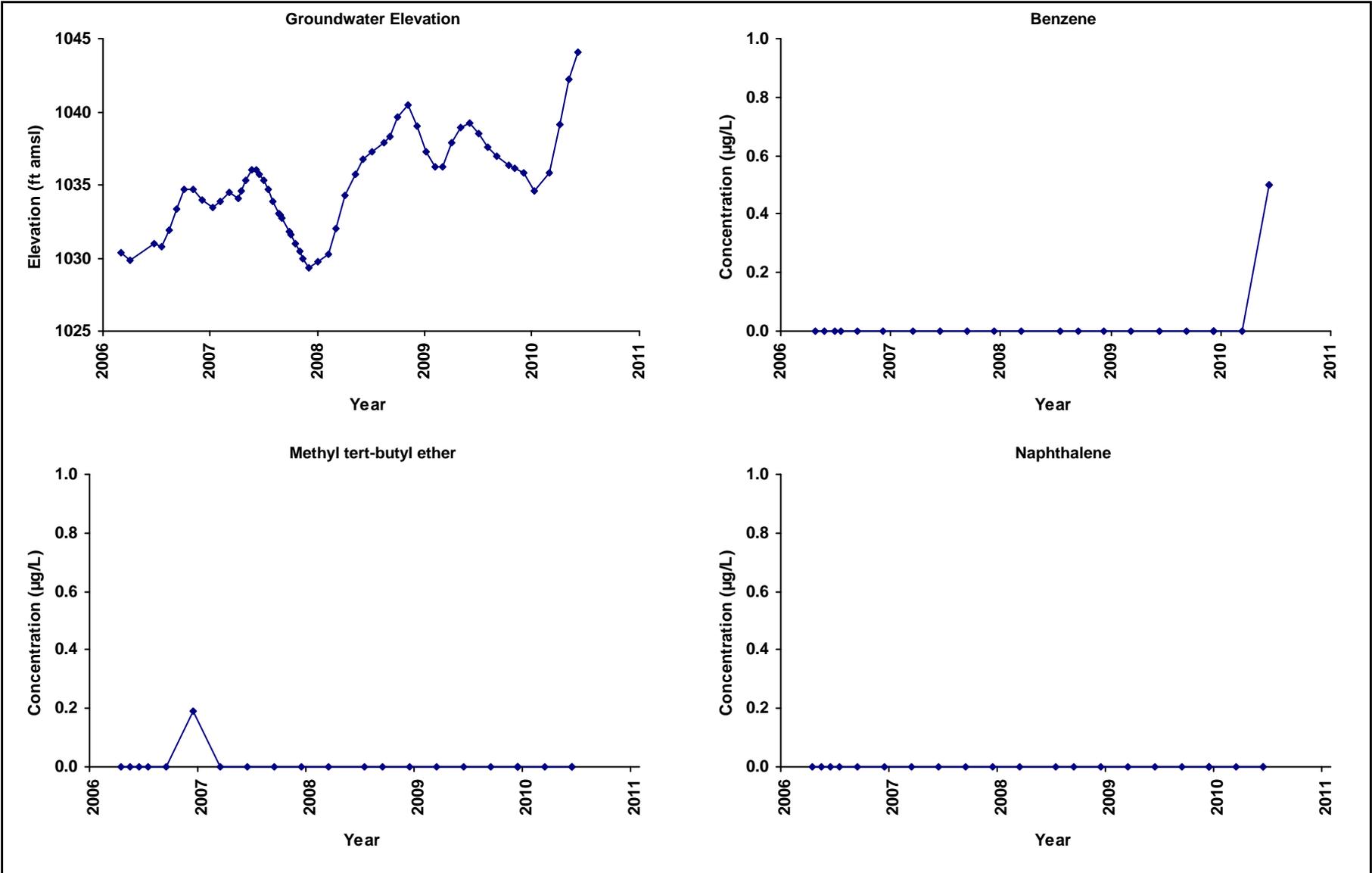
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-41
 ASE-123A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



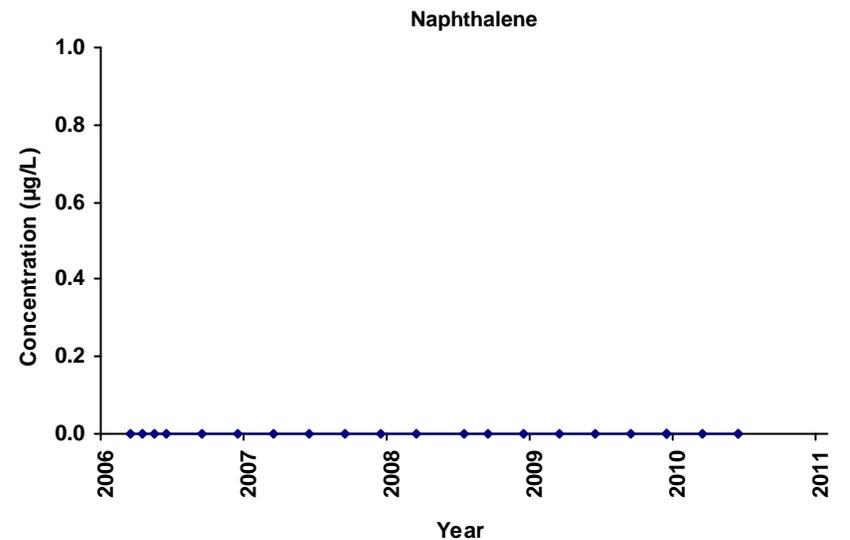
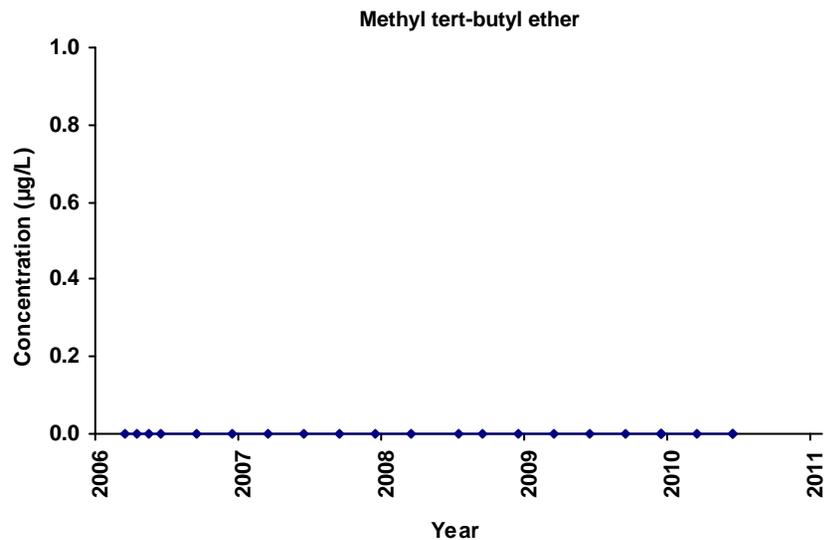
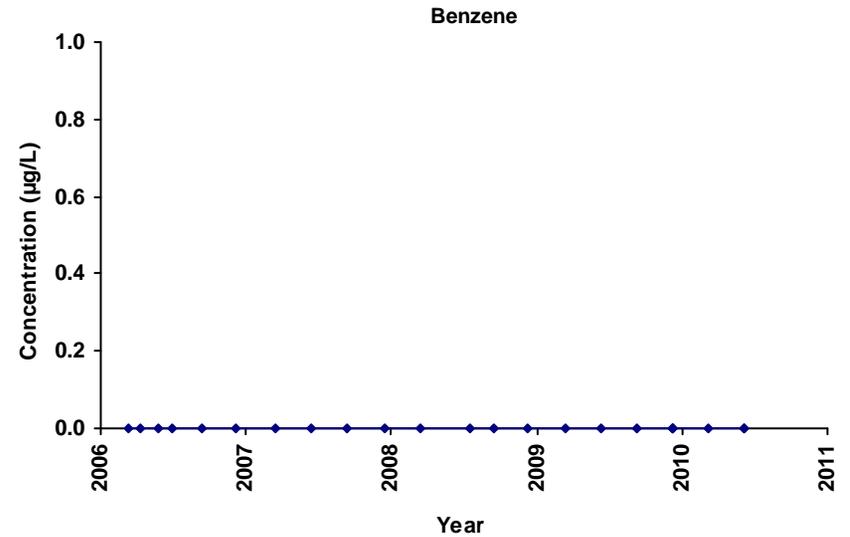
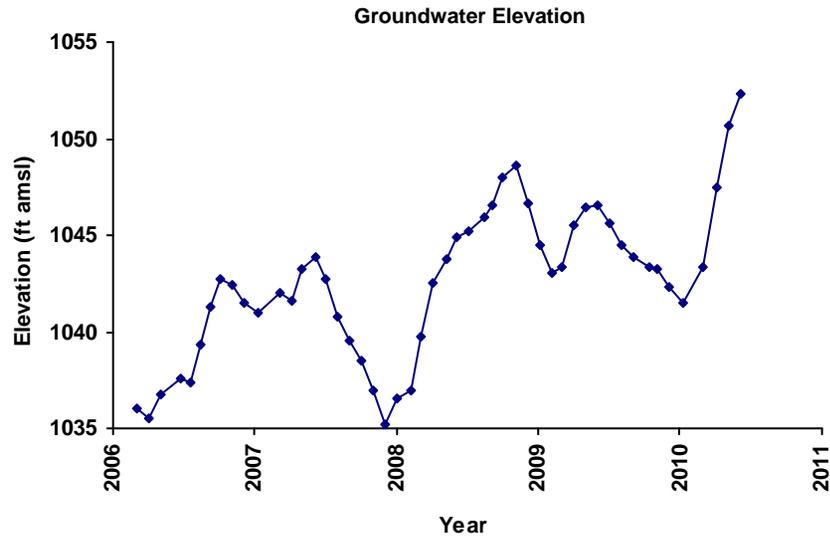
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-42
 ASE-124A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



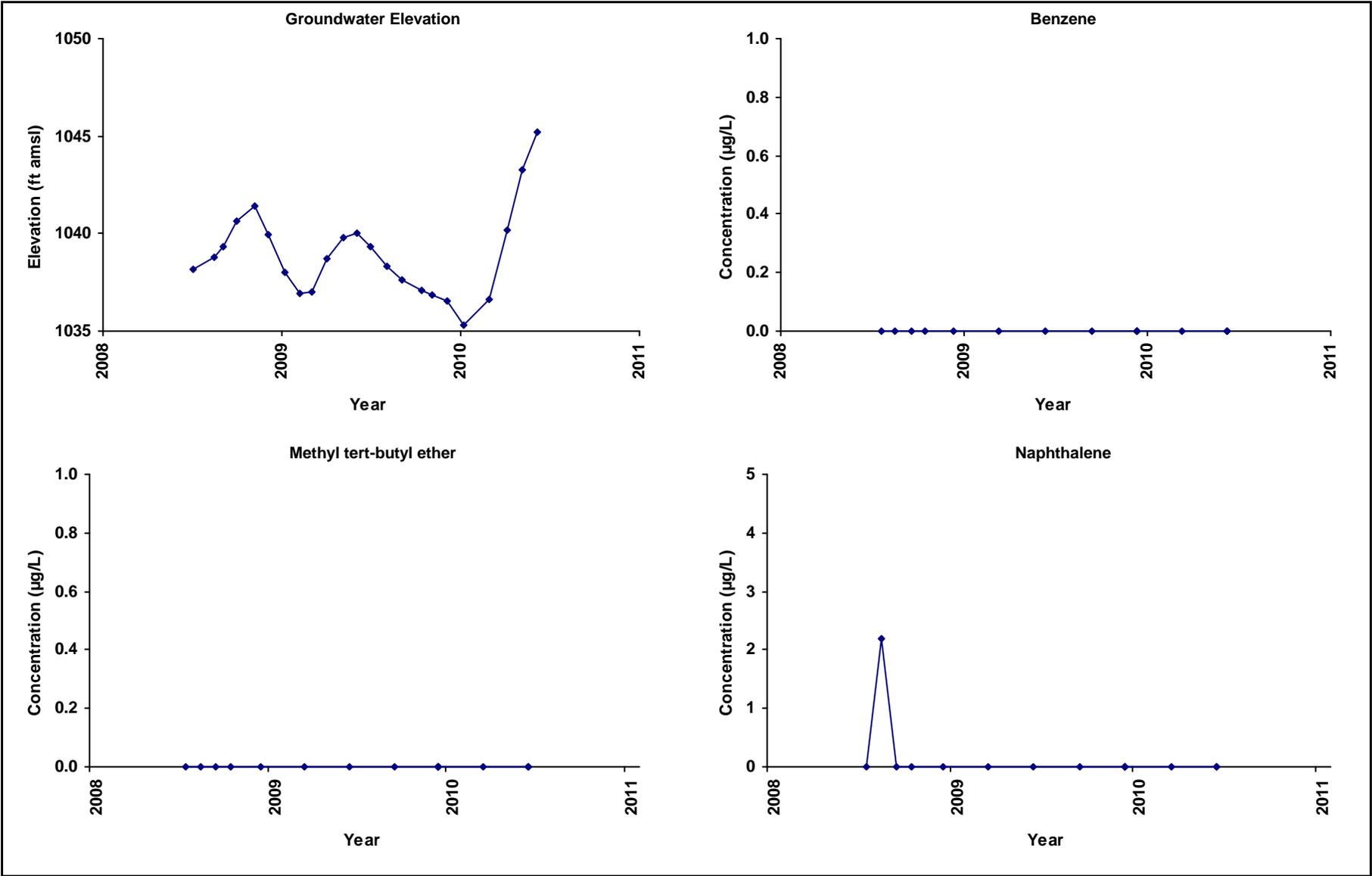
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-43
 ASE-125A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



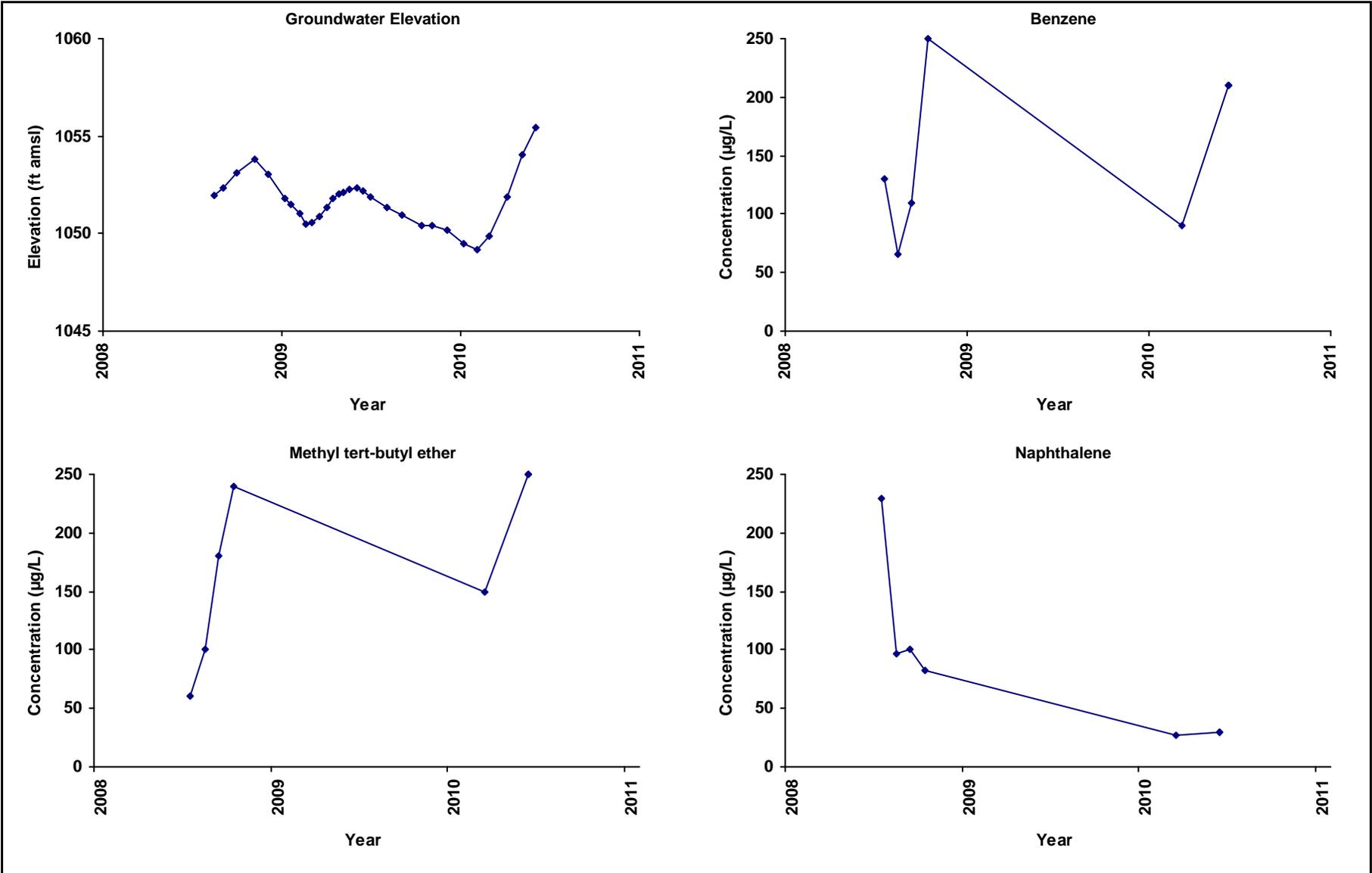
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-46
 ASE-128A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



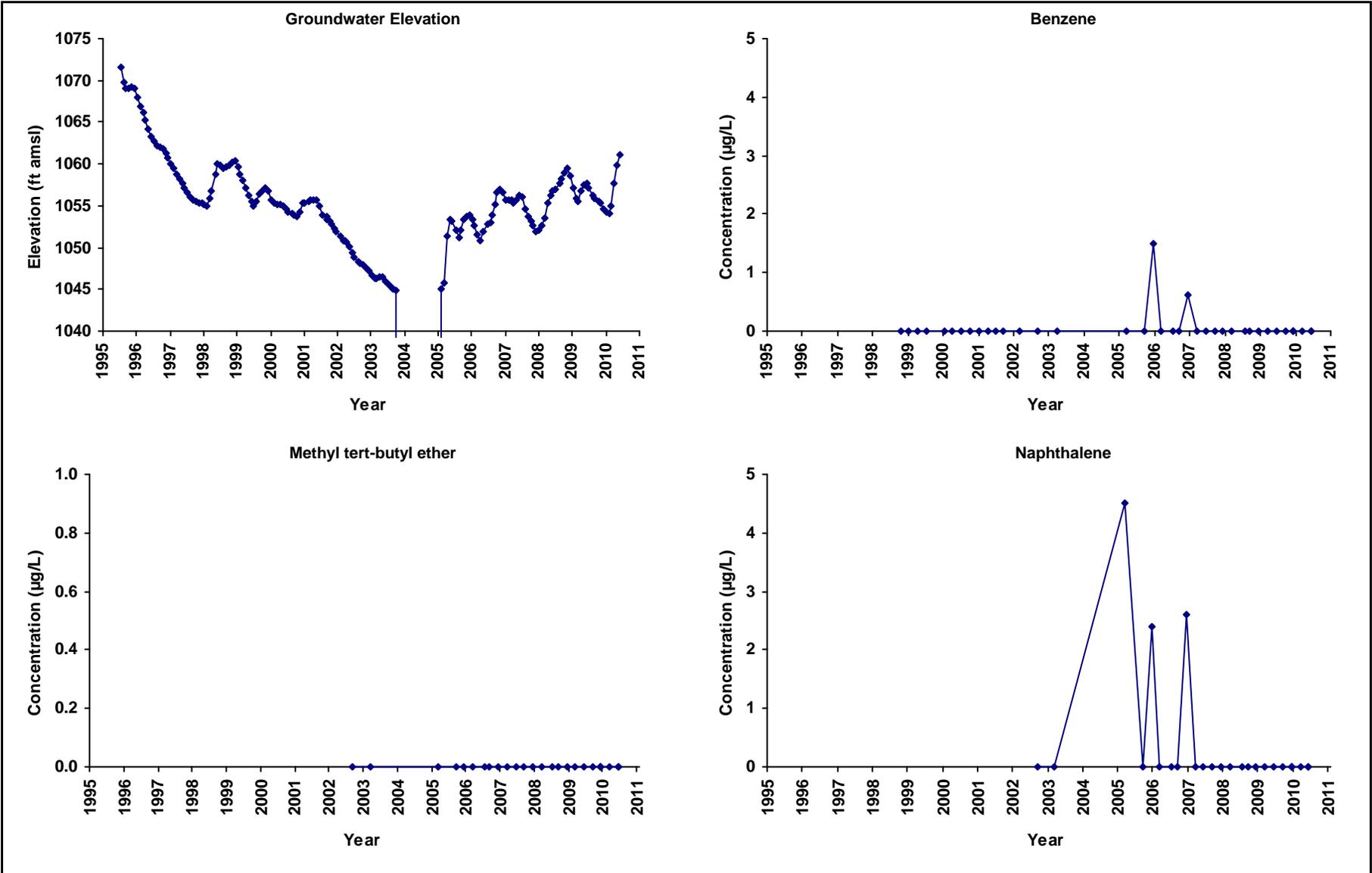
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-47
 ASE-129A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



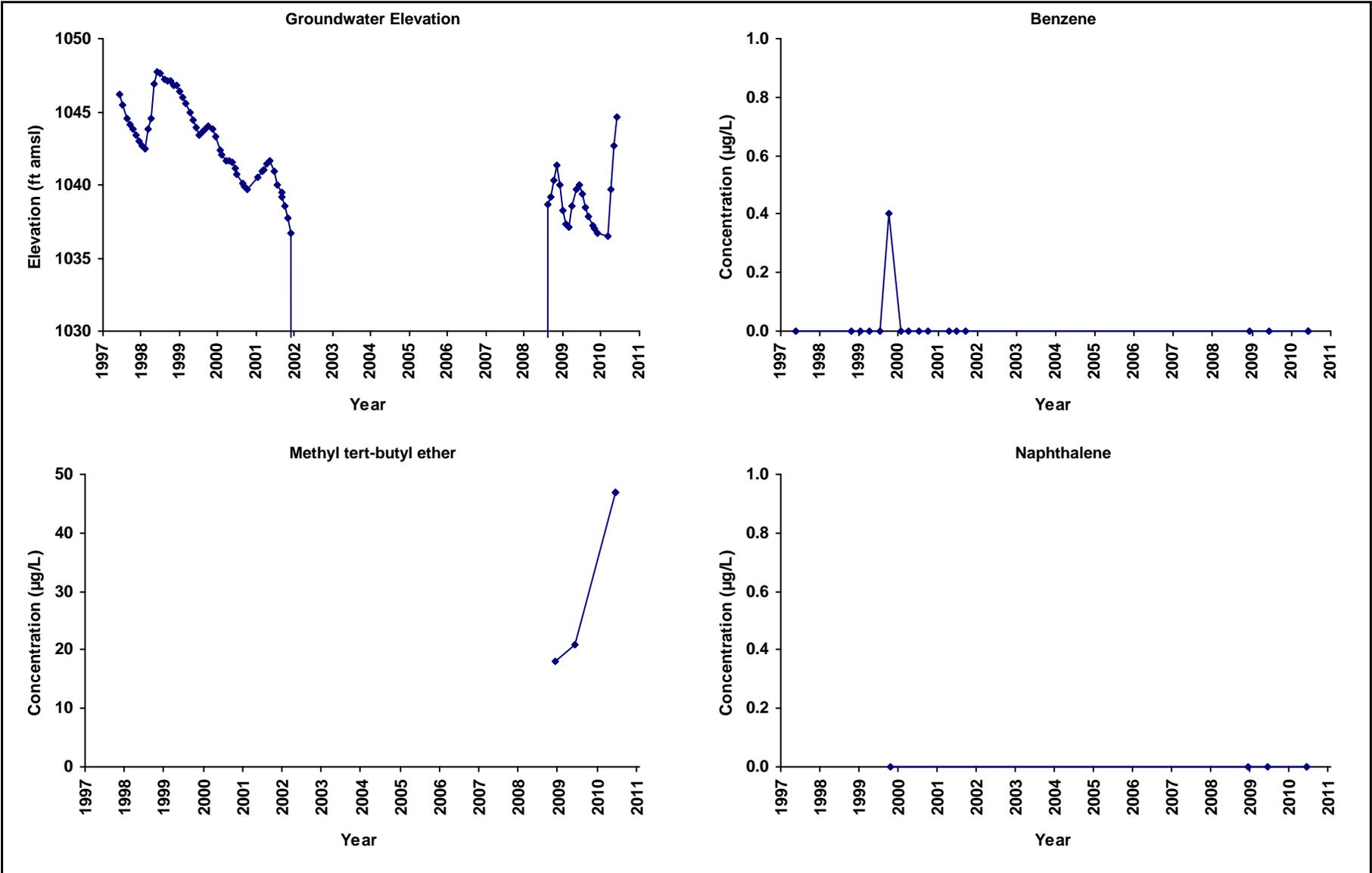
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-48
 ASE-130A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



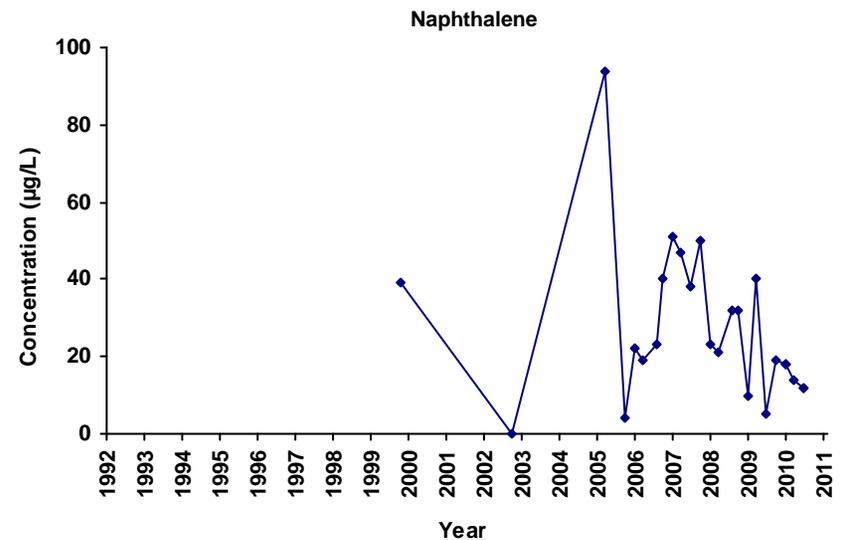
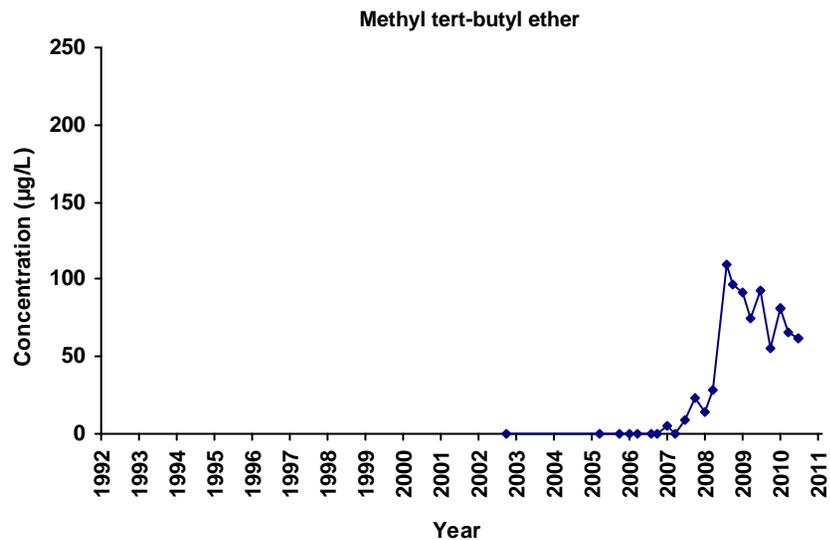
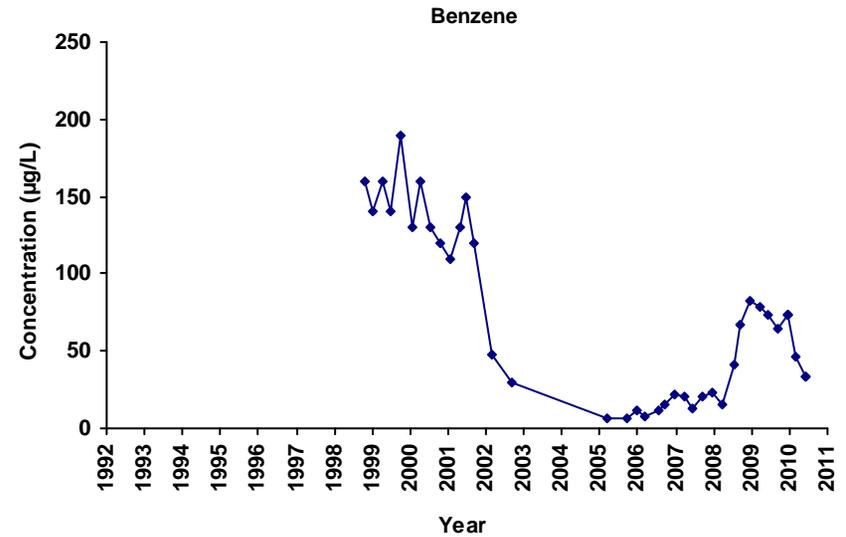
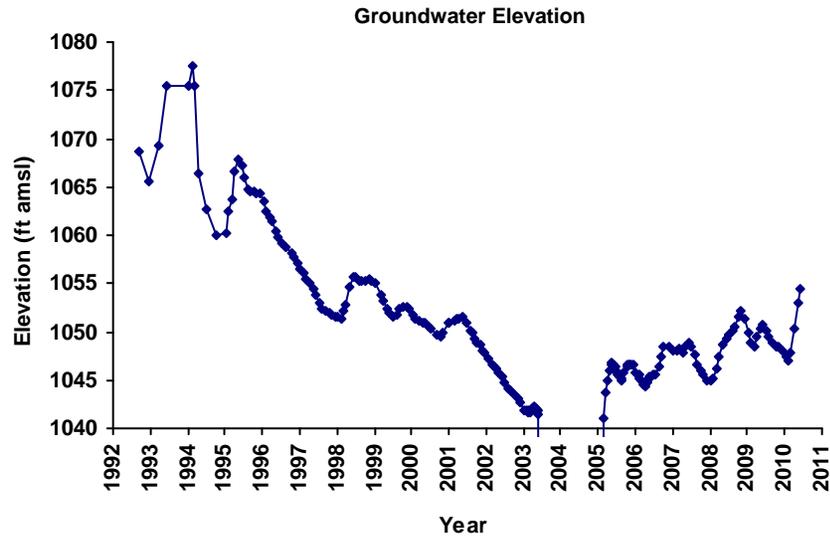
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-49
 BC-7A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



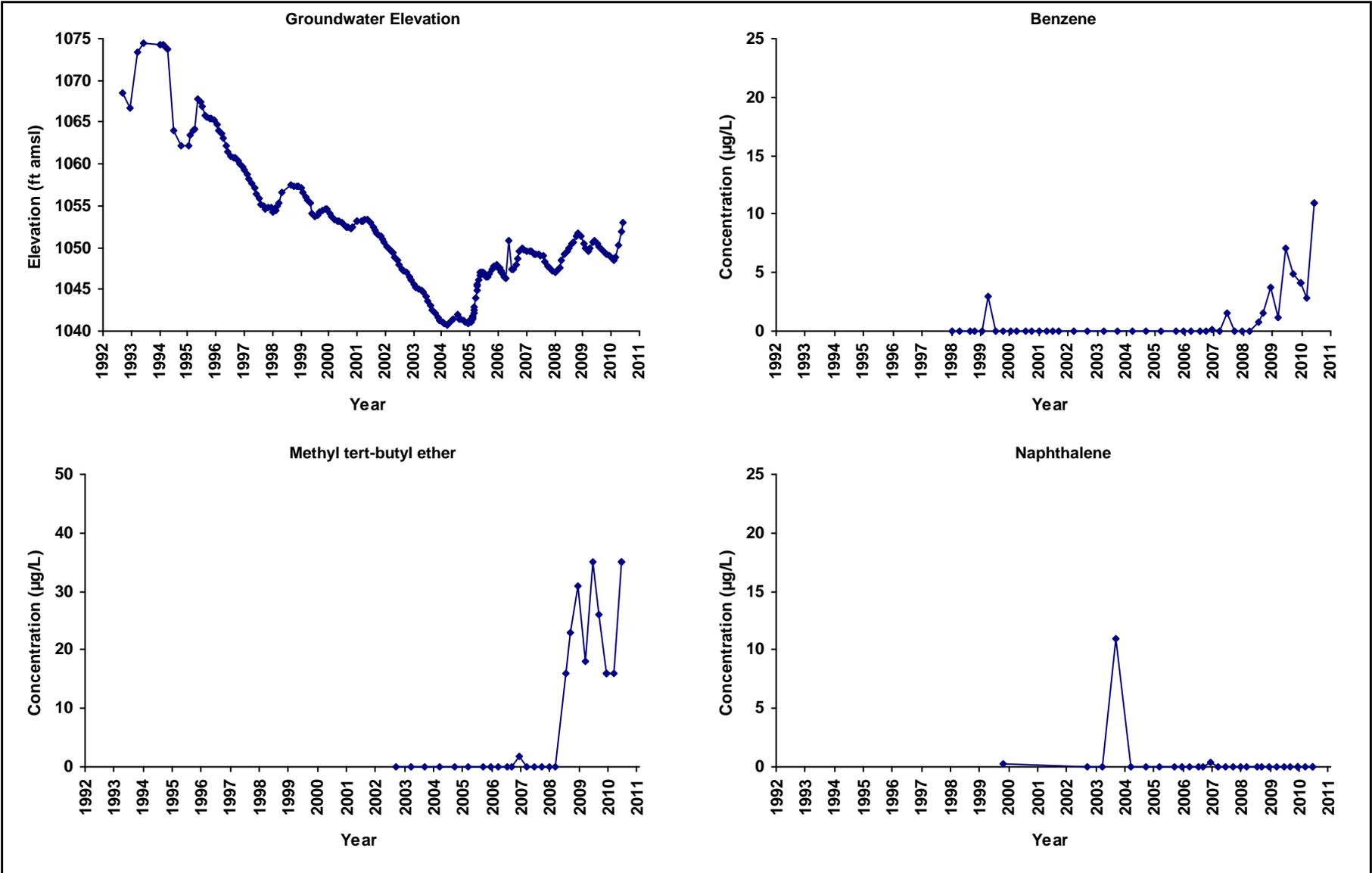
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-50
 BC-18
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



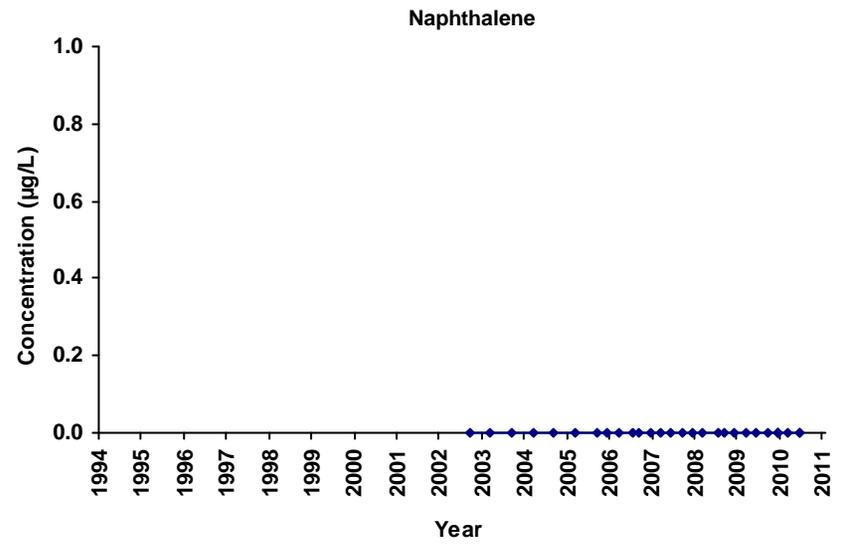
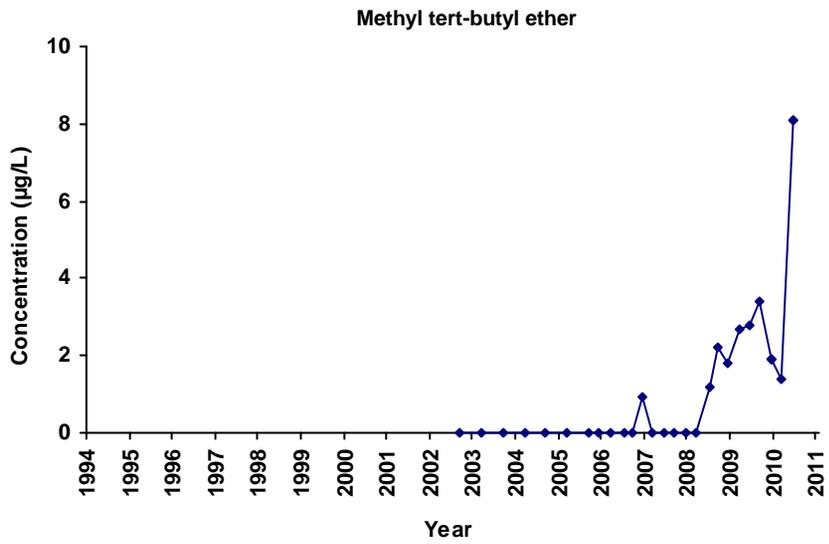
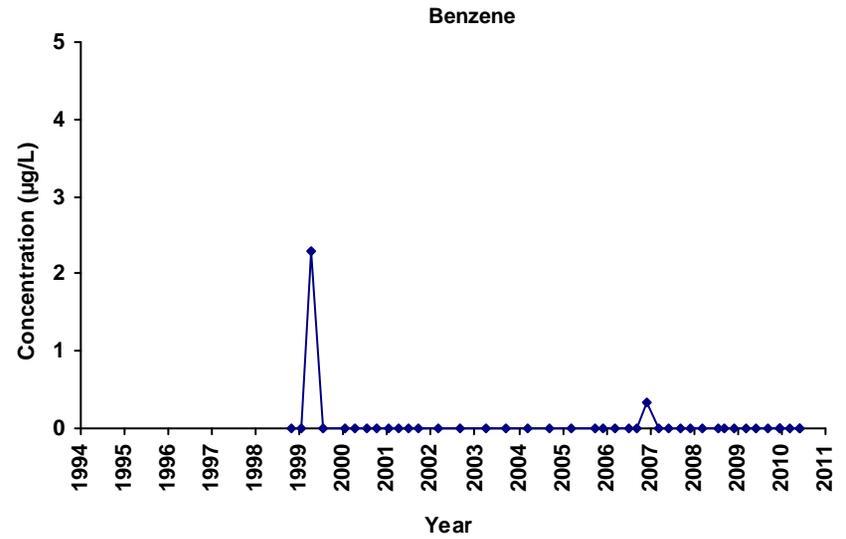
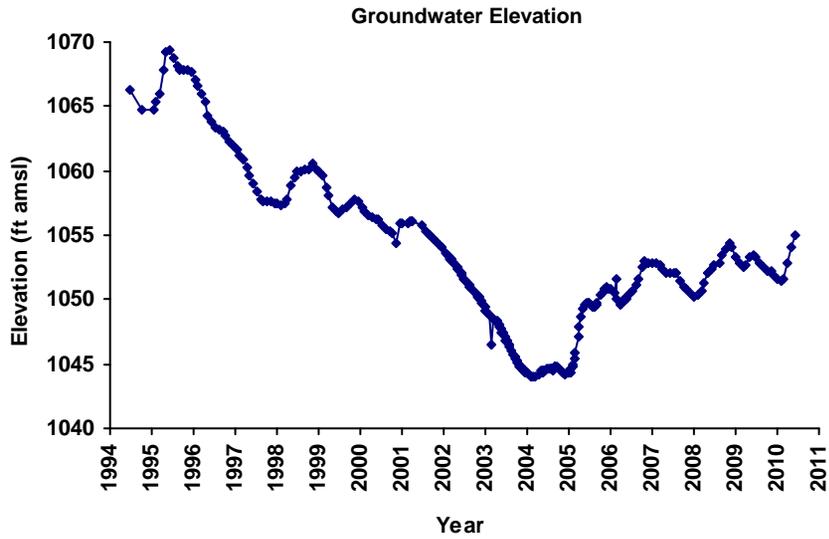
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-51
 PL-105A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



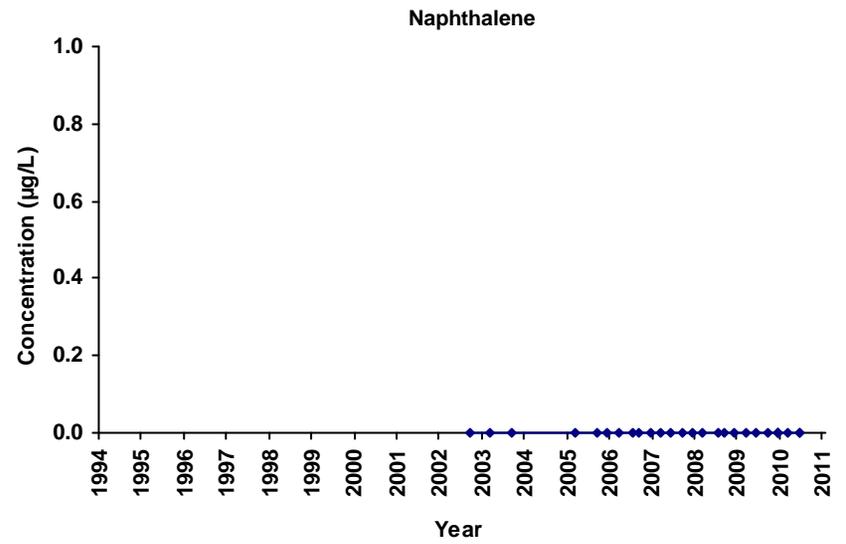
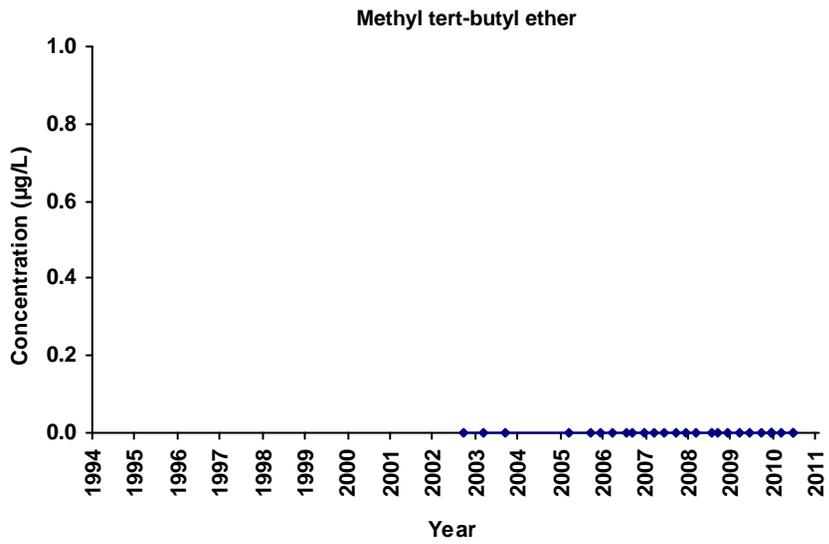
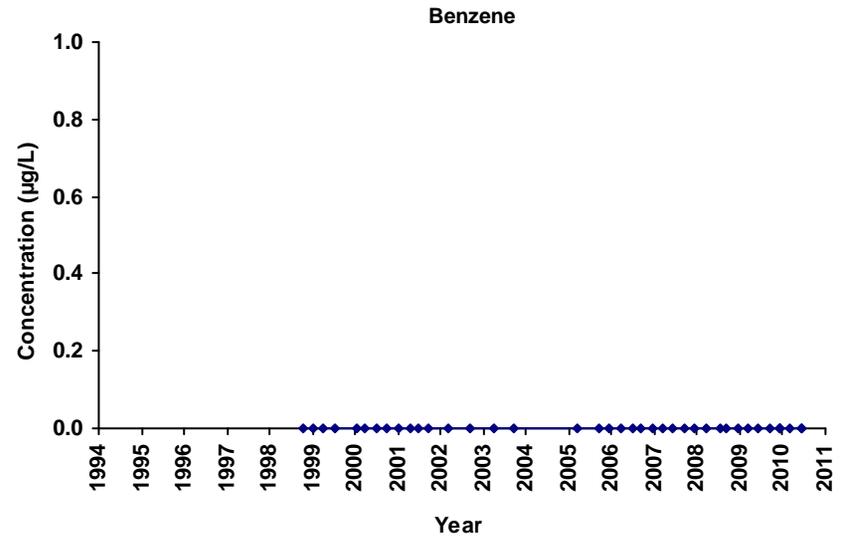
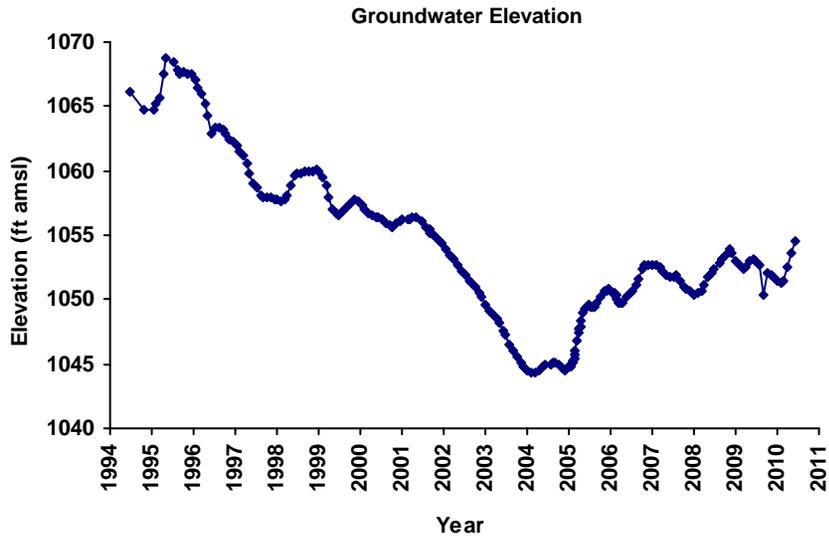
Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-52
 PL-201A
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-53
 PL-2101
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona



Notes:
 Concentrations reported as non-detect are plotted as zero.
 ft amsl = feet above mean sea level
 µg/L = micrograms per liter

FIGURE G-54
 PL-2102
 Water Level and Water Quality Hydrographs
 Honeywell 34th Street Facility, Phoenix, Arizona

Appendix H
Data Quality Evaluation and
Laboratory Analytical Reports - Groundwater

Data Quality Evaluation Report – Second Quarter 2010 Underground Storage Tank Groundwater Monitoring

Introduction

The objective of this data quality evaluation (DQE) report is to assess the data quality of analytical results for water samples collected for the Second Quarter 2010 monitoring period at the Honeywell International Inc. 34th Street Aerospace Engines Product Center (Honeywell facility). Samples were collected and analyzed in an effort to continue providing a framework for long-term monitoring of the Honeywell facility. The data may also be used to support future activities such as feasibility studies, risk assessments, fate and transport modeling, and remedial actions. The basis for this assessment includes: individual method requirements, guidelines from the United States Environmental Protection Agency (USEPA) *Contract Laboratory National Functional Guidelines for Organic Data Review* (USEPA, 1999), and the *Master Quality Assurance Project Plan, Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona* (QAPP) (CH2M HILL, 2007). This DQE report is intended as a general data quality assessment designed to summarize data issues.

The Second Quarter 2010 groundwater sampling event was conducted in compliance with the updated QAPP entitled *Master Quality Assurance Project Plan, Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona* (CH2M HILL, 2007), approved by the Arizona Department of Environmental Quality on December 1, 2009.

Analytical Data

This DQE report covers 46 normal samples, seven field duplicates, eight equipment blanks, and nine trip blanks. A list of samples and collection dates is included in Attachment H-1 at the end of this DQE report. Samples were collected between June 7 and June 11, 2010. These sample results were reported as five sample delivery groups (SDG) listed in Table H-1. The analyses were performed by Curtis & Tompkins Laboratory in Berkeley, California.

TABLE H-1
Sample Delivery Groups (SDGs)

220633
220657
220658
220680
220709

Two methods were used to analyze the environmental samples. Samples were collected and shipped by overnight carrier to the laboratory for analysis. Selected samples were analyzed for one or more of the analytes/methods shown in Table H-2.

TABLE H-2
 Analytical Parameters by Laboratory

Parameter	Method
Volatile Organic Compounds	SW8260B
Total Petroleum Hydrocarbons (diesel and oil range organics)	SW8015B

Data validation was performed in accordance with the *Contract Laboratory National Functional Guidelines for Organic Data Review* (USEPA, 1999), substituting the calibration and quality control requirements specified in the QAPP (CH2M HILL, 2007) for those specified in the National Functional Guidelines.

The assessment of data included a review of: (1) the chain-of-custody documentation; (2) holding-time compliance; (3) the required field and laboratory quality control samples; (4) flagging for method blanks; (5) laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries; (6) surrogate spike recoveries; (7) matrix spike/matrix spike duplicate (MS/MSD) samples; (8) internal standard responses; and (9) initial and continuing calibrations.

Field samples were also reviewed to ascertain field compliance and data quality issues. This included a review of field duplicates, equipment blanks, and trip blanks.

Data flags are assigned according to the QAPP (CH2M HILL, 2007). These flags, as well as the reason for each flag, are entered into the electronic database. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there will be only one final flag. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.

The data flags are defined below:

- J = Analyte was present but reported value may not be accurate or precise.
- R = The result was rejected.
- U = Analyte was analyzed for but not detected at the specified detection limit.
- UJ = Analyte was not detected above the detection limit objective. However, the reported detection limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Findings

The overall summaries of the data validation findings are contained in the following sections below and summarized in Attachment H-2 at the end of this DQE report. Both the text section and Attachment H-2 contain only the instances where criteria exceedances impact data qualification (resulting in a validation flag being added to the data).

Holding Times

All holding-time criteria were met with the following exceptions:

Samples ASE-108A-GW-10Q2, ASE-63A-GW-10Q2, GW-10Q2-002 and GW-10Q2-006 were analyzed approximately 18 hours outside of holding time for Method SW8260B. Associated results are possibly biased low. Thirty-two associated detected results were qualified as estimated and flagged “J”; 232 associated non-detected results were qualified as estimated and flagged “UJ”.

Sample Quantitation

All methods were reported to the reporting limit (RL). For methods included in the QAPP, all QAPP objectives were met for undiluted analyses with the exceptions listed in Table H-3.

TABLE H-3
Samples for Which QAPP Reporting Limit Objectives Were Not Met

Method	Analyte	QAPP ¹ RL (µg/L)	Report ² RL (µg/L)	Comments
SW8260B	Methylene Chloride	5	10	Laboratory RL submitted as a variance to the QAPP. Variance was accepted by the CH2M HILL chemist.
SW8015B	Total Petroleum Hydrocarbons - Diesel Range Organics (C ₁₀ -C ₂₂)	50	1,000	Laboratory RL raised per client request
SW8015B	Total Petroleum Hydrocarbons - Oil Range Organics (C ₂₂ -C ₃₂)	50	1,000	Laboratory RL raised per client request

Notes:

¹ Reporting Limits from the *Master Quality Assurance Project Plan, Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona* (CH2M HILL, 2007).

² *Second Quarter 2010 Remediation Status Report*

Sample Dilutions

Several samples required dilution due to high analyte concentrations and/or matrix interference. The RLs for non-detected analytes in the diluted samples were raised accordingly. Table H-4 lists the methods and samples analyzed at a dilution.

TABLE H-4
Samples Analyzed Diluted

Method	Sample ID	Dilution Factor
SW8260B	ASE-126A-GW-10Q2	4
SW8260B	ASE-130A-GW-10Q2	4
SW8260B	ASE-130A-GW-10Q2	6.25
SW8260B	ASE-38A-GW-10Q2	7.143
SW8260B	ASE-52A-GW-10Q2	2
SW8260B	ASE-63A-GW-10Q2	16.67
SW8260B	GW-10Q2-002	12.5
SW8260B	GW-10Q2-006	6.25

Calibration

The recoveries of bromomethane, iodomethane, and vinyl acetate were below criteria in the initial calibration verifications for Method SW8260B, indicating associated sample results

are possibly biased low. Forty-three associated non-detected results were qualified as estimated and flagged “UJ.”

The recoveries of 11 analytes were below criteria in the continuing calibration verifications for Method SW8260B, indicating associated sample results are possibly biased low. Thirty-four associated non-detected results were qualified as estimated and flagged “UJ.”

Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination.

Field Blanks

Equipment blanks and trip blanks were collected as required and were generally free of contamination.

Chloroform was detected above the reporting limit in several equipment blanks for Method SW8260B. Seven associated samples were detected less than five times the blank concentrations. The results were qualified as not detected and flagged “U.”

Toluene, dibromochloromethane, and bromodichloromethane were detected above the reporting limit in the equipment blanks for Method SW8260B. Associated samples were not qualified because they did not contain reportable levels of these analytes.

Field Duplicates

Seven field duplicate sets were collected and analyzed with this event. A list of field duplicates and associated parent sample identifications (ID) is included in Table H-5.

TABLE H-5
 List of Field Duplicates

Field Duplicate Sample ID	Associated Parent Sample ID
GW-10Q2-001	ASW-99A-GW-10Q2
GW-10Q2-002	ASE-63A-GW-10Q2
GW-10Q2-003	ASW-90A-GW-10Q2
GW-10Q2-004	ASW-54A-GW-10Q2
GW-10Q2-005	PL-201A-GW-10Q2
GW-10Q2-006	ASW-38A-GW-10Q2
GW-10Q2-007	ASW-122A-GW-10Q2

All relative percent difference (RPD) criteria were met with the following exceptions:

The RPD of Diesel C10-C22 was above the acceptance criterion in field duplicate set ASE-63A-GW-10Q2/GW-10Q2-002 for Method SW8015B. The detected results in the normal and duplicate were qualified as estimated and flagged “J.”

The RPDs of benzene, methyl tert butyl ether (MTBE), and propylbenzene were above the acceptance criterion in field duplicate set ASE-63A-GW-10Q2/GW-10Q2-002 for Method

SW8260B. The detected results in the normal and duplicate were qualified as estimated and flagged “J.”

Surrogates

All surrogates recovery criteria were met with one exception.

The surrogate was recovered greater than the upper control limit in sample ASE-130A-GW-10Q2 for Method SW8260B, indicating associated sample results are possibly biased high. One associated detected result was qualified as estimated and flagged “J.”

Laboratory Control Samples

LCS/LCSDs were analyzed for all methods as required. All acceptance criteria were met with the following exception:

Iodomethane and vinyl acetate were recovered below the lower control limit in the LCSs and LCSDs for Method SW8260B, indicating associated sample results are possibly biased low. Twelve associated non-detected results were qualified as estimated and flagged “UJ.”

Matrix Spikes

The results of MS/MSD analyses provide information about the possible influence of the matrix on either accuracy or precision of the measurements. MS/MSD recoveries and the associated RPD met criteria with the following exceptions:

The recovery of Diesel C10-C22 was above the upper control limit in the MS and MSD of sample ASE-55A-GW-10Q2 for Method SW8015B, indicating the associated parent sample result is possibly biased high. The associated detected result was qualified as estimated and flagged “J.”

The recovery of iodomethane was below the lower control limit in the MS of sample ASE-116A-GW-10Q2 for Method SW8260B, indicating the associated parent sample result is possibly biased low. The associated non-detected result was qualified as estimated and flagged “UJ.”

The recovery of naphthalene was above the upper control limit in the MS and MSD of sample ASE-55A-GW-10Q2 for Method SW8260B, indicating the associated parent sample result is possibly biased high. The associated detected result was qualified as estimated and flagged “J.”

Internal Standards

All internal standard criteria were met.

Tentatively Identified Compounds

Tentatively identified compounds were not reported by the laboratory.

Chain of Custody

Each sample was documented in a completed chain-of-custody and received at the laboratory within temperature criteria. Instances where discrepancies in sample integrity were noted are described below.

There were several instances where trip blanks were received with air bubbles that exceeded the USEPA recommended size criterion. These trip blanks did not contain contamination, and therefore it could not be determined if associated data were affected. No data were qualified.

Overall Assessment

The goal of this assessment is to demonstrate that a sufficient number of representative samples were collected and the resulting analytical data can be used to support the decision-making process. The procedures for assessing the precision, accuracy, representativeness, completeness, and comparability parameters were based on the QAPP. The following summary highlights the precision, accuracy, representativeness, completeness, and comparability findings for the above-defined events:

1. No data were rejected and completeness was 100 percent for all method/analyte combinations.
2. Less than one percent of the SW8260B data were qualified due to low-level equipment blank contamination. The detections in the equipment blanks were similar across all collected, suggesting a review of decontamination procedures is needed.
3. Samples were analyzed diluted for Method SW8260B, resulting in raised RLs for non-detected analytes.
4. Four samples were analyzed outside of holding time; 264 results were qualified as estimated.
5. Initial and continuing calibration exceedances were observed for Method SW8260B; 75 results were qualified as estimated.
6. Field duplicate RPD exceedances were observed for Methods SW8260B and SW8015B; eight results were qualified as estimated.
7. A surrogate recovery exceedance was observed in one sample for Method SW8260B; one result was qualified as estimated.
8. MS/MSD recovery exceedances were observed for Methods SW8260B and SW8015B; three results were qualified as estimated.
9. LCS/LCSD recovery exceedances were observed for Method SW8260B; 12 results were qualified as estimated.
10. Overall, the precision and accuracy of the data, as measured by field and laboratory quality control indicators, indicates that the data are usable for project objectives

References

CH2M HILL. 2007. *Master Quality Assurance Project Plan, Honeywell International, Inc., 34th Street Facility, Phoenix, Arizona*. September 20.

United States Environmental Protection Agency (USEPA). 1999. *Contract Laboratory National Functional Guidelines for Organic Data Review*. October.

ATTACHMENT H-1

Samples Associated with DQE

SAMPLES ASSOCIATED WITH DQE

Field Sample ID	Sample Date	Sample Type
EB-001-GW-10Q2	06/07/2010	EB
EB-005-GW-10Q2	06/07/2010	EB
EB-002-GW-10Q2	06/09/2010	EB
EB-006-GW-10Q2	06/09/2010	EB
EB-003-GW-10Q2	06/10/2010	EB
EB-007-GW-10Q2	06/10/2010	EB
EB-004-10Q	06/11/2010	EB
EB-008-GW-10Q2	06/11/2010	EB
GW-10Q2-004	06/08/2010	FD
GW-10Q2-001	06/08/2010	FD
GW-10Q2-005	06/09/2010	FD
GW-10Q2-007	06/09/2010	FD
GW-10Q2-002	06/10/2010	FD
GW-10Q2-006	06/10/2010	FD
GW-10Q2-003	06/11/2010	FD
ASE-128A-GW-10Q2	06/07/2010	REG
ASE-65A-GW-10Q2	06/08/2010	REG
ASE-100A-GW-10Q2	06/08/2010	REG
ASE-101A-GW-10Q2	06/08/2010	REG
ASE-103A-GW-10Q2	06/08/2010	REG
ASE-109A-GW-10Q2	06/08/2010	REG
ASE-110A-GW-10Q2	06/08/2010	REG
ASE-60A-GW-10Q2	06/08/2010	REG
ASE-129A-GW-10Q2	06/08/2010	REG
ASE-98A-GW-10Q2	06/08/2010	REG
ASE-68A-GW-10Q2	06/08/2010	REG
ASE-54A-GW-10Q2	06/08/2010	REG
ASE-61A-GW-10Q2	06/08/2010	REG
PL-2102-GW-10Q2	06/08/2010	REG
ASE-99A-GW-10Q2	06/08/2010	REG
PL-2101-GW-10Q2	06/08/2010	REG
ASE-116A-GW-10Q2	06/09/2010	REG
ASE-106A-GW-10Q2	06/09/2010	REG
ASE-122A-GW-10Q2	06/09/2010	REG
ASE-123A-GW-10Q2	06/09/2010	REG
ASE-124A-GW-10Q2	06/09/2010	REG
ASE-84A-GW-10Q2	06/09/2010	REG

SAMPLES ASSOCIATED WITH DQE

Field Sample ID	Sample Date	Sample Type
ASE-37A-GW-10Q2	06/09/2010	REG
ASE-127A-GW-10Q2	06/09/2010	REG
ASE-52A-GW-10Q2	06/09/2010	REG
BC-7A-GW-10Q2	06/09/2010	REG
ASE-58A-GW-10Q2	06/09/2010	REG
PL-201A-GW-10Q2	06/09/2010	REG
ASE-108A-GW-10Q2	06/10/2010	REG
ASE-130A-GW-10Q2	06/10/2010	REG
ASE-125A-GW-10Q2	06/10/2010	REG
ASE-55A-GW-10Q2	06/10/2010	REG
ASE-63A-GW-10Q2	06/10/2010	REG
ASE-129A-GW-10Q2B	06/10/2010	REG
ASE-62A-GW-10Q2	06/10/2010	REG
PL-105A-GW-10Q2	06/10/2010	REG
ASE-38A-GW-10Q2	06/10/2010	REG
ASE-105A-GW-10Q2	06/11/2010	REG
ASE-113A-GW-10Q2	06/11/2010	REG
BC-18-GW-10Q2	06/11/2010	REG
ASE-90A-GW-10Q2	06/11/2010	REG
ASE-95A-GW-10Q2	06/11/2010	REG
ASE-112A-GW-10Q2	06/11/2010	REG
ASE-96A-GW-10Q2	06/11/2010	REG
ASE-114A-GW-10Q2	06/11/2010	REG
ASE-126A-GW-10Q2	06/11/2010	REG
TB-005-GW-10Q2	06/07/2010	TB
TB-001-GW-10Q2	06/07/2010	TB
TB-006-GW-10Q2	06/08/2010	TB
TB-002-GW-10Q2	06/08/2010	TB
TB-010-GW-10Q2	06/09/2010	TB
TB-007-GW-10Q2	06/10/2010	TB
TB-004-GW-10Q2	06/10/2010	TB
TB-003-GW-10Q2	06/10/2010	TB
TB-008-GW-10Q2	06/10/2010	TB

Notes:

EB = Equipment blank
 FD = Field duplicate
 REG = Regular sample
 TB = Trip blank

ATTACHMENT H-2

Validation Findings

VALIDATION FINDINGS

Method	Native ID	Analyte	Final Result	Units	Final Flag	Validation Reason
SW8260B	ASE-100A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-101A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-103A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-110A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-128A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-54A-GW-10Q2	Chloroform	0.9	ug/l	U	EBH
SW8260B	ASE-54A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-60A-GW-10Q2	Chloroform	3.4	ug/l	U	EBH
SW8260B	ASE-60A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-61A-GW-10Q2	Chloroform	0.6	ug/l	U	EBH
SW8260B	ASE-61A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-98A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-99A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	GW-10Q2-001	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	GW-10Q2-004	Chloroform	0.9	ug/l	U	EBH
SW8260B	GW-10Q2-004	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	PL-2101-GW-10Q2	Chloroform	0.6	ug/l	U	EBH
SW8260B	PL-2101-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	PL-2102-GW-10Q2	Chloroform	0.9	ug/l	U	EBH
SW8260B	PL-2102-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8015B	ASE-55A-GW-10Q2	Diesel C10-C22	9900	ug/l	J	MSDH,MSH
SW8015B	ASE-63A-GW-10Q2	Diesel C10-C22	10000	ug/l	J	FD
SW8015B	GW-10Q2-002	Diesel C10-C22	15000	ug/l	J	FD
SW8260B	ASE-105A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-106A-GW-10Q2	1,2-Dibromo-3-Chloropropane	2	ug/l	UJ	CCVL
SW8260B	ASE-106A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-108A-GW-10Q2	1,1,1,2-Tetrachloroethane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,1,1-Trichloroethane	0.7	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	1,1,2,2-Tetrachloroethane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,1,2-Trichloroethane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,1-Dichloroethane	12	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	1,1-Dichloroethene	0.9	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	1,1-Dichloropropene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,2,3-Trichlorobenzene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,2,3-Trichloropropane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,2,4-Trichlorobenzene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,2,4-Trimethylbenzene	0.5	ug/l	UJ	HTA

VALIDATION FINDINGS

Method	Native ID	Analyte	Final Result	Units	Final Flag	Validation Reason
SW8260B	ASE-108A-GW-10Q2	1,2-Dibromo-3-Chloropropane	2	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,2-Dibromoethane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,2-Dichlorobenzene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,2-Dichloroethane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,2-Dichloropropane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,3,5-Trimethylbenzene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,3-Dichlorobenzene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,3-Dichloropropane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	1,4-Dichlorobenzene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	2,2-Dichloropropane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	2-Butanone	10	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	2-Chlorotoluene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	2-Hexanone	10	ug/l	UJ	CCVL,HTA
SW8260B	ASE-108A-GW-10Q2	4-Chlorotoluene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	4-Methyl-2-Pentanone	10	ug/l	UJ	CCVL,HTA
SW8260B	ASE-108A-GW-10Q2	Acetone	10	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Benzene	45	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	Bromobenzene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Bromochloromethane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Bromodichloromethane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Bromoform	1	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Bromomethane	1	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Carbon Disulfide	0.5	ug/l	UJ	CCVL,HTA
SW8260B	ASE-108A-GW-10Q2	Carbon Tetrachloride	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Chlorobenzene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Chloroethane	2.9	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	Chloroform	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Chloromethane	1	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	cis-1,2-Dichloroethene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	cis-1,3-Dichloropropene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Dibromochloromethane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Dibromomethane	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Ethylbenzene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Freon 12	1	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Hexachlorobutadiene	2	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL,HTA
SW8260B	ASE-108A-GW-10Q2	Isopropylbenzene	15	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	m,p-Xylenes	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Methylene Chloride	10	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Methyl tert-butyl ether	74	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	Naphthalene	3.1	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	n-Butylbenzene	2.5	ug/l	J	HTA

VALIDATION FINDINGS

Method	Native ID	Analyte	Final Result	Units	Final Flag	Validation Reason
SW8260B	ASE-108A-GW-10Q2	o-Xylene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	para-Isopropyl Toluene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Propylbenzene	5.6	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	sec-Butylbenzene	5.3	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	Styrene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	tert-Butylbenzene	0.8	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	Tetrachloroethene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Toluene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	trans-1,2-Dichloroethene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	trans-1,3-Dichloropropene	0.5	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Trichloroethene	1.1	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	Trichlorofluoromethane	1	ug/l	UJ	HTA
SW8260B	ASE-108A-GW-10Q2	Vinyl Acetate	10	ug/l	UJ	CCVL,HTA
SW8260B	ASE-108A-GW-10Q2	Vinyl Chloride	0.9	ug/l	J	HTA
SW8260B	ASE-108A-GW-10Q2	Xylene (total)	0.5	ug/l	UJ	HTA
SW8260B	ASE-109A-GW-10Q2	1,2-Dibromo-3-Chloropropane	2	ug/l	UJ	CCVL
SW8260B	ASE-109A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-112A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-113A-GW-10Q2	Vinyl Acetate	10	ug/l	UJ	LCSDL,LCSL
SW8260B	ASE-114A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-116A-GW-10Q2	Bromomethane	1	ug/l	UJ	CCVL
SW8260B	ASE-116A-GW-10Q2	Iodomethane	10	ug/l	UJ	LCSDL,LCS,CCVL,MSL
SW8260B	ASE-122A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-123A-GW-10Q2	1,2-Dibromo-3-Chloropropane	2	ug/l	UJ	CCVL
SW8260B	ASE-123A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-124A-GW-10Q2	1,2-Dibromo-3-Chloropropane	2	ug/l	UJ	CCVL
SW8260B	ASE-124A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-125A-GW-10Q2	Vinyl Acetate	10	ug/l	UJ	LCSDL,LCSL
SW8260B	ASE-126A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-127A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-129A-GW-10Q2B	2-Butanone	10	ug/l	UJ	CCVL
SW8260B	ASE-129A-GW-10Q2B	2-Hexanone	10	ug/l	UJ	CCVL
SW8260B	ASE-129A-GW-10Q2B	Bromomethane	1	ug/l	UJ	ICVSL,CCVL
SW8260B	ASE-129A-GW-10Q2B	Chloromethane	1	ug/l	UJ	CCVL
SW8260B	ASE-129A-GW-10Q2B	cis-1,2-Dichloroethene	0.5	ug/l	UJ	CCVL
SW8260B	ASE-129A-GW-10Q2B	Iodomethane	10	ug/l	UJ	ICVSL,CCVL,LCSDL,LCSL
SW8260B	ASE-129A-GW-10Q2B	Methylene Chloride	10	ug/l	UJ	CCVL
SW8260B	ASE-129A-GW-10Q2B	Vinyl Acetate	10	ug/l	UJ	LCSDL,LCSL
SW8260B	ASE-130A-GW-10Q2	Bromomethane	4	ug/l	UJ	CCVL
SW8260B	ASE-130A-GW-10Q2	Carbon Disulfide	2	ug/l	UJ	CCVL

VALIDATION FINDINGS

Method	Native ID	Analyte	Final Result	Units	Final Flag	Validation Reason
SW8260B	ASE-130A-GW-10Q2	Iodomethane	40	ug/l	UJ	CCVL,LCSDDL,LCSL
SW8260B	ASE-130A-GW-10Q2	Naphthalene	30	ug/l	J	SSH
SW8260B	ASE-37A-GW-10Q2	Bromomethane	1	ug/l	UJ	CCVL
SW8260B	ASE-37A-GW-10Q2	Iodomethane	10	ug/l	UJ	LCSDDL,LCSL,CCVL
SW8260B	ASE-52A-GW-10Q2	Iodomethane	20	ug/l	UJ	ICVSL
SW8260B	ASE-55A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-55A-GW-10Q2	Naphthalene	3.3	ug/l	J	MSDH,MSH
SW8260B	ASE-58A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-62A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-63A-GW-10Q2	1,1,1,2-Tetrachloroethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,1,1-Trichloroethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,1,2,2-Tetrachloroethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,1,2-Trichloroethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,1-Dichloroethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,1-Dichloroethene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,1-Dichloropropene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,2,3-Trichlorobenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,2,4-Trichlorobenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,2,4-Trimethylbenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,2-Dibromo-3-Chloropropane	33	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,2-Dibromoethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,2-Dichlorobenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,2-Dichloroethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,2-Dichloropropane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,3,5-Trimethylbenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,3-Dichlorobenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,3-Dichloropropane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	1,4-Dichlorobenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	2,2-Dichloropropane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	2-Butanone	170	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	2-Chlorotoluene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	2-Hexanone	170	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	4-Chlorotoluene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	4-Methyl-2-Pentanone	170	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Benzene	1100	ug/l	J	FD,HTA
SW8260B	ASE-63A-GW-10Q2	Bromobenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Bromochloromethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Bromodichloromethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Bromomethane	17	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Carbon Disulfide	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Carbon Tetrachloride	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Chlorobenzene	8.3	ug/l	UJ	HTA

VALIDATION FINDINGS

Method	Native ID	Analyte	Final Result	Units	Final Flag	Validation Reason
SW8260B	ASE-63A-GW-10Q2	Chloroethane	17	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Chloroform	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Chloromethane	17	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	cis-1,2-Dichloroethene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	cis-1,3-Dichloropropene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Dibromochloromethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Dibromomethane	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Ethylbenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Freon 12	17	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Hexachlorobutadiene	33	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Iodomethane	170	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Isopropylbenzene	67	ug/l	J	HTA
SW8260B	ASE-63A-GW-10Q2	m,p-Xylenes	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Methylene Chloride	170	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Methyl tert-butyl ether	56	ug/l	J	FD,HTA
SW8260B	ASE-63A-GW-10Q2	Naphthalene	170	ug/l	J	HTA
SW8260B	ASE-63A-GW-10Q2	n-Butylbenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	o-Xylene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	para-Isopropyl Toluene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Propylbenzene	49	ug/l	J	FD,HTA
SW8260B	ASE-63A-GW-10Q2	sec-Butylbenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Styrene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	tert-Butylbenzene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Tetrachloroethene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Toluene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	trans-1,2-Dichloroethene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	trans-1,3-Dichloropropene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Trichloroethene	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Trichlorofluoromethane	17	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Vinyl Acetate	170	ug/l	UJ	ICVSL,LCSDL,LCSL
SW8260B	ASE-63A-GW-10Q2	Vinyl Chloride	8.3	ug/l	UJ	HTA
SW8260B	ASE-63A-GW-10Q2	Xylene (total)	8.3	ug/l	UJ	HTA
SW8260B	ASE-65A-GW-10Q2	Chloroform	1.7	ug/l	U	EBH
SW8260B	ASE-65A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-68A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-90A-GW-10Q2	2-Hexanone	10	ug/l	UJ	CCVL
SW8260B	ASE-90A-GW-10Q2	4-Methyl-2-Pentanone	10	ug/l	UJ	CCVL
SW8260B	ASE-90A-GW-10Q2	Carbon Disulfide	0.5	ug/l	UJ	CCVL
SW8260B	ASE-90A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	ASE-90A-GW-10Q2	Vinyl Acetate	10	ug/l	UJ	CCVL
SW8260B	ASE-95A-GW-10Q2	Vinyl Acetate	10	ug/l	UJ	LCSDL,LCSL
SW8260B	ASE-96A-GW-10Q2	Vinyl Acetate	10	ug/l	UJ	LCSDL,LCSL

VALIDATION FINDINGS

Method	Native ID	Analyte	Final Result	Units	Final Flag	Validation Reason
SW8260B	BC-18-GW-10Q2	Vinyl Acetate	10	ug/l	UJ	LCSDL,LCSL
SW8260B	BC-7A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	GW-10Q2-002	1,1,1,2-Tetrachloroethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,1,1-Trichloroethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,1,2,2-Tetrachloroethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,1,2-Trichloroethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,1-Dichloroethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,1-Dichloroethene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,1-Dichloropropene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,2,3-Trichlorobenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,2,3-Trichloropropane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,2,4-Trichlorobenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,2,4-Trimethylbenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,2-Dibromo-3-Chloropropane	25	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,2-Dibromoethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,2-Dichlorobenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,2-Dichloroethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,2-Dichloropropane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,3,5-Trimethylbenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,3-Dichlorobenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,3-Dichloropropane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	1,4-Dichlorobenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	2,2-Dichloropropane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	2-Butanone	130	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	2-Chlorotoluene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	2-Hexanone	130	ug/l	UJ	CCVL,HTA
SW8260B	GW-10Q2-002	4-Chlorotoluene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	4-Methyl-2-Pentanone	130	ug/l	UJ	CCVL,HTA
SW8260B	GW-10Q2-002	Acetone	130	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Benzene	790	ug/l	J	FD,HTA
SW8260B	GW-10Q2-002	Bromobenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Bromochloromethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Bromodichloromethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Bromoform	13	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Bromomethane	13	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Carbon Disulfide	6.3	ug/l	UJ	CCVL,HTA
SW8260B	GW-10Q2-002	Carbon Tetrachloride	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Chlorobenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Chloroethane	13	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Chloroform	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Chloromethane	13	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	cis-1,2-Dichloroethene	6.3	ug/l	UJ	HTA

VALIDATION FINDINGS

Method	Native ID	Analyte	Final Result	Units	Final Flag	Validation Reason
SW8260B	GW-10Q2-002	cis-1,3-Dichloropropene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Dibromochloromethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Dibromomethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Ethylbenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Freon 12	13	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Hexachlorobutadiene	25	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Iodomethane	130	ug/l	UJ	ICVSL,HTA
SW8260B	GW-10Q2-002	Isopropylbenzene	54	ug/l	J	HTA
SW8260B	GW-10Q2-002	m,p-Xylenes	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Methylene Chloride	130	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Methyl tert-butyl ether	42	ug/l	J	FD,HTA
SW8260B	GW-10Q2-002	Naphthalene	170	ug/l	J	HTA
SW8260B	GW-10Q2-002	n-Butylbenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	o-Xylene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	para-Isopropyl Toluene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Propylbenzene	35	ug/l	J	FD,HTA
SW8260B	GW-10Q2-002	sec-Butylbenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Styrene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	tert-Butylbenzene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Tetrachloroethene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Toluene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	trans-1,2-Dichloroethene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	trans-1,3-Dichloropropene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Trichloroethene	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Trichlorofluoromethane	13	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Vinyl Acetate	130	ug/l	UJ	CCVL,HTA
SW8260B	GW-10Q2-002	Vinyl Chloride	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-002	Xylene (total)	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-003	2-Hexanone	10	ug/l	UJ	CCVL
SW8260B	GW-10Q2-003	4-Methyl-2-Pentanone	10	ug/l	UJ	CCVL
SW8260B	GW-10Q2-003	Carbon Disulfide	0.5	ug/l	UJ	CCVL
SW8260B	GW-10Q2-003	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	GW-10Q2-003	Vinyl Acetate	10	ug/l	UJ	CCVL
SW8260B	GW-10Q2-005	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	GW-10Q2-006	1,1,1,2-Tetrachloroethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,1,1-Trichloroethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,1,2,2-Tetrachloroethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,1,2-Trichloroethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,1-Dichloroethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,1-Dichloroethene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,1-Dichloropropene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,2,3-Trichlorobenzene	3.1	ug/l	UJ	HTA

VALIDATION FINDINGS

Method	Native ID	Analyte	Final Result	Units	Final Flag	Validation Reason
SW8260B	GW-10Q2-006	1,2,4-Trichlorobenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,2,4-Trimethylbenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,2-Dibromo-3-Chloropropane	13	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,2-Dibromoethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,2-Dichlorobenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,2-Dichloroethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,2-Dichloropropane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,3,5-Trimethylbenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,3-Dichlorobenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,3-Dichloropropane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	1,4-Dichlorobenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	2,2-Dichloropropane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	2-Butanone	63	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	2-Chlorotoluene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	2-Hexanone	63	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	4-Chlorotoluene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	4-Methyl-2-Pentanone	63	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Benzene	400	ug/l	J	HTA
SW8260B	GW-10Q2-006	Bromobenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Bromochloromethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Bromodichloromethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Bromomethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Carbon Disulfide	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Carbon Tetrachloride	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Chlorobenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Chloroethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Chloroform	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Chloromethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	cis-1,2-Dichloroethene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	cis-1,3-Dichloropropene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Dibromochloromethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Dibromomethane	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Ethylbenzene	51	ug/l	J	HTA
SW8260B	GW-10Q2-006	Freon 12	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Hexachlorobutadiene	13	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Iodomethane	63	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Isopropylbenzene	12	ug/l	J	HTA
SW8260B	GW-10Q2-006	m,p-Xylenes	3.2	ug/l	J	HTA
SW8260B	GW-10Q2-006	Methylene Chloride	63	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Methyl tert-butyl ether	5.6	ug/l	J	HTA
SW8260B	GW-10Q2-006	Naphthalene	33	ug/l	J	HTA
SW8260B	GW-10Q2-006	n-Butylbenzene	3.1	ug/l	UJ	HTA

VALIDATION FINDINGS

Method	Native ID	Analyte	Final Result	Units	Final Flag	Validation Reason
SW8260B	GW-10Q2-006	o-Xylene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	para-Isopropyl Toluene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Propylbenzene	8.8	ug/l	J	HTA
SW8260B	GW-10Q2-006	sec-Butylbenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Styrene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	tert-Butylbenzene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Tetrachloroethene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Toluene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	trans-1,2-Dichloroethene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	trans-1,3-Dichloropropene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Trichloroethene	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Trichlorofluoromethane	6.3	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Vinyl Acetate	63	ug/l	UJ	ICVSL,LCSDL,LCSL
SW8260B	GW-10Q2-006	Vinyl Chloride	3.1	ug/l	UJ	HTA
SW8260B	GW-10Q2-006	Xylene (total)	3.2	ug/l	J	HTA
SW8260B	GW-10Q2-007	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	PL-105A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL
SW8260B	PL-201A-GW-10Q2	Iodomethane	10	ug/l	UJ	ICVSL

Notes:

CCVL = Continuing calibration verification recovery greater than the upper control limit
 EBH = Equipment blank concentration greater than the reporting limit
 FD = Field duplicate relative percent difference greater than acceptance criterion
 HTA = Analytical holding time exceeded
 ICVSL = Initial calibration verification recovery less than the lower control limit
 LCSDL = Laboratory control sample duplicate recovery less than the lower control limit
 LCSL = Laboratory control sample recovery less than the lower control limit
 MSDH = Matrix spike duplicate recovery greater than the upper control limit
 MSH = Matrix spike recovery greater than the upper control limit
 MSL = Matrix spike recovery less than the lower control limit
 SSH = Surrogate recovery greater than the upper control limit
 µg/L = Micrograms per liter



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220633
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 383868.US.60.61.QS
Location : Quarterly UST
Level : III

Table with 2 columns: Sample ID and Lab ID. Lists various sample identifiers and their corresponding lab IDs.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Senior Program Manager

Date: 06/21/2010

CASE NARRATIVE

Laboratory number: 220633
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/09/10
Samples Received: 06/09/10

This data package contains sample and QC results for nineteen water samples, requested for the above referenced project on 06/09/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

Low response was observed for iodomethane in the ICV analyzed 06/15/10 02:25; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b".

High responses were observed for 2,2-dichloropropane and vinyl acetate in the CCV analyzed 06/17/10 11:17; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

High responses were observed for many analytes in the CCV analyzed 06/18/10 11:29; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

High recovery was observed for iodomethane in the BS for batch 164132; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples.

High recoveries were observed for a number of analytes in the BS/BSD for batch 164167; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples.

High recoveries were observed for many analytes in the MS/MSD of ASE-100A-GW-10Q2 (lab # 220633-010); the associated RPDs were within limits.

No other analytical problems were encountered.

Chain of Custody

220673

3738-100608

Curtis & Tompkins Laboratories 2323 5th St. Burlingame, CA 94710 916-204-2221		Honeywell Chain Of Custody / Analysis Request										AESI Ref: 40336.60247 COC# 37380	
Privileged & Confidential		Site Name:		Sky Harbor AZ		Phase: Sampling Program		Quarterny UST		CTBERK			
EDD To: Tuesdal Powers, Critigen Melanie West, Critigen		Location of Site: PHOENIX, AZ		Sky Harbor AZ		Sampling Program		Quarterny UST		SKYHARBOR			
Sampler: Derek Fashy		Preservative: 8		1						Authorized User: Honeywell			
PO # PO: 5101516, PN: 397664, CL: 90, DM: 02, CC: 6400		Analysis Turnaround Time (TAT): 10								Text & Excel File Drive Excel & Text File Order			
Laboratory Contact		Report Tier Level		10						Copyright AESI: Version 10.0 (11-25-04) Unauthorized use strictly prohibited.			
Full Report TAT: 10										Sampling Method (code)			
										Lab Sample Numbers			
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Field Filtered Sample ?	Composite/Grab	
1 GW-1002	-	-	TB-001-GW-1002	060710	130	Water	Water	TB	1	G	N		
2 GW-1002	-	-	EB-001-GW-1002	060710	2145	Water	Water	EB	5	G	N		
3 ASE-128A	-	-	ASE-128A-GW-1002	060710	2318	Water	Water	REG	5	G	N		
4 ASE-98A	-	-	ASE-98A-GW-1002	060810	0003	Water	Water	REG	5	G	N		
5 ASE-99A	-	-	ASE-99A-GW-1002	060810	0050	Water	Water	REG	5	G	N		
6 1002-001	-	-	GW-1002-001	060810	0100	Water	Water	REG	5	G	N		
7 ASE-10A	-	-	ASE-10A-GW-1002	060810	0140	Water	Water	REG	5	G	N		
8 ASE-129A	-	-	ASE-129A-GW-1002	060810	0310	Water	Water	REG	5	G	N		
9 ASE-103A	-	-	ASE-103A-GW-1002	060810	0356	Water	Water	REG	5	G	N		
10 ASE-100A	-	-	ASE-100A-GW-1002	060810	0443	Water	Water	REG	15	G	N	X	
11 ASE-104A	-	-	ASE-104A-GW-1002	060810	0535	Water	Water	REG	5	G	N		
12													

Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact
<i>[Signature]</i>	Company	<i>[Signature]</i>	Company	Cooler Temp.	
Relinquished by	Date/Time	Received by	Date/Time	Condition	Custody Seals Intact
	06/08/10	<i>[Signature]</i>	6-4-10	Cooler Temp.	

Preservatives: (Other, Specify):
 0 (none); 1 (4 Deg C); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, pH>12); 7 (H2SO4, pH<2, 4 Deg C); 8 (HCl, pH<2, 4 Deg C); 9 (HCl, 4 Deg C); 10 (HNO3, pH<2, 4 Deg C); 11 (NaOH, pH>12, 4 Deg, Ascorbic Acid); 12 (H2SO4, Na2S2O3, 4 Deg C, pH<2); 13 (Zn Acetate); 14 (1-MeOH, 4 Deg C and 2-NaHSO4, 4 Deg C); 15 (NaOH, pH>12, 4 Deg C); sp (special instructions)

220633

37380-100608

Curtis & Tompkins Laboratories
 2325 5th St.
 Berkeley, CA 94710
 510-864-3221

Honeywell Chain Of Custody / Analysis Request

Privileged & Confidential

Site Name: Sky Harbor AZ
 Location of Site: PHOENIX, AZ
 Phase: Sampling Program
 Quaterly UST

EDD To: Tuesdai Powers, Critigen
 Melanie West, Critigen

Sampler: *Diana Rostback*
 PO #: PO: 5101516, PN: 397664, CL: 90, DM: 02, CC: 6400
 Analysis Turnaround Time (TAT): 10

Consultant: *Diana Rostback*

Laboratory Contact: *Diana Rostback*

Report Tier Level: 10
 Full Report TAT: 10

Location ID	Sample Identification		Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Field Filtered Sample ?	Total VOCs (SW826B)	TRPH DRD C10-C22 - ORD C22-C32 (SW8015B)	Sampling Method (code)	Lab Sample Numbers
	Start Depth (ft)	End Depth (ft)													
1	6W-10A2	-	EB-005-6W-10A2	6/17/10	2150	8K water	WATER	EP	5	6	N	X	X		
2	6W-10A2	-	TB-005-6W-10A2	6/17/10	2145	8K water	water	TB	1	6	N	X			
3	PL-2102	-	PL-2102-6W-10A2	6/18/10	0115	6W-6WS water	water	REG	5	6	N	X	X		
4	PL-2101	-	PL-2101-6W-10A2	6/18/10	0210	6W-6WS water	water	REG	5	6	N	X	X		
5	ASE-54A	-	ASE-54A-6W-10A2	6/18/10	0250	6W-6WS water	water	REG	5	6	N	X	X		
6	10A2-001	-	6W-10A2-001	6/18/10	0300	6W-6WS water	water	REG	5	6	N	X	X		
7	ASE-61A	-	ASE-61A-6W-10A2	6/18/10	0333	6W-6WS water	water	REG	5	6	N	X	X		
8	ASE-60A	-	ASE-60A-6W-10A2	6/18/10	0411	6W-6WS water	water	REG	5	6	N	X	X		
9															
10															
11															
12															

Relinquished by: *[Signature]* Date/Time: 04/03/10 Company: *[Signature]* Date/Time: 6-9-10 1600

Received by: *[Signature]* Date/Time: 6-9-10 1600 Company: *[Signature]* Date/Time: 6-9-10 1600

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4, pH<2, 4 Deg C); 8 (HCl, pH<2, 4 Deg C); 9 (HCl, 4 Deg C); 10 (HNO3, pH<2, 4 Deg C); 11 (NaOH, pH>12, 4 Deg C); 12 (H2SO4, Na2SO3, 4 Deg C, pH<2); 13 (Zn Acetate); 14 (1-MeOH, 4 Deg C and 2-NaHSO4, 4 Deg C); 15 (NaOH, pH>12, 4 Deg C); sp (special instructions)

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 220033 Date Received 6-9-10 Number of coolers 4
Client Chem A2 Honeywell Project Generately CSO

Date Opened 6-9-10 By (print) S. Evans (sign) [Signature]
Date Logged in 7 By (print) _____ (sign) _____

1. Did cooler come with a shipping slip (airbill, etc) Fedex# YES NO
Shipping info 8726 5964 7780

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 1EA Name SIGNATURE Date 6-9-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____
 Bubble Wrap Foam blocks Bags None
 Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:
Type of ice used: Wet Blue/Gel None Temp(°C) 1, 0, 0, 5, 1, 5

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? _____ YES NO
If YES, Who was called? _____ By _____ Date: _____

COMMENTS
SAMPLE #008: 3/3 VOAS ARRIVED BROKEN.

Laboratory Job Number 220633

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	06/09/10

Field ID:	EB-001-GW-10Q2	Sampled:	06/07/10
Type:	SAMPLE	Prepared:	06/10/10
Lab ID:	220633-002	Analyzed:	06/11/10
Batch#:	163901		

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	94	50-120	

Field ID:	ASE-128A-GW-10Q2	Sampled:	06/07/10
Type:	SAMPLE	Prepared:	06/10/10
Lab ID:	220633-003	Analyzed:	06/11/10
Batch#:	163901		

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	96	50-120	

Field ID:	ASE-98A-GW-10Q2	Sampled:	06/08/10
Type:	SAMPLE	Prepared:	06/10/10
Lab ID:	220633-004	Analyzed:	06/11/10
Batch#:	163901		

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	101	50-120	

Field ID:	ASE-99A-GW-10Q2	Sampled:	06/08/10
Type:	SAMPLE	Prepared:	06/10/10
Lab ID:	220633-005	Analyzed:	06/11/10
Batch#:	163901		

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	98	50-120	

ND= Not Detected
 RL= Reporting Limit
 Page 1 of 5

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	06/09/10

Field ID: GW-10Q2-001 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/10/10
 Lab ID: 220633-006 Analyzed: 06/11/10
 Batch#: 163901

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	94	50-120	

Field ID: ASE-110A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/10/10
 Lab ID: 220633-007 Analyzed: 06/11/10
 Batch#: 163901

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	95	50-120	

Field ID: ASE-129A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/10/10
 Lab ID: 220633-008 Analyzed: 06/11/10
 Batch#: 163901

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	96	50-120	

Field ID: ASE-103A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/10/10
 Lab ID: 220633-009 Analyzed: 06/11/10
 Batch#: 163901

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	90	50-120	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 5

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	06/09/10

Field ID: ASE-100A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/10/10
 Lab ID: 220633-010 Analyzed: 06/11/10
 Batch#: 163901

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	88	50-120	

Field ID: ASE-101A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/10/10
 Lab ID: 220633-011 Analyzed: 06/11/10
 Batch#: 163901

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	109	50-120	

Field ID: EB-005-GW-10Q2 Sampled: 06/07/10
 Type: SAMPLE Prepared: 06/10/10
 Lab ID: 220633-012 Analyzed: 06/11/10
 Batch#: 163901

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	108	50-120	

Field ID: PL-2102-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/11/10
 Lab ID: 220633-014 Analyzed: 06/14/10
 Batch#: 163955

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	98	50-120	

ND= Not Detected
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	06/09/10

Field ID: PL-2101-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/11/10
 Lab ID: 220633-015 Analyzed: 06/14/10
 Batch#: 163955

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	92	50-120	

Field ID: ASE-54A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/11/10
 Lab ID: 220633-016 Analyzed: 06/14/10
 Batch#: 163955

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	93	50-120	

Field ID: GW-10Q2-004 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/11/10
 Lab ID: 220633-017 Analyzed: 06/14/10
 Batch#: 163955

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	93	50-120	

Field ID: ASE-61A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Prepared: 06/11/10
 Lab ID: 220633-018 Analyzed: 06/14/10
 Batch#: 163955

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	95	50-120	

ND= Not Detected
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	06/09/10

Field ID:	ASE-60A-GW-10Q2	Sampled:	06/08/10
Type:	SAMPLE	Prepared:	06/11/10
Lab ID:	220633-019	Analyzed:	06/14/10
Batch#:	163955		

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	89	50-120	

Type:	BLANK	Prepared:	06/10/10
Lab ID:	QC548108	Analyzed:	06/14/10
Batch#:	163901		

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	104	50-120	

Type:	BLANK	Prepared:	06/11/10
Lab ID:	QC548297	Analyzed:	06/15/10
Batch#:	163955		

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	101	50-120	

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC548109	Batch#:	163901
Matrix:	Water	Prepared:	06/10/10
Units:	ug/L	Analyzed:	06/15/10

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Diesel C10-C22	2,500	2,514	101	54-120	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	99	50-120	

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Field ID:	ASE-100A-GW-10Q2	Batch#:	163901
MSS Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Prepared:	06/10/10
Diln Fac:	1.000	Analyzed:	06/12/10

Type: MS Lab ID: QC548110

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Diesel C10-C22	22.45	2,500	2,693	107	54-120		

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	111	50-120		

Type: MSD Lab ID: QC548111

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Diesel C10-C22	2,500	2,735	109	54-120	2	31		

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	109	50-120		

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC548112	Batch#:	163901
Matrix:	Water	Prepared:	06/10/10
Units:	ug/L	Analyzed:	06/12/10

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Motor Oil C22-C32	2,500	2,751	110	75-138	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	108	50-120	

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC548298	Batch#:	163955
Matrix:	Water	Prepared:	06/11/10
Units:	ug/L	Analyzed:	06/15/10

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Diesel C10-C22	2,500	2,163	87	54-120	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	96	50-120	

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	163955
MSS Lab ID:	220668-002	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Prepared:	06/11/10
Diln Fac:	1.000	Analyzed:	06/14/10

Type: MS Cleanup Method: EPA 3630C
 Lab ID: QC548299

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Diesel C10-C22	9.206	2,500	2,285	91	54-120		

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	89	50-120		

Type: MSD Cleanup Method: EPA 3630C
 Lab ID: QC548300

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Diesel C10-C22	2,500	2,351	94	54-120	3	31		

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	92	50-120		

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC548301	Batch#:	163955
Matrix:	Water	Prepared:	06/11/10
Units:	ug/L	Analyzed:	06/15/10

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Motor Oil C22-C32	2,500	2,660	106	75-138	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	105	50-120	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC14B
 Calnum : 220189132001
 Units : mg/L

Name : dsl_131
 Date : 11-MAY-2010 14:32
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	131_008	220189132008	DSL_10	11-MAY-2010 14:32	S14114
L2	131_009	220189132009	DSL_100	11-MAY-2010 15:00	S14115
L3	131_010	220189132010	DSL_500	11-MAY-2010 15:28	S14116
L4	131_011	220189132011	DSL_1000	11-MAY-2010 15:57	S14117
L5	131_012	220189132012	DSL_5000	11-MAY-2010 16:25	S14113
L6	131_013	220189132013	DSL_7500	11-MAY-2010 16:54	S14118

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	B	36833	34024	34927	35160	34986	35369	AVRG		2.84E-5		35216	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	B	10.00	5	100.0	-3	500.0	-1	1000	0	5000	-1	7500	0

SFL 05/12/10 : corrected automatically drawn baseline for dsl_10 and dsl_5000

Analyst: SFL

Date: 05/12/10

Reviewer: EAH

Date: 05/12/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B
Calnum : 220189132001

Name : dsl_131
Cal Date : 11-MAY-2010

ICV 220189132015 (131_015 11-MAY-2010) stds: S14556

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	B	500.0	491.0	mg/L	-2	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC14B
 Calnum : 220190522002
 Units : mg/L

Name : OTPHEX_132
 Date : 12-MAY-2010 14:53
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	132_009	220190522009	HEX OTP_5	12-MAY-2010 14:53	S13690
L2	132_010	220190522010	HEX OTP_10	12-MAY-2010 15:21	S13691
L3	132_011	220190522011	HEX OTP_25	12-MAY-2010 15:49	S13692
L4	132_012	220190522012	HEX OTP_50	12-MAY-2010 16:17	S13693
L5	132_013	220190522013	HEX OTP_100	12-MAY-2010 16:44	S13694
L6	132_014	220190522014	HEX OTP_200	12-MAY-2010 17:12	S13695

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	40642	38657	41313	39979	39630	41899	AVRG		2.48E-5		40353	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.000	1	10.00	-4	25.00	2	50.00	-1	100.0	-2	200.0	4

JDG 05/13/10 [Hexacosane B]: Corrected automatically drawn baseline in HEX OTP_100 (132_013).

Analyst: JDG

Date: 05/13/10

Reviewer: EAH

Date: 05/13/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC14B
 Calnum : 220190522001
 Units : mg/L

Name : MO_132
 Date : 12-MAY-2010 18:08
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	132_016	220190522016	MO_50	12-MAY-2010 18:08	S13804
L2	132_017	220190522017	MO_250	12-MAY-2010 18:36	S13805
L3	132_018	220190522018	MO_500	12-MAY-2010 19:04	S13806
L4	132_019	220190522019	MO_1000	12-MAY-2010 19:31	S13807
L5	132_020	220190522020	MO_5000	12-MAY-2010 19:59	S13808
L6	132_021	220190522021	MO_7500	12-MAY-2010 20:27	S13809

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	B	26487	27705	27649	26954	24504	24256	AVRG		3.81E-5		26259	6	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	B	50.00	1	250.0	6	500.0	5	1000	3	5000	-7	7500	-8

JDG 05/13/10 : Levels 1-4 & 6: corrected automatically drawn baseline.

Analyst: JDG

Date: 05/13/10

Reviewer: EAH

Date: 05/13/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160015122002
 Units : mg/L

Name : DSL_010
 Date : 10-JAN-2010 16:41
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	010b011	160015122011	DSL_10	10-JAN-2010 16:41	S13230
L2	010b012	160015122012	DSL_100	10-JAN-2010 17:09	S13231
L3	010b013	160015122013	DSL_500	10-JAN-2010 17:37	S13232
L4	010b014	160015122014	DSL_1000	10-JAN-2010 18:05	S13233
L5	010b015	160015122015	DSL_5000	10-JAN-2010 18:33	S13229
L6	010b016	160015122016	DSL_7500	10-JAN-2010 19:01	S13234

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	46290	57423	63137	60591	59298	62684	AVRG		1.72E-5		58237	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-21	100.0	-1	500.0	8	1000	4	5000	2	7500	8

JDG 01/11/10 : Corrected automatically drawn baseline in DSL_10 (010b011).

Analyst: JDG

Date: 01/11/10

Reviewer: EAH

Date: 01/12/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220633 GCSV Water
EPA 8015B

Inst : GC15B
Calnum : 160015122002

Name : DSL_010
Cal Date : 10-JAN-2010

ICV 160015122018 (010b018 10-JAN-2010) stds: S13457

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	514.5	mg/L	3	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160157409001
 Units : mg/L

Name : MO_109
 Date : 19-APR-2010 15:30
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	109b012	160157409012	MO_50	19-APR-2010 15:30	S13804
L2	109b013	160157409013	MO_250	19-APR-2010 15:58	S13805
L3	109b014	160157409014	MO_500	19-APR-2010 16:26	S13806
L4	109b015	160157409015	MO_1000	19-APR-2010 16:53	S13807
L5	109b016	160157409016	MO_5000	19-APR-2010 17:21	S13808
L6	109b017	160157409017	MO_7500	19-APR-2010 17:49	S13809

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	47660	46325	45753	44866	44598	42001	AVRG		2.21E-5		45200	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	50.00	5	250.0	2	500.0	1	1000	-1	5000	-1	7500	-7

JDG 04/20/10 : Levels 3-5: corrected automatically drawn baseline.

Analyst: JDG

Date: 04/20/10

Reviewer: EAH

Date: 04/20/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160167652002
 Units : mg/L

Name : hexotp_116
 Date : 26-APR-2010 20:24
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	116b015	160167652015	HEXOTP_5	26-APR-2010 20:24	S13690
L2	116b016	160167652016	HEXOTP_10	26-APR-2010 20:53	S13691
L3	116b017	160167652017	HEXOTP_25	26-APR-2010 21:20	S13692
L4	116b018	160167652018	HEXOTP_50	26-APR-2010 21:48	S13693
L5	116b019	160167652019	HEXOTP_100	26-APR-2010 22:15	S13694
L6	116b020	160167652020	HEXOTP_200	26-APR-2010 22:43	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71909	71114	69841	73261	73391	75657	AVRG		1.38E-5		72529	3	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-1	10.00	-2	25.00	-4	50.00	1	100.0	1	200.0	4

JDG 04/27/10 : Levels 4-6: corrected automatically drawn baseline

Analyst: JDG

Date: 04/27/10

Reviewer: CP

Date: 04/27/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170100399001
 Units : mg/L

Name : DSL_069
 Date : 10-MAR-2010 09:30
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	069a004	170100399004	DSL_10	10-MAR-2010 09:30	S14114
L2	069a005	170100399005	DSL_100	10-MAR-2010 09:58	S14115
L3	069a006	170100399006	DSL_500	10-MAR-2010 10:25	S14116
L4	069a007	170100399007	DSL_1000	10-MAR-2010 10:52	S14117
L5	069a008	170100399008	DSL_5000	10-MAR-2010 11:20	S14113
L6	069a009	170100399009	DSL_7500	10-MAR-2010 11:48	S14118

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	38992	57098	61023	62848	63686	64949	AVRG		1.72E-5		58099	17	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-33	100.0	-2	500.0	5	1000	8	5000	10	7500	12

JDG 03/11/10 : Corrected automatically baseline for: Levels 1-5.

Analyst: JDG

Date: 03/11/10

Reviewer: EAH

Date: 03/11/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A
Calnum : 170100399001

Name : DSL_069
Cal Date : 10-MAR-2010

ICV 170100399011 (069a011 10-MAR-2010) stds: S14077

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	542.9	mg/L	9	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170108447001
 Units : mg/L

Name : HEXOTP_075
 Date : 16-MAR-2010 15:35
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	075a012	170108447012	HEXOTP_5	16-MAR-2010 15:35	S13690
L2	075a013	170108447013	HEXOTP_10	16-MAR-2010 16:03	S13691
L3	075a014	170108447014	HEXOTP_25	16-MAR-2010 16:30	S13692
L4	075a015	170108447015	HEXOTP_50	16-MAR-2010 16:58	S13693
L5	075a016	170108447016	HEXOTP_100	16-MAR-2010 17:25	S13694
L6	075a017	170108447017	HEXOTP_200	16-MAR-2010 17:53	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	73067	76327	75701	75675	73539	74396	AVRG		1.34E-5		74784	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-2	10.00	2	25.00	1	50.00	1	100.0	-2	200.0	-1

JDG 03/17/10 : Corrected automatically drawn baseline for L1 & L2.

Analyst: JDG

Date: 03/17/10

Reviewer: EAH

Date: 03/17/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170157422001
 Units : mg/L

Name : MO_109
 Date : 19-APR-2010 15:03
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	109a010	170157422010	MO_50	19-APR-2010 15:03	S13804
L2	109a011	170157422011	MO_250	19-APR-2010 15:30	S13805
L3	109a012	170157422012	MO_500	19-APR-2010 15:58	S13806
L4	109a013	170157422013	MO_1000	19-APR-2010 16:25	S13807
L5	109a014	170157422014	MO_5000	19-APR-2010 16:53	S13808
L6	109a015	170157422015	MO_7500	19-APR-2010 17:20	S13809

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	46862	47770	48072	48307	48764	49608	AVRG		2.07E-5		48231	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	50.00	-3	250.0	-1	500.0	0	1000	0	5000	1	7500	3

JDG 04/20/10 : Manually integrated fuel hump in MO_50 (109a010).

JDG 04/20/10 : Manually integrated fuel hump in MO_5000 (109a014).

Analyst: JDG

Date: 04/20/10

Reviewer: CP

Date: 04/20/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970011942001
 Units : mg/L

Name : dsl_008
 Date : 08-JAN-2010 20:36
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	008a020	970011942020	DSL_10	08-JAN-2010 20:36	S13230
L2	008a021	970011942021	DSL_100	08-JAN-2010 21:02	S13231
L3	008a022	970011942022	DSL_500	08-JAN-2010 21:27	S13232
L4	008a023	970011942023	DSL_1000	08-JAN-2010 21:52	S13233
L5	008a024	970011942024	DSL_5000	08-JAN-2010 22:18	S13229
L6	008a025	970011942025	DSL_7500	08-JAN-2010 22:43	S13234

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	231276	286167	288481	286110	258602	263712	AVRG		3.72E-6		269058	8	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-14	100.0	6	500.0	7	1000	6	5000	-4	7500	-2

SFL 01/11/10 : Corrected automatically drawn baseline in all levels.

Analyst: SFL Date: 01/11/10 Reviewer: EAH Date: 01/11/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220633 GCSV Water
EPA 8015B

Inst : GC27A
Calnum : 970011942001

Name : dsl_008
Cal Date : 08-JAN-2010

ICV 970011942027 (008a027 08-JAN-2010) stds: S13457

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	529.7	mg/L	6	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970048088001
 Units : mg/L

Name : otphex_033
 Date : 02-FEB-2010 22:40
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	033a016	970048088016	HEXOTP_5	02-FEB-2010 22:40	S13690
L2	033a017	970048088017	HEXOTP_10	02-FEB-2010 23:05	S13691
L3	033a018	970048088018	HEXOTP_25	02-FEB-2010 23:30	S13692
L4	033a019	970048088019	HEXOTP_50	02-FEB-2010 23:55	S13693
L5	033a020	970048088020	HEXOTP_100	03-FEB-2010 00:21	S13694
L6	033a021	970048088021	HEXOTP_200	03-FEB-2010 00:46	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	267452	297547	281470	296034	284259	273149	AVRG		3.53E-6		283319	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-6	10.00	5	25.00	-1	50.00	4	100.0	0	200.0	-4

SFL 02/03/10 : Corrected automatically drawn baseline in all levels.

Analyst: SFL

Date: 02/03/10

Reviewer: EAH

Date: 02/04/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970199313001
 Units : mg/L

Name : MO_138
 Date : 18-MAY-2010 14:09
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	138a008	970199313008	MO_25	18-MAY-2010 14:09	S13804 (2X)
L2	138a009	970199313009	MO_50	18-MAY-2010 14:35	S13804
L3	138a010	970199313010	MO_250	18-MAY-2010 15:00	S13805
L4	138a011	970199313011	MO_500	18-MAY-2010 15:26	S13806
L5	138a012	970199313012	MO_1000	18-MAY-2010 15:52	S13807
L6	138a013	970199313013	MO_2500	18-MAY-2010 16:17	S13808 (2X)

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	105247	131455	132068	143278	138465	131049	AVRG		7.68E-6		130260	10	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	25.00	-19	50.00	1	250.0	1	500.0	10	1000	6	2500	1

Analyst: JDG

Date: 05/19/10

Reviewer: EAH

Date: 05/19/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_1000 IDF : 1.0
 Seqnum : 220233777011 File : 162_011 Time : 11-JUN-2010 13:21
 Standards: S14740

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Motor Oil C22-C32	B	220190522001	12-MAY-2010	26259	27503	1000	1047	mg/L	5	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	41531	50.00	51.46	mg/L	3	15	

Analyst: CP Date: 06/11/10 Reviewer: TFB Date: 06/11/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_1000 IDF : 1.0
 Seqnum : 220233777025 File : 162_025 Time : 11-JUN-2010 23:55
 Standards: S14740

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Motor Oil C22-C32	B	220190522001	12-MAY-2010	26259	28213	1000	1074	mg/L	7	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	41673	50.00	51.64	mg/L	3	15	

SFL 06/13/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/13/10 Reviewer: JDG Date: 06/14/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_500 IDF : 1.0
 Seqnum : 220233777026 File : 162_026 Time : 12-JUN-2010 00:22
 Standards: S14789

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Diesel C10-C22	B	220189132001	11-MAY-2010	35216	35564	500.0	504.9	mg/L	1	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	42630	50.00	52.82	mg/L	6	15	

SFL 06/13/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/13/10 Reviewer: JDG Date: 06/14/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_1000 IDF : 1.0
 Seqnum : 220238038004 File : 165_004 Time : 14-JUN-2010 08:41
 Standards: S14740

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Motor Oil C22-C32	B	220190522001	12-MAY-2010	26259	28468	1000	1084	mg/L	8	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	42849	50.00	53.09	mg/L	6	15	

SFL 06/14/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/14/10 Reviewer: JDG Date: 06/14/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_250 IDF : 1.0
 Seqnum : 220238038005 File : 165_005 Time : 14-JUN-2010 09:09
 Standards: S14555

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Diesel C10-C22	B	220189132001	11-MAY-2010	35216	38931	250.0	276.4	mg/L	11	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	43357	50.00	53.72	mg/L	7	15	

SFL 06/14/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/14/10 Reviewer: JDG Date: 06/14/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
 Seqnum : 220238038015 File : 165_015 Time : 14-JUN-2010 14:57
 Standards: S14857

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Motor Oil C22-C32	B	220190522001	12-MAY-2010	26259	27956	500.0	532.3	mg/L	6	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	41235	50.00	51.09	mg/L	2	15	

SFL 06/14/10 : Corrected automatically drawn baseline.

SFL 06/14/10 : s14857,mo_500

Analyst: SFL Date: 06/14/10 Reviewer: PRW Date: 06/14/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
 Seqnum : 220239476004 File : 166_004 Time : 15-JUN-2010 08:39
 Standards: S14857

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Motor Oil C22-C32	B	220190522001	12-MAY-2010	26259	28046	500.0	534.0	mg/L	7	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	42984	50.00	53.26	mg/L	7	15	

JDG 06/16/10 : MO_500: S14857

SFL 06/16/10 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_250 IDF : 1.0
 Seqnum : 220239476005 File : 166_005 Time : 15-JUN-2010 09:07
 Standards: S14555

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Diesel C10-C22	B	220189132001	11-MAY-2010	35216	36713	250.0	260.6	mg/L	4	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	41800	50.00	51.79	mg/L	4	15	

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
 Seqnum : 220239476020 File : 166_020 Time : 15-JUN-2010 21:46
 Standards: S14857

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Motor Oil C22-C32	B	220190522001	12-MAY-2010	26259	28599	500.0	544.6	mg/L	9	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	42135	50.00	52.21	mg/L	4	15	

JDG 06/16/10 : Manually integrated fuel hump.

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_500 IDF : 1.0
 Seqnum : 220239476021 File : 166_021 Time : 15-JUN-2010 22:14
 Standards: S14789

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Diesel C10-C22	B	220189132001	11-MAY-2010	35216	37672	500.0	534.9	mg/L	7	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	42329	50.00	52.45	mg/L	5	15	

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_1000 IDF : 1.0
 Seqnum : 160234021018 File : 162b018 Time : 11-JUN-2010 20:14
 Standards: S14740

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	160157409001	19-APR-2010	45200	47915	1000	1060	mg/L	6	15	
o-Terphenyl	160167652002	26-APR-2010	72529	74739	50.00	51.52	mg/L	3	15	

SFL 06/13/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/13/10 Reviewer: JDG Date: 06/14/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
 Seqnum : 160234021019 File : 162b019 Time : 11-JUN-2010 20:42
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	64692	1000	1111	mg/L	11	15	
o-Terphenyl	160167652002	26-APR-2010	72529	75556	50.00	52.09	mg/L	4	15	

SFL 06/13/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/13/10 Reviewer: JDG Date: 06/14/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_1000 IDF : 1.0
 Seqnum : 160234021036 File : 162b036 Time : 12-JUN-2010 04:29
 Standards: S14740

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	160157409001	19-APR-2010	45200	48239	1000	1067	mg/L	7	15	
o-Terphenyl	160167652002	26-APR-2010	72529	75386	50.00	51.97	mg/L	4	15	

SFL 06/13/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/13/10 Reviewer: JDG Date: 06/15/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
Seqnum : 160234021037 File : 162b037 Time : 12-JUN-2010 04:57
Standards: S14555

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	62889	250.0	270.0	mg/L	8	15	
o-Terphenyl	160167652002	26-APR-2010	72529	71743	50.00	49.46	mg/L	-1	15	

SFL 06/13/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/13/10 Reviewer: JDG Date: 06/15/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
 Seqnum : 170238039008 File : 165a008 Time : 14-JUN-2010 13:48
 Standards: S14790

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	170100399001	10-MAR-2010	58099	64621	1000	1112	mg/L	11	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	76255	50.00	50.98	mg/L	2	15	

Analyst: JDG Date: 06/14/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
 Seqnum : 170238039022 File : 165a022 Time : 14-JUN-2010 21:52
 Standards: S14788

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	170100399001	10-MAR-2010	58099	66069	250.0	284.3	mg/L	14	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	73194	50.00	48.94	mg/L	-2	15	

JDG 06/15/10 : Manually integrated fuel hump.

Analyst: JDG Date: 06/15/10 Reviewer: PRW Date: 06/15/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170238039023 File : 165a023 Time : 14-JUN-2010 22:19
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	52364	500.0	542.8	mg/L	9	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	76831	50.00	51.37	mg/L	3	15	

Analyst: JDG Date: 06/15/10 Reviewer: PRW Date: 06/15/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
 Seqnum : 170238039039 File : 165a039 Time : 15-JUN-2010 05:42
 Standards: S14789

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	170100399001	10-MAR-2010	58099	66787	500.0	574.8	mg/L	15	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	73051	50.00	48.84	mg/L	-2	15	

Analyst: JDG Date: 06/15/10 Reviewer: PRW Date: 06/15/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170238039040 File : 165a040 Time : 15-JUN-2010 06:09
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	53990	500.0	559.7	mg/L	12	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	78747	50.00	52.65	mg/L	5	15	

JDG 06/15/10 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/15/10 Reviewer: PRW Date: 06/15/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 170239565004 File : 166a004 Time : 15-JUN-2010 10:06
Standards: S14790

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	170100399001	10-MAR-2010	58099	64842	1000	1116	mg/L	12	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	75335	50.00	50.37	mg/L	1	15	

Analyst: JDG Date: 06/15/10 Reviewer: SFL Date: 06/16/10
Page 1 of 1 170239565004

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170239565005 File : 166a005 Time : 15-JUN-2010 10:34
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	52395	500.0	543.2	mg/L	9	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	76429	50.00	51.10	mg/L	2	15	

Analyst: JDG Date: 06/15/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170239565019 File : 166a019 Time : 15-JUN-2010 18:43
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	52650	500.0	545.8	mg/L	9	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	76811	50.00	51.36	mg/L	3	15	

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
Seqnum : 170239565021 File : 166a021 Time : 15-JUN-2010 21:35
Standards: S14789

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	170100399001	10-MAR-2010	58099	66895	500.0	575.7	mg/L	15	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	75640	50.00	50.57	mg/L	1	15	

JDG 06/16/10 [o-Terphenyl A]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_500 IDF : 1.0
 Seqnum : 970234028005 File : 162a005 Time : 11-JUN-2010 14:10
 Standards: S14789

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	240983	500.0	447.8	mg/L	-10	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	256612	50.00	45.29	mg/L	-9	15	

SFL 06/13/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/13/10 Reviewer: JDG Date: 06/21/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_250 IDF : 1.0
 Seqnum : 970234028018 File : 162a018 Time : 11-JUN-2010 22:24
 Standards: S14555

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	251954	250.0	234.1	mg/L	-6	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	256272	50.00	45.23	mg/L	-10	15	

SFL 06/13/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/13/10 Reviewer: JDG Date: 06/21/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
 Seqnum : 970238187005 File : 165a005 Time : 14-JUN-2010 11:29
 Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	970199313001	18-MAY-2010	130260	140037	500.0	537.5	mg/L	8	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	246311	50.00	43.47	mg/L	-13	15	

JDG 06/15/10 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/15/10 Reviewer: EAH Date: 06/15/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_250 IDF : 1.0
 Seqnum : 970238187006 File : 165a006 Time : 14-JUN-2010 14:41
 Standards: S14788

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	249664	250.0	232.0	mg/L	-7	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	256346	50.00	45.24	mg/L	-10	15	

JDG 06/15/10 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/15/10 Reviewer: EAH Date: 06/15/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220633 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_1000 IDF : 1.0
 Seqnum : 970238187019 File : 165a019 Time : 14-JUN-2010 21:08
 Standards: S14790

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	248454	1000	923.4	mg/L	-8	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	274655	50.00	48.47	mg/L	-3	15	

JDG 06/15/10 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/15/10 Reviewer: EAH Date: 06/15/10

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160015122

Instrument : GC15B
 Method : EPA 8015B

Begun : 01/10/10 12:02
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	010b001	X	PRIMER			01/10/10 12:02	1.0	
002	010b002	X	IB			01/10/10 12:30	1.0	
003	010b003	X	IB			01/10/10 12:58	1.0	
004	010b004	ICAL	HEXOTP_5			01/10/10 13:26	1.0	1
005	010b005	ICAL	HEXOTP_10			01/10/10 13:54	1.0	2
006	010b006	ICAL	HEXOTP_25			01/10/10 14:21	1.0	3
007	010b007	ICAL	HEXOTP_50			01/10/10 14:49	1.0	4
008	010b008	ICAL	HEXOTP_100			01/10/10 15:17	1.0	5
009	010b009	ICAL	HEXOTP_200			01/10/10 15:45	1.0	6
010	010b010	IB	CALIB			01/10/10 16:13	1.0	
011	010b011	ICAL	DSL_10			01/10/10 16:41	1.0	7
012	010b012	ICAL	DSL_100			01/10/10 17:09	1.0	8
013	010b013	ICAL	DSL_500			01/10/10 17:37	1.0	9
014	010b014	ICAL	DSL_1000			01/10/10 18:05	1.0	10
015	010b015	ICAL	DSL_5000			01/10/10 18:33	1.0	11
016	010b016	ICAL	DSL_7500			01/10/10 19:01	1.0	12
017	010b017	IB	CALIB			01/10/10 19:29	1.0	
018	010b018	ICV	DSL_500			01/10/10 19:57	1.0	13
019	010b019	X	ICV			01/10/10 20:24	1.0	13
020	010b020	IB	CALIB			01/10/10 20:52	1.0	
021	010b021	ICAL	MO_50			01/10/10 21:20	1.0	14
022	010b022	ICAL	MO_250			01/10/10 21:47	1.0	15
023	010b023	ICAL	MO_500			01/10/10 22:15	1.0	16
024	010b024	ICAL	MO_1000			01/10/10 22:43	1.0	17
025	010b025	ICAL	MO_5000			01/10/10 23:10	1.0	18
026	010b026	ICAL	MO_7500			01/10/10 23:38	1.0	19
027	010b027	IB	CALIB			01/11/10 00:06	1.0	
028	010b028	ICAL	JET_10			01/11/10 00:33	1.0	20
029	010b029	ICAL	JET_100			01/11/10 01:01	1.0	21
030	010b030	ICAL	JET_500			01/11/10 01:28	1.0	22
031	010b031	ICAL	JET_1000			01/11/10 01:56	1.0	23
032	010b032	ICAL	JET_2000			01/11/10 02:24	1.0	24
033	010b033	ICAL	JET_3000			01/11/10 02:51	1.0	25
034	010b034	IB	CALIB			01/11/10 03:19	1.0	
035	010b035	ICAL	JP5_10			01/11/10 03:46	1.0	26
036	010b036	ICAL	JP5_100			01/11/10 04:14	1.0	27
037	010b037	ICAL	JP5_500			01/11/10 04:42	1.0	28
038	010b038	ICAL	JP5_1500			01/11/10 05:09	1.0	29
039	010b039	ICAL	JP5_2500			01/11/10 05:37	1.0	30
040	010b040	ICAL	JP5_5000			01/11/10 06:05	1.0	31
041	010b041	IB	CALIB			01/11/10 06:33	1.0	
042	010b042	ICAL	BUNK_50			01/11/10 07:01	1.0	32
043	010b043	ICAL	BUNK_250			01/11/10 07:28	1.0	33
044	010b044	ICAL	BUNK_500			01/11/10 07:56	1.0	34
045	010b045	ICAL	BUNK_1250			01/11/10 08:24	1.0	35
046	010b046	ICAL	BUNK_2500			01/11/10 08:52	1.0	36
047	010b047	ICAL	BUNK_5000			01/11/10 09:20	1.0	37
048	010b048	IB	CALIB			01/11/10 09:48	1.0	
049	010b049	CMARKER	C8_C50			01/11/10 10:16	1.0	38
050	010b050	IB	CALIB			01/11/10 10:44	1.0	

JDG 01/11/10 : I verified that the vials loaded on the instrument matched the

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160157409

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/19/10 07:29
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	109b001	X	IB				04/19/10 07:29	1.0	
002	109b002	X	CMARKER				04/19/10 07:56	1.0	1
003	109b003	X	IB				04/19/10 09:49	1.0	
004	109b004	X	IB				04/19/10 10:16	1.0	
005	109b005	X	CMARKER				04/19/10 10:44	1.0	1
006	109b006	X	MO_500				04/19/10 11:12	1.0	2
007	109b007	X	CCV				04/19/10 11:39	1.0	3
008	109b008	X	MO_500				04/19/10 12:18	1.0	2
009	109b009	X	MO_500				04/19/10 12:46	1.0	2
010	109b010	X	IB				04/19/10 14:35	1.0	
011	109b011	IB	CALIB				04/19/10 15:02	1.0	
012	109b012	ICAL	MO_50				04/19/10 15:30	1.0	4
013	109b013	ICAL	MO_250				04/19/10 15:58	1.0	5
014	109b014	ICAL	MO_500				04/19/10 16:26	1.0	6
015	109b015	ICAL	MO_1000				04/19/10 16:53	1.0	7
016	109b016	ICAL	MO_5000				04/19/10 17:21	1.0	8
017	109b017	ICAL	MO_7500				04/19/10 17:49	1.0	9
018	109b018	IB	CALIB				04/19/10 18:17	1.0	
019	109b019	CMARKER	C8-C50				04/19/10 18:44	1.0	1
020	109b020	IB	CALIB				04/19/10 19:12	1.0	
021	109b021	X	MO_500				04/19/10 19:40	1.0	2
022	109b022	X	DSL_1000				04/19/10 20:07	1.0	10
023	109b023	CCV	CREOSOTE_1250				04/19/10 20:35	1.0	11
024	109b024	CCV	MO_500				04/19/10 21:03	1.0	2
025	109b025	CCV	DSL_1000				04/19/10 21:30	1.0	10
026	109b026	X	CCV				04/19/10 21:58	1.0	11
027	109b027	BLANK	QC540857	S	Soil	162119	04/19/10 22:25	1.0	
028	109b028	LCS	QC540858	S	Soil	162119	04/19/10 22:53	1.0	
029	109b029	SAMPLE	219448-010		Water	162064	04/19/10 23:20	1.0	
030	109b030	SAMPLE	219448-009		Water	162064	04/19/10 23:48	1.0	
031	109b031	SAMPLE	219469-012		Soil	162058	04/20/10 00:15	10.0	
032	109b032	SAMPLE	219475-004	S	Soil	162058	04/20/10 00:43	10.0	
033	109b033	SAMPLE	219469-013		Soil	162058	04/20/10 01:10	25.0	
034	109b034	X	IB				04/20/10 01:38	1.0	
035	109b035	SAMPLE	219469-016		Soil	162058	04/20/10 02:06	25.0	
036	109b036	X	IB				04/20/10 02:33	1.0	
037	109b037	SAMPLE	219469-014		Soil	162058	04/20/10 03:00	10.0	
038	109b038	SAMPLE	219469-015		Soil	162058	04/20/10 03:28	10.0	
039	109b039	X	CMARKER				04/20/10 03:55	1.0	1
040	109b040	CCV	MO_500				04/20/10 04:23	1.0	2
041	109b041	CCV	DSL_500				04/20/10 04:51	1.0	12
042	109b042	CCV	CREOSOTE_1250				04/20/10 05:19	1.0	11
043	109b043	X	CCV				04/20/10 05:46	1.0	2
044	109b044	X	CCV				04/20/10 06:14	1.0	12
045	109b045	X	CCV				04/20/10 06:42	1.0	11

JDG 04/20/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 45.

Standards used: 1=S13646 2=S14243 3=S14076 4=S13804 5=S13805 6=S13806 7=S13807 8=S13808 9=S13809 10=S14078 11=S14244
 12=S14077

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160167652

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/26/10 10:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	116b001	X	PRIMER			04/26/10 10:12	1.0		
002	116b002	X	IB			04/26/10 10:40	1.0		
003	116b003	X	CMARKER			04/26/10 11:08	1.0	1	
004	116b004	X	MO_500			04/26/10 11:58	1.0	2	
005	116b005	X	IB			04/26/10 15:02	1.0		
006	116b006	X	IB			04/26/10 15:29	1.0		
007	116b007	X	IB			04/26/10 16:00	1.0		
008	116b008	X	CMARKER			04/26/10 17:12	1.0	1	
009	116b009	X	MO_500			04/26/10 17:39	1.0	2	
010	116b010	X	DSL_1000			04/26/10 18:07	1.0	3	
011	116b011	X	MO_500			04/26/10 18:34	1.0	2	
012	116b012	X	DSL_1000			04/26/10 19:02	1.0	3	
014	116b014	IB	CALIB			04/26/10 19:56	1.0		
015	116b015	ICAL	HEXOTP_5			04/26/10 20:24	1.0	4	
016	116b016	ICAL	HEXOTP_10			04/26/10 20:53	1.0	5	
017	116b017	ICAL	HEXOTP_25			04/26/10 21:20	1.0	6	
018	116b018	ICAL	HEXOTP_50			04/26/10 21:48	1.0	7	
019	116b019	ICAL	HEXOTP_100			04/26/10 22:15	1.0	8	
020	116b020	ICAL	HEXOTP_200			04/26/10 22:43	1.0	9	
021	116b021	IB	CALIB			04/26/10 23:10	1.0		
022	116b022	X	CMARKER			04/26/10 23:38	1.0	1	
023	116b023	CCV	MO_500			04/27/10 00:05	1.0	2	
024	116b024	CCV	DSL_1000			04/27/10 00:33	1.0	3	
025	116b025	X	CCV			04/27/10 01:01	1.0	2	
026	116b026	X	CCV			04/27/10 01:28	1.0	3	
027	116b027	BLANK	QC542108	Soil	162431	04/27/10 01:56	1.0		
028	116b028	LCS	QC542109	Soil	162431	04/27/10 02:23	1.0		
029	116b029	LCS	QC542112	Soil	162431	04/27/10 02:50	1.0		
030	116b030	SAMPLE	219732-002	Soil	162431	04/27/10 03:18	1.0		
031	116b031	SAMPLE	219732-004	Soil	162431	04/27/10 03:45	1.0		
032	116b032	SAMPLE	219732-006	Soil	162431	04/27/10 04:13	1.0		
033	116b033	SAMPLE	219732-007	Soil	162431	04/27/10 04:41	1.0		
034	116b034	SAMPLE	219732-001	Soil	162431	04/27/10 05:08	1.0		12:BUNKC:12-40=30000
035	116b035	X	IB			04/27/10 05:36	1.0		
036	116b036	SAMPLE	219732-005	Soil	162431	04/27/10 06:04	1.0		
037	116b037	SAMPLE	219732-003	Soil	162431	04/27/10 06:31	1.0		
038	116b038	CCV	MO_500			04/27/10 06:59	1.0	2	
039	116b039	CCV	DSL_500			04/27/10 07:27	1.0	10	
040	116b040	SAMPLE	219732-017	Soil	162431	04/27/10 08:19	1.0		
041	116b041	SAMPLE	219732-011	Soil	162431	04/27/10 08:47	1.0		
042	116b042	SAMPLE	219732-016	Soil	162431	04/27/10 09:14	1.0		
043	116b043	SAMPLE	219732-010	Soil	162431	04/27/10 09:42	1.0		
044	116b044	SAMPLE	219732-014	Soil	162431	04/27/10 10:11	1.0		
045	116b045	SAMPLE	219732-012	Soil	162431	04/27/10 10:38	1.0		2:BUNKC:12-40=13000
046	116b046	X	IB			04/27/10 11:06	1.0		
047	116b047	SAMPLE	219732-013	Soil	162431	04/27/10 11:33	1.0		
048	116b048	SAMPLE	219732-015	Soil	162431	04/27/10 12:01	1.0		
049	116b049	SAMPLE	219732-009	Soil	162431	04/27/10 12:28	1.0		
050	116b050	MSS	219732-008	Soil	162431	04/27/10 12:55	1.0		
051	116b051	X	CMARKER			04/27/10 13:23	1.0	1	
052	116b052	CCV	MO_500			04/27/10 13:51	1.0	2	
053	116b053	CCV	DSL_250			04/27/10 14:19	1.0	11	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160167652

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/26/10 10:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
054	116b054	SAMPLE	219732-001	Soil	162431	04/27/10 14:49	5.0		2:BUNKC:12-40=7300
055	116b055	CCV	MO_500			04/27/10 15:17	1.0	2	
056	116b056	X	DSL_1000			04/27/10 15:45	1.0	3	
057	116b057	SAMPLE	219732-018			04/27/10 16:13	1.0		
058	116b058	CCV	DSL_250			04/27/10 17:53	1.0	11	
059	116b059	SAMPLE	219478-002	Soil	162456	04/27/10 18:24	1.0		
060	116b060	X				04/27/10 18:51	1.0		
061	116b061	SAMPLE	219478-004	Soil	162456	04/27/10 19:20	1.0		
062	116b062	SAMPLE	219478-005	Soil	162456	04/27/10 19:48	1.0		
063	116b063	SAMPLE	219478-006	Soil	162456	04/27/10 20:16	1.0		
064	116b064	SAMPLE	219478-008	Soil	162456	04/27/10 20:44	1.0		
065	116b065	SAMPLE	219478-009	Soil	162456	04/27/10 21:12	1.0		
066	116b066	SAMPLE	219478-011	Soil	162456	04/27/10 21:40	1.0		
067	116b067	SAMPLE	219478-012	Soil	162456	04/27/10 22:08	1.0		
068	116b068	SAMPLE	219478-013	Soil	162456	04/27/10 22:36	1.0		
069	116b069	SAMPLE	219478-014	Soil	162456	04/27/10 23:04	1.0		
070	116b070	CCV	MO_500			04/27/10 23:32	1.0	2	
071	116b071	CCV	DSL_500			04/28/10 00:00	1.0	10	
072	116b072	X	CCV			04/28/10 00:28	1.0	2	
073	116b073	X	CCV			04/28/10 00:55	1.0	10	
075	116b075	LCS	QC542313	Soil	162482	04/28/10 01:24	1.0		
076	116b076	SAMPLE	219725-005	Soil	162482	04/28/10 01:51	1.0		
077	116b077	SAMPLE	219725-007	Soil	162482	04/28/10 02:19	1.0		
078	116b078	SAMPLE	219725-009	Soil	162482	04/28/10 02:47	1.0		2:BUNKC:12-40=5200
079	116b079	SAMPLE	219725-011	Soil	162482	04/28/10 03:15	1.0		
080	116b080	SAMPLE	219725-014	Soil	162482	04/28/10 03:43	1.0		
081	116b081	SAMPLE	219725-016	Soil	162482	04/28/10 04:10	1.0		
082	116b082	SAMPLE	219725-019	Soil	162482	04/28/10 04:38	1.0		
083	116b083	X	CMARKER			04/28/10 05:06	1.0	1	
084	116b084	CCV	MO_500			04/28/10 05:34	1.0	2	
085	116b085	CCV	DSL_250			04/28/10 06:02	1.0	11	
086	116b086	X	CCV			04/28/10 06:29	1.0	2	
087	116b087	X	CCV			04/28/10 06:56	1.0	11	
088	116b088	SAMPLE	219725-034	Soil	162482	04/28/10 07:24	1.0		
089	116b089	MSS	219725-035	Soil	162482	04/28/10 07:52	2.0		
090	116b090	X	QC542311	Soil	162482	04/28/10 08:22	2.0		
091	116b091	X	QC542312	Soil	162482	04/28/10 08:50	2.0		
092	116b092	CCV	MO_500			04/28/10 09:18	1.0	2	
093	116b093	CCV	DSL_500			04/28/10 09:46	1.0	10	

JDG 04/27/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 39.

JDG 04/28/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 40 through 90.

Standards used: 1=S13646 2=S14243 3=S14362 4=S13690 5=S13691 6=S13692 7=S13693 8=S13694 9=S13695 10=S14361 11=S14360

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160234021

Instrument : GC15B
 Method : EPA 8015B

Begun : 06/11/10 12:21
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	162b001	X	PRIMER				06/11/10 12:21	1.0	
002	162b002	X	IB				06/11/10 12:49	1.0	
003	162b003	X	CMARKER				06/11/10 13:16	1.0	1
004	162b004	CCV	MO_1000				06/11/10 13:44	1.0	2
005	162b005	CCV	DSL_500				06/11/10 14:12	1.0	3
006	162b006	CCV	JET_250				06/11/10 14:40	1.0	4
007	162b007	CCV	JET_250				06/11/10 15:08	1.0	5
008	162b008	LCS	QC547581	S	Water	163768	06/11/10 15:36	1.0	
009	162b009	MS	QC547582	S	Water	163768	06/11/10 16:04	1.0	
010	162b010	MSD	QC547583	S	Water	163768	06/11/10 16:31	1.0	
011	162b011	SAMPLE	220530-008	S	Water	163768	06/11/10 16:59	1.0	
012	162b012	SAMPLE	220530-009	S	Water	163768	06/11/10 17:27	1.0	
013	162b013	SAMPLE	220530-010	S	Water	163768	06/11/10 17:55	1.0	
014	162b014	SAMPLE	220530-011	S	Water	163768	06/11/10 18:23	1.0	
015	162b015	SAMPLE	220530-012	S	Water	163768	06/11/10 18:51	1.0	
016	162b016	SAMPLE	220530-018	S	Water	163768	06/11/10 19:19	1.0	
017	162b017	SAMPLE	220571-024	S	Water	163768	06/11/10 19:47	1.0	
018	162b018	CCV	MO_1000				06/11/10 20:14	1.0	2
019	162b019	CCV	DSL_1000				06/11/10 20:42	1.0	6
020	162b020	CCV	JET_250				06/11/10 21:10	1.0	4
021	162b021	X	CCV				06/11/10 21:38	1.0	2
022	162b022	X	CCV				06/11/10 22:05	1.0	6
023	162b023	X	CCV				06/11/10 22:33	1.0	4
024	162b024	MSS	220571-025	S	Water	163768	06/11/10 23:00	1.0	
025	162b025	SAMPLE	220571-027	S	Water	163768	06/11/10 23:27	1.0	
026	162b026	X	IB				06/11/10 23:55	1.0	
027	162b027	BLANK	QC548108		Water	163901	06/12/10 00:22	1.0	
028	162b028	MS	QC548110		Water	163901	06/12/10 00:50	1.0	
029	162b029	MSD	QC548111		Water	163901	06/12/10 01:17	1.0	
030	162b030	LCS	QC548112		Water	163901	06/12/10 01:44	1.0	
031	162b031	SAMPLE	220642-002		Water	163901	06/12/10 02:12	1.0	
032	162b032	SAMPLE	220642-001		Water	163901	06/12/10 02:39	1.0	
033	162b033	SAMPLE	220642-003		Water	163901	06/12/10 03:06	1.0	
034	162b034	SAMPLE	220640-001		Water	163901	06/12/10 03:34	1.0	
035	162b035	X	CMARKER				06/12/10 04:01	1.0	1
036	162b036	CCV	MO_1000				06/12/10 04:29	1.0	2
037	162b037	CCV	DSL_250				06/12/10 04:57	1.0	7
038	162b038	CCV	JET_250				06/12/10 05:24	1.0	4
039	162b039	X	CCV				06/12/10 05:52	1.0	2
040	162b040	X	CCV				06/12/10 06:20	1.0	7
041	162b041	X	CCV				06/12/10 06:48	1.0	4

SFL 06/13/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 41.

Standards used: 1=S14557 2=S14740 3=S14556 4=S13616 5=S14856 6=S14790 7=S14555

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170100399

Instrument : GC17A Begun : 03/10/10 08:00
 Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	069a001	X	PRIMER			03/10/10 08:00	1.0	
002	069a002	X	IB			03/10/10 08:28	1.0	
003	069a003	IB	CALIB			03/10/10 08:55	1.0	
004	069a004	ICAL	DSL_10			03/10/10 09:30	1.0	1
005	069a005	ICAL	DSL_100			03/10/10 09:58	1.0	2
006	069a006	ICAL	DSL_500			03/10/10 10:25	1.0	3
007	069a007	ICAL	DSL_1000			03/10/10 10:52	1.0	4
008	069a008	ICAL	DSL_5000			03/10/10 11:20	1.0	5
009	069a009	ICAL	DSL_7500			03/10/10 11:48	1.0	6
010	069a010	IB	CALIB			03/10/10 12:15	1.0	
011	069a011	ICV	DSL_500			03/10/10 12:42	1.0	7
012	069a012	X	ICV			03/10/10 13:09	1.0	7
013	069a013	IB	CALIB			03/10/10 13:37	1.0	
014	069a014	ICAL	MO_50			03/10/10 14:05	1.0	8
015	069a015	ICAL	MO_250			03/10/10 14:32	1.0	9
016	069a016	ICAL	MO_500			03/10/10 15:00	1.0	10
017	069a017	ICAL	MO_1000			03/10/10 15:27	1.0	11
018	069a018	ICAL	MO_5000			03/10/10 15:55	1.0	12
019	069a019	ICAL	MO_7500			03/10/10 16:23	1.0	13
020	069a020	IB	CALIB			03/10/10 16:51	1.0	
021	069a021	CMARKER	C8-C50			03/10/10 17:19	1.0	14
022	069a022	IB	CALIB			03/10/10 17:46	1.0	

JDG 03/11/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Standards used: 1=S14114 2=S14115 3=S14116 4=S14117 5=S14113 6=S14118 7=S14077 8=S13804 9=S13805 10=S13806 11=S13807
 12=S13808 13=S13809 14=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170108447

Instrument : GC17A
 Method : EPA 8015B

Begun : 03/16/10 07:27
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	075a001	X	PRIMER				03/16/10 07:27	1.0	
002	075a002	X	IB				03/16/10 07:55	1.0	
003	075a003	X	CMARKER				03/16/10 08:24	1.0	1
004	075a004	X	MO_500				03/16/10 08:52	1.0	2
005	075a005	X	DSL_500				03/16/10 09:19	1.0	3
006	075a006	X	JP5_250				03/16/10 09:47	1.0	4
007	075a007	X	IB				03/16/10 12:53	1.0	
008	075a008	X	CMARKER				03/16/10 13:21	1.0	1
009	075a009	X	MO_500				03/16/10 13:48	1.0	2
010	075a010	X	IB				03/16/10 14:40	1.0	
011	075a011	IB	CALIB				03/16/10 15:07	1.0	
012	075a012	ICAL	HEXOTP_5				03/16/10 15:35	1.0	5
013	075a013	ICAL	HEXOTP_10				03/16/10 16:03	1.0	6
014	075a014	ICAL	HEXOTP_25				03/16/10 16:30	1.0	7
015	075a015	ICAL	HEXOTP_50				03/16/10 16:58	1.0	8
016	075a016	ICAL	HEXOTP_100				03/16/10 17:25	1.0	9
017	075a017	ICAL	HEXOTP_200				03/16/10 17:53	1.0	10
018	075a018	IB	CALIB				03/16/10 18:20	1.0	
019	075a019	CMARKER	C8-C50				03/16/10 18:48	1.0	1
020	075a020	CCV	MO_500				03/16/10 19:15	1.0	2
021	075a021	CCV	DSL_250				03/16/10 19:42	1.0	11
022	075a022	X	CCV				03/16/10 20:10	1.0	2
023	075a023	X	CCV				03/16/10 20:37	1.0	11
024	075a024	BLANK	QC535926		Water	160891	03/16/10 21:05	1.0	
025	075a025	SAMPLE	218714-001	S	Water	160843	03/16/10 21:32	1.0	
026	075a026	BLANK	QC536089	S	Water	160933	03/16/10 22:00	1.0	
027	075a027	BLANK	QC536089		Water	160933	03/16/10 22:27	1.0	
028	075a028	BS	QC536090	S	Water	160933	03/16/10 22:54	1.0	
029	075a029	BSD	QC536091	S	Water	160933	03/16/10 23:22	1.0	
030	075a030	SAMPLE	218778-001		Water	160933	03/16/10 23:49	1.0	
031	075a031	SAMPLE	218778-002		Water	160933	03/17/10 00:17	1.0	
032	075a032	SAMPLE	218778-003		Water	160933	03/17/10 00:45	1.0	
033	075a033	SAMPLE	218778-004		Water	160933	03/17/10 01:12	1.0	
034	075a034	CCV	MO_500				03/17/10 01:39	1.0	2
035	075a035	CCV	DSL_1000				03/17/10 02:07	1.0	12
036	075a036	X	CCV				03/17/10 02:34	1.0	2
037	075a037	X	CCV				03/17/10 03:02	1.0	12
038	075a038	SAMPLE	218787-006	S	Water	160933	03/17/10 03:29	1.0	
039	075a039	SAMPLE	218787-007	S	Water	160933	03/17/10 03:56	1.0	
040	075a040	SAMPLE	218789-001	S	Water	160933	03/17/10 04:24	1.0	
041	075a041	SAMPLE	218789-002	S	Water	160933	03/17/10 04:52	1.0	
042	075a042	SAMPLE	218789-003	S	Water	160933	03/17/10 05:19	1.0	
043	075a043	X	CMARKER				03/17/10 05:47	1.0	1
044	075a044	X	MO_500				03/17/10 06:14	1.0	2
045	075a045	CCV	DSL_500				03/17/10 06:41	1.0	3
046	075a046	CCV	MO_500				03/17/10 07:09	1.0	2
047	075a047	X	CCV				03/17/10 07:36	1.0	3

JDG 03/17/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 47.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170157422

Instrument : GC17A
 Method : EPA 8015B

Begun : 04/19/10 07:42
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	109a001	X	IB				04/19/10 07:42	1.0	
002	109a002	X	CMARKER				04/19/10 08:10	1.0	1
003	109a003	X	IB				04/19/10 10:09	1.0	
004	109a004	X	IB				04/19/10 10:36	1.0	
005	109a005	X	CMARKER				04/19/10 11:04	1.0	1
006	109a006	X	MO_500				04/19/10 11:31	1.0	2
007	109a007	X	DSL_250				04/19/10 11:59	1.0	3
008	109a008	X	MO_500				04/19/10 12:36	1.0	2
009	109a009	IB	CALIB				04/19/10 14:35	1.0	
010	109a010	ICAL	MO_50				04/19/10 15:03	1.0	4
011	109a011	ICAL	MO_250				04/19/10 15:30	1.0	5
012	109a012	ICAL	MO_500				04/19/10 15:58	1.0	6
013	109a013	ICAL	MO_1000				04/19/10 16:25	1.0	7
014	109a014	ICAL	MO_5000				04/19/10 16:53	1.0	8
015	109a015	ICAL	MO_7500				04/19/10 17:20	1.0	9
016	109a016	IB	CALIB				04/19/10 17:47	1.0	
017	109a017	CMARKER	C8-C50				04/19/10 18:14	1.0	1
018	109a018	IB	CALIB				04/19/10 18:42	1.0	
019	109a019	CCV	MO_500				04/19/10 19:09	1.0	2
020	109a020	CCV	DSL_250				04/19/10 19:36	1.0	3
021	109a021	X	CCV				04/19/10 20:04	1.0	2
022	109a022	X	CCV				04/19/10 20:31	1.0	3
023	109a023	BLANK	QC540932		Soil	162140	04/19/10 20:58	1.0	
024	109a024	LCS	QC540936		Soil	162140	04/19/10 21:26	1.0	
025	109a025	SAMPLE	219555-004		Soil	162140	04/19/10 21:53	1.0	
026	109a026	MSS	219555-007		Soil	162140	04/19/10 22:20	5.0	
027	109a027	MS	QC540934		Soil	162140	04/19/10 22:47	5.0	
028	109a028	MSD	QC540935		Soil	162140	04/19/10 23:14	5.0	
029	109a029	SAMPLE	219555-001		Soil	162140	04/19/10 23:41	100.0	
030	109a030	X	IB				04/20/10 00:08	1.0	
031	109a031	SAMPLE	219555-005		Soil	162140	04/20/10 00:35	1.0	
032	109a032	SAMPLE	219555-008		Soil	162140	04/20/10 01:03	1.0	
033	109a033	SAMPLE	219555-003		Soil	162140	04/20/10 01:30	50.0	
034	109a034	CCV	MO_500				04/20/10 01:57	1.0	2
035	109a035	CCV	DSL_500				04/20/10 02:25	1.0	10
036	109a036	X	CCV				04/20/10 02:52	1.0	2
037	109a037	X	CCV				04/20/10 03:19	1.0	10
038	109a038	BLANK	QC540932	S	Soil	162140	04/20/10 03:47	1.0	
039	109a039	LCS	QC540933	S	Soil	162140	04/20/10 04:14	1.0	
040	109a040	SAMPLE	219555-011		Soil	162140	04/20/10 04:42	1.0	
041	109a041	SAMPLE	219555-009		Soil	162140	04/20/10 05:09	10.0	
042	109a042	SAMPLE	219555-010		Soil	162140	04/20/10 05:37	10.0	
043	109a043	X	IB				04/20/10 06:04	1.0	
044	109a044	SAMPLE	219555-002		Soil	162140	04/20/10 06:31	50.0	
045	109a045	X	IB				04/20/10 06:59	1.0	
046	109a046	SAMPLE	219555-006		Soil	162140	04/20/10 07:26	100.0	
047	109a047	X	IB				04/20/10 07:54	1.0	
048	109a048	SAMPLE	219358-007	S	Soil	162140	04/20/10 08:21	1.0	
049	109a049	SAMPLE	219358-008	S	Soil	162140	04/20/10 08:49	1.0	
050	109a050	SAMPLE	219413-001	S	Soil	162140	04/20/10 09:16	1.0	
051	109a051	X	CMARKER				04/20/10 09:43	1.0	1
052	109a052	CCV	MO_500				04/20/10 10:11	1.0	2

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170238039

Instrument : GC17A
 Method : EPA 8015B

Begun : 06/14/10 07:19
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	165a001	X	PRIMER				06/14/10 07:19	1.0	
002	165a002	X	IB				06/14/10 07:47	1.0	
003	165a003	X	CMARKER				06/14/10 08:14	1.0	1
004	165a004	X	DSL_1000				06/14/10 08:41	1.0	2
005	165a005	X	MO_500				06/14/10 09:09	1.0	3
006	165a006	X	IB				06/14/10 12:53	1.0	
007	165a007	CMARKER	C8-C50				06/14/10 13:21	1.0	1
008	165a008	CCV	DSL_1000				06/14/10 13:48	1.0	2
009	165a009	CCV	MO_500				06/14/10 14:16	1.0	3
010	165a010	X	TEHSPKTEST				06/14/10 15:19	1.0	4
011	165a011	CCV	JET_250				06/14/10 16:10	1.0	5
012	165a012	SAMPLE	220571-022	S	Water	163798	06/14/10 17:20	1.0	
013	165a013	SAMPLE	220592-001	S	Water	163798	06/14/10 17:47	1.0	
014	165a014	SAMPLE	220592-002	S	Water	163798	06/14/10 18:14	1.0	
015	165a015	SAMPLE	220592-007	S	Water	163798	06/14/10 18:42	1.0	
016	165a016	SAMPLE	220592-008	S	Water	163798	06/14/10 19:09	1.0	
017	165a017	SAMPLE	220592-009	S	Water	163798	06/14/10 19:36	1.0	
018	165a018	MSS	220668-002	S	Water	163955	06/14/10 20:04	1.0	
019	165a019	MS	QC548299	S	Water	163955	06/14/10 20:31	1.0	
020	165a020	MSD	QC548300	S	Water	163955	06/14/10 20:58	1.0	
021	165a021	SAMPLE	220668-003	S	Water	163955	06/14/10 21:25	1.0	
022	165a022	CCV	DSL_250				06/14/10 21:52	1.0	6
023	165a023	CCV	MO_500				06/14/10 22:19	1.0	3
024	165a024	CCV	JET_250				06/14/10 22:47	1.0	5
025	165a025	X	CCV				06/14/10 23:14	1.0	6
026	165a026	X	CCV				06/14/10 23:42	1.0	3
027	165a027	X	CCV				06/15/10 00:10	1.0	5
028	165a028	LCS	QC548301		Water	163955	06/15/10 00:38	1.0	
029	165a029	SAMPLE	220676-004		Water	163955	06/15/10 01:05	1.0	
030	165a030	SAMPLE	220676-005		Water	163955	06/15/10 01:33	1.0	
031	165a031	SAMPLE	220676-006		Water	163955	06/15/10 02:01	1.0	
032	165a032	SAMPLE	220676-007		Water	163955	06/15/10 02:28	1.0	
033	165a033	BLANK	QC548108	S	Water	163901	06/15/10 02:56	1.0	
034	165a034	LCS	QC548109	S	Water	163901	06/15/10 03:24	1.0	
035	165a035	SAMPLE	220646-001	S	Water	163901	06/15/10 03:51	1.0	
036	165a036	SAMPLE	220646-002	S	Water	163901	06/15/10 04:19	1.0	
037	165a037	SAMPLE	220646-022	S	Water	163901	06/15/10 04:46	1.0	
038	165a038	X	CMARKER				06/15/10 05:14	1.0	7
039	165a039	CCV	DSL_500				06/15/10 05:42	1.0	8
040	165a040	CCV	MO_500				06/15/10 06:09	1.0	3
041	165a041	CCV	JET_250				06/15/10 06:37	1.0	5
042	165a042	X	CCV				06/15/10 07:04	1.0	8

JDG 06/15/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 42.

Standards used: 1=S14557 2=S14790 3=S14857 4=S14873 5=S14856 6=S14788 7=S14862 8=S14789

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170239565

Instrument : GC17A
 Method : EPA 8015B

Begun : 06/15/10 08:45
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	166a001	X	PRIMER				06/15/10 08:45	1.0	
002	166a002	X	IB				06/15/10 09:12	1.0	
003	166a003	X	CMARKER				06/15/10 09:39	1.0	1
004	166a004	CCV	DSL_1000				06/15/10 10:06	1.0	2
005	166a005	CCV	MO_500				06/15/10 10:34	1.0	3
006	166a006	CCV	BUNK_500				06/15/10 12:02	1.0	4
007	166a007	BLANK	QC548297		Water	163955	06/15/10 13:12	1.0	
008	166a008	BLANK	QC548297	S	Water	163955	06/15/10 13:39	1.0	
009	166a009	SAMPLE	220667-001		Water	163955	06/15/10 14:06	1.0	
010	166a010	SAMPLE	220667-001	S	Water	163955	06/15/10 14:33	1.0	
011	166a011	SAMPLE	220667-002		Water	163955	06/15/10 15:01	1.0	
012	166a012	SAMPLE	220667-002	S	Water	163955	06/15/10 15:29	1.0	
013	166a013	X	IB				06/15/10 15:56	1.0	
014	166a014	SAMPLE	220667-003		Water	163955	06/15/10 16:24	1.0	
015	166a015	SAMPLE	220667-003	S	Water	163955	06/15/10 16:52	1.0	
016	166a016	SAMPLE	220667-004		Water	163955	06/15/10 17:20	1.0	
017	166a017	SAMPLE	220667-004	S	Water	163955	06/15/10 17:48	1.0	
018	166a018	X	CCV				06/15/10 18:16	1.0	5
019	166a019	CCV	MO_500				06/15/10 18:43	1.0	3
020	166a020	CCV	BUNK_500				06/15/10 19:11	1.0	4
021	166a021	CCV	DSL_500				06/15/10 21:35	1.0	5
022	166a022	SAMPLE	220657-002		Water	164006	06/15/10 22:03	1.0	
023	166a023	SAMPLE	220657-003		Water	164006	06/15/10 22:30	1.0	
024	166a024	SAMPLE	220657-004		Water	164006	06/15/10 22:58	1.0	
025	166a025	SAMPLE	220657-005		Water	164006	06/15/10 23:25	1.0	
026	166a026	SAMPLE	220657-006		Water	164006	06/15/10 23:53	1.0	
027	166a027	SAMPLE	220657-007		Water	164006	06/16/10 00:21	1.0	
028	166a028	X	CMARKER				06/16/10 00:49	1.0	1
029	166a029	CCV	DSL_250				06/16/10 01:17	1.0	6
030	166a030	CCV	MO_500				06/16/10 01:44	1.0	3
031	166a031	X	CCV				06/16/10 02:12	1.0	6
032	166a032	X	CCV				06/16/10 02:40	1.0	3

JDG 06/16/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 220189132

Instrument : GC14B
 Method : EPA 8015B

Begun : 05/11/10 08:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	131_001	X	PRIMER			05/11/10 08:12	1.0	
002	131_002	X	IB			05/11/10 08:40	1.0	
003	131_003	X	CMARKER			05/11/10 09:07	1.0	1
004	131_004	CCV	DSL_250			05/11/10 09:35	1.0	2
005	131_005	CCV	MO_500			05/11/10 10:03	1.0	3
006	131_006	X	IB			05/11/10 13:37	1.0	
007	131_007	IB	CALIB			05/11/10 14:05	1.0	
008	131_008	ICAL	DSL_10			05/11/10 14:32	1.0	4
009	131_009	ICAL	DSL_100			05/11/10 15:00	1.0	5
010	131_010	ICAL	DSL_500			05/11/10 15:28	1.0	6
011	131_011	ICAL	DSL_1000			05/11/10 15:57	1.0	7
012	131_012	ICAL	DSL_5000			05/11/10 16:25	1.0	8
013	131_013	ICAL	DSL_7500			05/11/10 16:54	1.0	9
014	131_014	IB	CALIB			05/11/10 17:21	1.0	
015	131_015	ICV	DSL_500			05/11/10 17:49	1.0	10
016	131_016	X	ICV			05/11/10 18:17	1.0	10
017	131_017	IB	CALIB			05/11/10 18:45	1.0	
018	131_018	CMARKER	C8-C50			05/11/10 19:12	1.0	11
019	131_019	IB	CALIB			05/11/10 19:40	1.0	

SFL 05/12/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 220190522

Instrument : GC14B
 Method : EPA 8015B

Begun : 05/12/10 07:22
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	132_001	X	PRIMER			05/12/10 07:22	1.0	
002	132_002	X	IB			05/12/10 07:49	1.0	
003	132_003	X	CMARKER			05/12/10 08:17	1.0	1
004	132_004	X	DSL_250			05/12/10 08:45	1.0	2
005	132_005	X	MO_500			05/12/10 09:13	1.0	3
006	132_006	X	DSL_1000			05/12/10 11:11	1.0	4
007	132_007	X	IB			05/12/10 12:38	1.0	
008	132_008	IB	CALIB			05/12/10 14:26	1.0	
009	132_009	ICAL	HEX OTP_5			05/12/10 14:53	1.0	5
010	132_010	ICAL	HEX OTP_10			05/12/10 15:21	1.0	6
011	132_011	ICAL	HEX OTP_25			05/12/10 15:49	1.0	7
012	132_012	ICAL	HEX OTP_50			05/12/10 16:17	1.0	8
013	132_013	ICAL	HEX OTP_100			05/12/10 16:44	1.0	9
014	132_014	ICAL	HEX OTP_200			05/12/10 17:12	1.0	10
015	132_015	IB	CALIB			05/12/10 17:40	1.0	
016	132_016	ICAL	MO_50			05/12/10 18:08	1.0	11
017	132_017	ICAL	MO_250			05/12/10 18:36	1.0	12
018	132_018	ICAL	MO_500			05/12/10 19:04	1.0	13
019	132_019	ICAL	MO_1000			05/12/10 19:31	1.0	14
020	132_020	ICAL	MO_5000			05/12/10 19:59	1.0	15
021	132_021	ICAL	MO_7500			05/12/10 20:27	1.0	16
022	132_022	IB	CALIB			05/12/10 20:54	1.0	
023	132_023	CMARKER	C8-C50			05/12/10 21:22	1.0	17
024	132_024	IB	CALIB			05/12/10 21:50	1.0	

JDG 05/13/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 24.

Standards used: 1=S14547 2=S14555 3=S14243 4=S14542 5=S13690 6=S13691 7=S13692 8=S13693 9=S13694 10=S13695 11=S13804
 12=S13805 13=S13806 14=S13807 15=S13808 16=S13809 17=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 220233777

Instrument : GC14B
 Method : EPA 8015B

Begun : 06/11/10 08:17
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	162_001	X	PRIMER				06/11/10 08:17	1.0		
002	162_002	X	IB				06/11/10 08:44	1.0		
003	162_003	X	CMARKER				06/11/10 09:12	1.0	1	
004	162_004	CCV	MO_1000				06/11/10 09:40	1.0	2	
005	162_005	CCV	DSL_1000				06/11/10 10:09	1.0	3	
006	162_006	BLANK	QC547923		Soil	163858	06/11/10 11:01	1.0		
007	162_007	MSS	220601-009		Soil	163858	06/11/10 11:29	5.0		
008	162_008	MS	QC547925		Soil	163858	06/11/10 11:57	5.0		
009	162_009	MSD	QC547926		Soil	163858	06/11/10 12:25	5.0		
010	162_010	SAMPLE	220620-002	S	Soil	163858	06/11/10 12:53	10.0		
011	162_011	CCV	MO_1000				06/11/10 13:21	1.0	2	
012	162_012	CCV	DSL_250				06/11/10 13:49	1.0	4	
013	162_013	SAMPLE	220633-012		Water	163901	06/11/10 17:47	1.0		
014	162_014	BLANK	QC548237		Soil	163936	06/11/10 18:50	1.0		
015	162_015	SAMPLE	220601-012		Soil	163936	06/11/10 19:18	1.0		13:BUNKC:12-40=18000
016	162_016	SAMPLE	220601-013		Soil	163936	06/11/10 19:46	20.0		
017	162_017	SAMPLE	220601-015		Soil	163936	06/11/10 20:14	1.0		2:BUNKC:12-40=7300
018	162_018	X	IB				06/11/10 20:42	1.0		
019	162_019	SAMPLE	220601-014		Soil	163936	06/11/10 21:10	1.0		
020	162_020	SAMPLE	220601-010		Soil	163936	06/11/10 21:37	1.0		13:BUNKC:12-40=22000
021	162_021	MSS	220601-017		Soil	163936	06/11/10 22:05	1.0		9:BUNKC:12-40=15000
022	162_022	MS	QC548239		Soil	163936	06/11/10 22:32	1.0		9:BUNKC:12-40=13000
023	162_023	MSD	QC548240		Soil	163936	06/11/10 23:00	1.0		9:BUNKC:12-40=13000
024	162_024	X	CMARKER				06/11/10 23:27	1.0	1	
025	162_025	CCV	MO_1000				06/11/10 23:55	1.0	2	
026	162_026	CCV	DSL_500				06/12/10 00:22	1.0	5	
027	162_027	X	CCV				06/12/10 00:50	1.0	2	
028	162_028	X	CCV				06/12/10 01:17	1.0	5	
029	162_029	SAMPLE	220630-001		Soil	163936	06/12/10 01:44	5.0		
030	162_030	SAMPLE	220630-002		Soil	163936	06/12/10 02:12	5.0		
031	162_031	SAMPLE	220644-001		Soil	163936	06/12/10 02:40	10.0		
032	162_032	SAMPLE	220644-004		Soil	163936	06/12/10 03:07	10.0		
033	162_033	SAMPLE	220644-006		Soil	163936	06/12/10 03:35	1.0		2:BUNKC:12-40=8400
034	162_034	SAMPLE	220644-007		Soil	163936	06/12/10 04:03	1.0		2:BUNKC:12-40=13000
035	162_035	X	IB				06/12/10 04:30	1.0		
036	162_036	SAMPLE	220601-011		Soil	163936	06/12/10 04:58	1.0		
037	162_037	SAMPLE	220601-016		Soil	163936	06/12/10 05:26	1.0		
038	162_038	SAMPLE	220644-002		Soil	163936	06/12/10 05:54	1.0		
039	162_039	SAMPLE	220644-003		Soil	163936	06/12/10 06:22	1.0		
040	162_040	CCV	MO_1000				06/12/10 06:49	1.0	2	
041	162_041	CCV	DSL_250				06/12/10 07:17	1.0	4	
042	162_042	X	CCV				06/12/10 07:45	1.0	2	
043	162_043	X	CCV				06/12/10 08:13	1.0	4	
044	162_044	SAMPLE	220644-009		Soil	163936	06/12/10 08:40	1.0		2:BUNKC:12-40=6200
045	162_045	SAMPLE	220644-005		Soil	163936	06/12/10 09:08	1.0		2:BUNKC:12-40=6100
046	162_046	X	IB				06/12/10 09:36	1.0		
047	162_047	SAMPLE	220644-008		Soil	163936	06/12/10 10:03	1.0		
048	162_048	X	CMARKER				06/12/10 10:31	1.0	1	
049	162_049	CCV	MO_1000				06/12/10 10:59	1.0	2	
050	162_050	CCV	DSL_1000				06/12/10 11:26	1.0	3	
051	162_051	X	CCV				06/12/10 11:54	1.0	2	
052	162_052	X	CCV				06/12/10 12:22	1.0	3	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 220238038

Instrument : GC14B
 Method : EPA 8015B

Begun : 06/14/10 07:18
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	165_001	X	PRIMER				06/14/10 07:18	1.0	
002	165_002	X	IB				06/14/10 07:46	1.0	
003	165_003	X	CMARKER				06/14/10 08:13	1.0	1
004	165_004	CCV	MO_1000				06/14/10 08:41	1.0	2
005	165_005	CCV	DSL_250				06/14/10 09:09	1.0	3
006	165_006	BLANK	QC548237	S	Soil	163936	06/14/10 10:44	1.0	
007	165_007	LCS	QC548238	S	Soil	163936	06/14/10 11:12	1.0	
008	165_008	BLANK	QC548108		Water	163901	06/14/10 11:40	1.0	
009	165_009	SAMPLE	220645-001		Soil	163967	06/14/10 12:08	5.0	
010	165_010	X	IB				06/14/10 12:36	1.0	
011	165_011	BLANK	QC547580	S	Water	163768	06/14/10 13:04	1.0	
012	165_012	MS	QC548356		Soil	163967	06/14/10 13:32	5.0	
013	165_013	MSD	QC548357		Soil	163967	06/14/10 13:59	5.0	
014	165_014	BLANK	QC547580	S	Water	163768	06/14/10 14:29	1.0	
015	165_015	CCV	MO_500				06/14/10 14:57	1.0	4
016	165_016	CCV	DSL_500				06/14/10 15:25	1.0	5
018	165_018	X	BUNK_500				06/14/10 16:02	1.0	6
019	165_019	X	CMARKER				06/14/10 17:40	1.0	7

JDG 06/14/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

SFL 06/14/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 15 through 16.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 220239476

Instrument : GC14B
 Method : EPA 8015B

Begun : 06/15/10 07:16
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	166_001	X	PRIMER				06/15/10 07:16	1.0		
002	166_002	X	IB				06/15/10 07:43	1.0		
003	166_003	X	CMARKER				06/15/10 08:11	1.0	1	
004	166_004	CCV	MO_500				06/15/10 08:39	1.0	2	
005	166_005	CCV	DSL_250				06/15/10 09:07	1.0	3	
006	166_006	X	MO_500				06/15/10 10:51	1.0	2	
007	166_007	LCS	QC548298		Water	163955	06/15/10 14:13	1.0		
008	166_008	LCS	QC548298	S	Water	163955	06/15/10 14:40	1.0		
009	166_009	X	IB				06/15/10 15:44	1.0		
010	166_010	BLANK	QC548635	S	Soil	164034	06/15/10 17:08	1.0		
011	166_011	BLANK	QC548635		Soil	164034	06/15/10 17:36	1.0		
012	166_012	LCS	QC548636	S	Soil	164034	06/15/10 18:05	1.0		
013	166_013	SAMPLE	220604-001	S	Soil	164034	06/15/10 18:32	1.0		
014	166_014	X	IB				06/15/10 19:00	1.0		
015	166_015	MSS	220711-010		Soil	164034	06/15/10 19:28	1.0		
016	166_016	MS	QC548637		Soil	164034	06/15/10 19:56	1.0		
017	166_017	MSD	QC548638		Soil	164034	06/15/10 20:24	1.0		
018	166_018	SAMPLE	220711-002		Soil	164034	06/15/10 20:51	1.0		2:BUNKC:12-40=7400
019	166_019	X	CMARKER				06/15/10 21:19	1.0	4	
020	166_020	CCV	MO_500				06/15/10 21:46	1.0	2	
021	166_021	CCV	DSL_500				06/15/10 22:14	1.0	5	
022	166_022	X	CCV				06/15/10 22:41	1.0	2	
023	166_023	X	CCV				06/15/10 23:09	1.0	5	
024	166_024	SAMPLE	220711-001		Soil	164034	06/15/10 23:38	1.0		
025	166_025	SAMPLE	220711-003		Soil	164034	06/16/10 00:06	1.0		10:BUNKC:12-40=24000
026	166_026	SAMPLE	220711-004		Soil	164034	06/16/10 00:34	1.0		
027	166_027	SAMPLE	220711-005		Soil	164034	06/16/10 01:02	1.0		11:BUNKC:12-40=28000
028	166_028	SAMPLE	220711-006		Soil	164034	06/16/10 01:31	1.0		
029	166_029	SAMPLE	220711-007		Soil	164034	06/16/10 01:59	1.0		
030	166_030	SAMPLE	220711-008		Soil	164034	06/16/10 02:27	1.0		
031	166_031	SAMPLE	220711-009		Soil	164034	06/16/10 02:56	1.0		
032	166_032	SAMPLE	220711-011		Soil	164034	06/16/10 03:24	1.0		
033	166_033	SAMPLE	220711-012		Soil	164034	06/16/10 03:52	1.0		
034	166_034	CCV	MO_500				06/16/10 04:20	1.0	2	
035	166_035	CCV	DSL_1000				06/16/10 04:48	1.0	6	
036	166_036	X	CCV				06/16/10 05:16	1.0	2	
037	166_037	X	CCV				06/16/10 05:44	1.0	6	

JDG 06/16/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 37.

Standards used: 1=S14788 2=S14857 3=S14555 4=S14557 5=S14789 6=S14790

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970011942

Instrument : GC27A
 Method : EPA 8015B

Begun : 01/08/10 07:02
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	008a001	X	PRIMER			01/08/10 07:02	1.0	
002	008a002	X	IB			01/08/10 07:27	1.0	
003	008a003	X	IB			01/08/10 07:52	1.0	
004	008a004	X	CMARKER			01/08/10 08:18	1.0	1
005	008a005	CCV	DSL_250			01/08/10 08:43	1.0	2
006	008a006	X	CMARKER			01/08/10 10:52	1.0	1
007	008a007	CCV	DSL_250			01/08/10 11:18	1.0	2
008	008a008	X	IB			01/08/10 13:49	1.0	
009	008a009	X	CMARKER			01/08/10 14:14	1.0	1
010	008a010	CCV	DSL_1000			01/08/10 14:40	1.0	3
011	008a011	CCV	DSL_500			01/08/10 15:16	1.0	4
012	008a012	IB	CALIB			01/08/10 17:12	1.0	
013	008a013	ICAL	HEXOPT_5			01/08/10 17:38	1.0	5
014	008a014	ICAL	HEXOPT_10			01/08/10 18:03	1.0	6
015	008a015	ICAL	HEXOPT_25			01/08/10 18:29	1.0	7
016	008a016	ICAL	HEXOPT_50			01/08/10 18:54	1.0	8
017	008a017	ICAL	HEXOPT_100			01/08/10 19:20	1.0	9
018	008a018	ICAL	HEXOPT_200			01/08/10 19:45	1.0	10
019	008a019	IB	CALIB			01/08/10 20:11	1.0	
020	008a020	ICAL	DSL_10			01/08/10 20:36	1.0	11
021	008a021	ICAL	DSL_100			01/08/10 21:02	1.0	12
022	008a022	ICAL	DSL_500			01/08/10 21:27	1.0	13
023	008a023	ICAL	DSL_1000			01/08/10 21:52	1.0	14
024	008a024	ICAL	DSL_5000			01/08/10 22:18	1.0	15
025	008a025	ICAL	DSL_7500			01/08/10 22:43	1.0	16
026	008a026	IB	CALIB			01/08/10 23:09	1.0	
027	008a027	ICV	DSL_500			01/08/10 23:34	1.0	4
028	008a028	X	ICV			01/09/10 00:00	1.0	4
029	008a029	IB	CALIB			01/09/10 00:25	1.0	
030	008a030	CMARKER	C8-C50			01/09/10 00:50	1.0	17
031	008a031	IB	CALIB			01/09/10 01:15	1.0	

SFL 01/11/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S12636 2=S13456 3=S13458 4=S13457 5=S13690 6=S13691 7=S13692 8=S13693 9=S13694 10=S13695 11=S13230
 12=S13231 13=S13232 14=S13233 15=S13229 16=S13234 17=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970048088

Instrument : GC27A
 Method : EPA 8015B

Begun : 02/02/10 09:28
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	033a001	X	PRIMER			02/02/10 09:28	1.0	
002	033a002	X	IB			02/02/10 09:53	1.0	
003	033a003	X	IB			02/02/10 10:19	1.0	
004	033a004	X	CMARKER			02/02/10 10:44	1.0	1
005	033a005	CCV	DSL_1000			02/02/10 11:10	1.0	2
006	033a006	CCV	MO_500			02/02/10 11:36	1.0	3
007	033a007	CCV	DSL_250			02/02/10 13:11	1.0	4
008	033a008	CCV	MO_500			02/02/10 13:37	1.0	3
009	033a009	X	IB			02/02/10 19:36	1.0	
010	033a010	X	IB			02/02/10 20:01	1.0	
011	033a011	X	CMARKER			02/02/10 20:27	1.0	1
012	033a012	CCV	DSL_500			02/02/10 20:53	1.0	5
013	033a013	CCV	MO_500			02/02/10 21:18	1.0	3
014	033a014	X	IB			02/02/10 21:48	1.0	
015	033a015	IB	CALIB			02/02/10 22:14	1.0	
016	033a016	ICAL	HEXOTP_5			02/02/10 22:40	1.0	6
017	033a017	ICAL	HEXOTP_10			02/02/10 23:05	1.0	7
018	033a018	ICAL	HEXOTP_25			02/02/10 23:30	1.0	8
019	033a019	ICAL	HEXOTP_50			02/02/10 23:55	1.0	9
020	033a020	ICAL	HEXOTP_100			02/03/10 00:21	1.0	10
021	033a021	ICAL	HEXOTP_200			02/03/10 00:46	1.0	11
022	033a022	IB	CALIB			02/03/10 01:12	1.0	
023	033a023	ICAL	MO_25			02/03/10 01:37	1.0	12
024	033a024	ICAL	MO_50			02/03/10 02:03	1.0	12
025	033a025	ICAL	MO_250			02/03/10 02:28	1.0	13
026	033a026	ICAL	MO_500			02/03/10 02:54	1.0	14
027	033a027	ICAL	MO_1000			02/03/10 03:19	1.0	15
028	033a028	ICAL	MO_2500			02/03/10 03:45	1.0	16
029	033a029	IB	CALIB			02/03/10 04:10	1.0	
030	033a030	CMARKER	C8-C50			02/03/10 04:36	1.0	1
031	033a031	IB	CALIB			02/03/10 05:02	1.0	

SFL 02/03/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S13646 2=S13458 3=S13744 4=S13456 5=S13457 6=S13690 7=S13691 8=S13692 9=S13693 10=S13694 11=S13695
 12=S13804 13=S13805 14=S13806 15=S13807 16=S13808

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970199313

Instrument : GC27A
 Method : EPA 8015B

Begun : 05/18/10 09:53
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	138a001	X	PRIMER			05/18/10 09:53	1.0	
002	138a002	X	IB			05/18/10 10:19	1.0	
003	138a003	X	IB			05/18/10 10:44	1.0	
004	138a004	X	CMARKER			05/18/10 11:10	1.0	1
005	138a005	CCV	DSL_500			05/18/10 11:35	1.0	2
006	138a006	X	IB			05/18/10 13:18	1.0	
007	138a007	IB	CALIB			05/18/10 13:44	1.0	
008	138a008	ICAL	MO_25			05/18/10 14:09	1.0	3
009	138a009	ICAL	MO_50			05/18/10 14:35	1.0	3
010	138a010	ICAL	MO_250			05/18/10 15:00	1.0	4
011	138a011	ICAL	MO_500			05/18/10 15:26	1.0	5
012	138a012	ICAL	MO_1000			05/18/10 15:52	1.0	6
013	138a013	ICAL	MO_2500			05/18/10 16:17	1.0	7
014	138a014	IB	CALIB			05/18/10 16:43	1.0	
015	138a015	CMARKER	C8-C50			05/18/10 17:09	1.0	1
016	138a016	IB	CALIB			05/18/10 17:34	1.0	
017	138a017	CCV	MO_500			05/18/10 18:00	1.0	8
018	138a018	X	CCV			05/18/10 18:25	1.0	8
019	138a019	LOD	212266-011	Water	162210	05/18/10 18:51	1.0	
020	138a020	LOD	207488-011	Soil	162228	05/18/10 19:16	1.0	
021	138a021	LOD	213039-011	Soil	162920	05/18/10 19:42	1.0	
022	138a022	CCV	MO_500			05/18/10 20:07	1.0	8
023	138a023	X	CCV			05/18/10 20:33	1.0	8

JDG 05/19/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 23.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970234028

Instrument : GC27A
 Method : EPA 8015B

Begun : 06/11/10 12:28
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	162a001	X	PRIMER			06/11/10 12:28	1.0	
002	162a002	X	IB			06/11/10 12:53	1.0	
003	162a003	X	IB			06/11/10 13:19	1.0	
004	162a004	X	CMARKER			06/11/10 13:44	1.0	1
005	162a005	CCV	DSL_500			06/11/10 14:10	1.0	2
006	162a006	CCV	MO_1000			06/11/10 14:36	1.0	3
007	162a007	SAMPLE	220633-002	Water	163901	06/11/10 17:43	1.0	
008	162a008	SAMPLE	220633-003	Water	163901	06/11/10 18:09	1.0	
009	162a009	SAMPLE	220633-004	Water	163901	06/11/10 18:34	1.0	
010	162a010	SAMPLE	220633-005	Water	163901	06/11/10 19:00	1.0	
011	162a011	SAMPLE	220633-006	Water	163901	06/11/10 19:26	1.0	
012	162a012	SAMPLE	220633-007	Water	163901	06/11/10 19:51	1.0	
013	162a013	SAMPLE	220633-008	Water	163901	06/11/10 20:17	1.0	
014	162a014	SAMPLE	220633-009	Water	163901	06/11/10 20:43	1.0	
015	162a015	MSS	220633-010	Water	163901	06/11/10 21:08	1.0	
016	162a016	SAMPLE	220633-011	Water	163901	06/11/10 21:33	1.0	
017	162a017	X	CMARKER			06/11/10 21:59	1.0	1
018	162a018	CCV	DSL_250			06/11/10 22:24	1.0	4
019	162a019	CCV	MO_1000			06/11/10 22:50	1.0	3
020	162a020	X	CCV			06/11/10 23:15	1.0	4
021	162a021	X	CCV			06/11/10 23:40	1.0	3

SFL 06/13/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970238187

Instrument : GC27A
 Method : EPA 8015B

Begun : 06/14/10 09:47
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	165a001	X	PRIMER				06/14/10 09:47	1.0	
002	165a002	X	IB				06/14/10 10:13	1.0	
003	165a003	X	CMARKER				06/14/10 10:38	1.0	1
004	165a004	X	DSL_500				06/14/10 11:03	1.0	2
005	165a005	CCV	MO_500				06/14/10 11:29	1.0	3
006	165a006	CCV	DSL_250				06/14/10 14:41	1.0	4
007	165a007	X	CMARKER				06/14/10 16:02	1.0	5
008	165a008	SAMPLE	220568-004	S	Water	163768	06/14/10 16:27	1.0	
009	165a009	SAMPLE	220634-007	S	Water	163901	06/14/10 16:53	1.0	
010	165a010	SAMPLE	220633-014		Water	163955	06/14/10 17:19	1.0	
011	165a011	SAMPLE	220633-015		Water	163955	06/14/10 17:44	1.0	
012	165a012	SAMPLE	220633-016		Water	163955	06/14/10 18:10	1.0	
013	165a013	SAMPLE	220633-017		Water	163955	06/14/10 18:35	1.0	
014	165a014	SAMPLE	220633-018		Water	163955	06/14/10 19:01	1.0	
015	165a015	SAMPLE	220633-019		Water	163955	06/14/10 19:26	1.0	
016	165a016	SAMPLE	220676-002		Water	163955	06/14/10 19:52	1.0	
017	165a017	SAMPLE	220676-003		Water	163955	06/14/10 20:17	1.0	
018	165a018	CCV	MO_500				06/14/10 20:43	1.0	3
019	165a019	CCV	DSL_1000				06/14/10 21:08	1.0	6
020	165a020	X	CCV				06/14/10 21:33	1.0	3
021	165a021	X	CCV				06/14/10 21:59	1.0	6

JDG 06/15/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 21.

SAMPLE PREPARATION SUMMARY

Batch # : 163901		Analysis : TEH
Started By : DJT	Prep Date : 10-JUN-2010 14:20	Finished By : CRD
Method : 3520C	SOP Version : TEH_3520_rv12	Units : mL
Spike #1 ID : S14657	Spike #2 ID : S14674	Spike #3 ID : S14251

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
220633-002		Water	500	2.5	1	0.005	5	.5				TEHM	
220633-003		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-004		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-005		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-006		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-007		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-008		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-009		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-010		Water	500	2.5	1	0.005	7	.5				TEHM	mss
220633-011		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-012		Water	500	2.5	1	0.005	5	.5				TEHM	
220634-007		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
220640-001		Water	500	2.5	1	0.005	7	.5				8015AZ	
220642-001		Water	500	2.5	1	0.005	7	.5				TEH	
220642-002		Water	500	2.5	1	0.005	7	.5				TEH	
220642-003		Water	500	2.5	1	0.005	7	.5				TEH	
220646-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
220646-002		Water	500	2.5	1	0.005	10	.5			3630C	TEHM	
220646-022		Water	500	2.5	1	0.005	5	.5			3630C	TEHM	
QC548108	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC548109	LCS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC548110	MS	Water	500	2.5	1	0.005	7	.5	.5				
QC548111	MSD	Water	500	2.5	1	0.005	7	.5	.5				
QC548112	LCS	Water	500	2.5	1	0.005		.5		.5			

PRW 06/15/10 : Reviewed for all jobs except 220646.

PRW 06/16/10 : Client sample switch for 220642 -001 and -002. Sample ID's were switched after extracting and running the samples.

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/16/10

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

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BK 3015

LIMS Batch No: 163901
 LIMS Analysis: TEH/M
 Date Extracted: 6/10/10

Extraction Method:
 mod. EPA 3510c sep. funnel
 mod. EPA 3520c cont. L/L

Cleanup Method (if needed):
 EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
220633-002	D	500	5	2.5		
	003		7			
	004					
	005					
	006					
	007					
	008					
	009					
	010					
	011					MSS ✓
	012		5			
220634-007	E		7		X	
220640-001	D					
220642-001	E					
	002					
	003					
220646-001	H				X	
	002		10			
	022		5			
MB QC 518108	NA		NA			
LCS	09					
MS	10		7			
MSD	11					
*LCS	12		NA			

0.5 mL of TEH_SURR was added to all samples

0.5 mL of TEH_SP was added to all spikes

pH of all samples adjusted to pH ≤ 2 with H₂SO₄

3520c: Samples were continually extracted about 450 mL of CH₂Cl₂

Extraction Start Time:

Extraction End Time:

3510c: Samples were extracted 3 times with 60 mL of CH₂Cl₂
 Extracts filtered through baked, CH₂Cl₂-rinsed granular Na₂SO₄

Concentrated to final volume at temperature (degrees C)

Relinquished to TEH Department

Mfg & Lot# / LIMS # / Time	Date / Initials
S1M657A	DK 6/10/10
S1M614A 7 *S1M251C	
FS100311	
E149251	
1420	
246	JDC 6/11/10
NA	CRS 6/11/10
E150092015	
100	
✓	

[Signature]
 Extraction Chemist
6/10/10
 Date

Continued from Page
 Continued on Page

[Signature]
 Reviewed by
6/14/10
 Date

SAMPLE PREPARATION SUMMARY

Batch # : 163955
 Started By : DJT
 Method : 3520C
 Spike #1 ID : S14657

Prep Date : 11-JUN-2010 18:30
 SOP Version : TEH_3520_rv12
 Spike #2 ID : S14835

Analysis : TEH
 Finished By : KCL
 Units : mL
 Spike #3 ID : S14251

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
220633-014		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-015		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-016		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-017		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-018		Water	500	2.5	1	0.005	7	.5				TEHM	
220633-019		Water	500	2.5	1	0.005	7	.5				TEHM	
220667-001		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
220667-002		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
220667-003		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
220667-004		Water	500	2.5	1	0.005	7	.5			3630C	TEH	
220668-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	mss
220668-003		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
220676-002		Water	500	2.5	1	0.005	7	.5				TEH	
220676-003		Water	500	2.5	1	0.005	7	.5				TEH	
220676-004		Water	500	2.5	1	0.005	7	.5				TEH	
220676-005		Water	500	2.5	1	0.005	7	.5				TEH	
220676-006		Water	500	2.5	1	0.005	7	.5				TEH	
220676-007		Water	500	2.5	1	0.005	7	.5				TEH	
QC548297	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC548298	LCS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC548299	MS	Water	500	2.5	1	0.005	7	.5	.5		3630C		
QC548300	MSD	Water	500	2.5	1	0.005	7	.5	.5		3630C		
QC548301	LCS	Water	500	2.5	1	0.005		.5		.5			

Analyst: JDG

Date: 06/16/10

Reviewer: SFL

Date: 06/16/10

LIMS Batch No: 163955
 LIMS Analysis: TEHM
 Date Extracted: 6/11/10

Extraction Method:
 mod. EPA 3510c sep. funnel
 mod. EPA 3520c cont. L/L

Cleanup Method (if needed):
 EPA 3630c Silica Gel

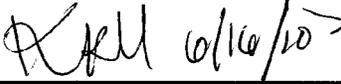
Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
220633-014	D	500	7	2.5		
↓	015	↓	↓	↓	↓	
↓	016	↓	↓	↓	↓	
↓	017	↓	↓	↓	↓	
↓	018	↓	↓	↓	↓	
↓	019	↓	↓	↓	↓	
220667-001	G				X	
↓	002	↓	↓	↓	↓	
↓	003	↓	↓	↓	↓	
↓	004	↓	↓	↓	↓	
220668-002	P					MS
↓	003	↓	↓	↓	↓	
220676-002	G					
↓	003	↓	↓	↓	↓	
↓	004	↓	↓	↓	↓	
↓	005	↓	↓	↓	↓	
↓	006	↓	↓	↓	↓	
↓	007	↓	↓	↓	↓	
MB QC 548297	NA		NA		X	
LCS	298	↓	↓	↓	↓	
MS	299	Q	7		↓	
MOD	300	↓	↓	↓	↓	
★ LCS	301	NA	NA		↓	
RKL 6/16/10						

Mfg & Lot# / LIMS # / Time Date/ Initial

0.5 mL of TEH_SURR was added to all samples 514657A DKS 6/11/10
0.5 mL of TEH_SP was added to all spikes 514835a/514251c
 pH of all samples adjusted to pH ≤ 2 with H₂SO₄ F5100311
 3520c: Samples were continually extracted about 450 mL of CH₂Cl₂ EM144251
 Extraction Start Time: 1830
 Extraction End Time: 1530 CRD 6/12/10
 3510c: Samples were extracted 3 times with 60 mL of CH₂Cl₂ N/A WLL 6/14/10
 Extracts filtered through baked, CH₂Cl₂-rinsed granular Na₂SO₄ EM50092015
 Concentrated to final volume at temperature (degrees C) 100
 Relinquished to TEH Department


 Extraction Chemist 6/11/10
 Date

Continued from Page 1
 Continued on Page 1


 Reviewed by 6/16/10
 Date

Prep Chemist: VCL
 Cleanup Date: 6/14/10

Benchbook # **BK 3035**
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Sample #	Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
220667-001	163955	1.0	1.0	
↓ -002	↓	↓	↓	
↓ -003	↓	↓	↓	
↓ -004	↓	↓	↓	
5 220668-002	↓	↓	↓	MS ✓
↓ -003	↓	↓	↓	
MB QC548247	↓	↓	↓	
WS ↓ 298	↓	↓	↓	
MS ↓ 299	↓	↓	↓	
10 MS ↓ 300	↓	↓	↓	
15				
20				
25				
30				

Extracts were cleaned up using C&T assembled _____ g columns
 Extracts were cleaned up using 1.0 g cartridges
 Extracts were eluted with 4.0 mL CH₂Cl₂
 Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
N/A	VCL 6/14/10
501524901	↓
EM500 22	↓
-	↓

[Signature] 6/14/10
 Extraction Chemist / Date

Continued from page 1
 Continued on page _____

[Signature] 6/14/10
 Reviewed by / Date

Laboratory Job Number 220633

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-001-GW-10Q2	Batch#:	164132
Lab ID:	220633-001	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-001-GW-10Q2	Batch#:	164132
Lab ID:	220633-001	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	105	77-120	
1,2-Dichloroethane-d4	103	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	111	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-001-GW-10Q2	Batch#:	164132
Lab ID:	220633-002	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	0.6	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	0.7	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	1.5	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-001-GW-10Q2	Batch#:	164132
Lab ID:	220633-002	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	0.6	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	104	77-120	
1,2-Dichloroethane-d4	101	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	110	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-128A-GW-10Q2	Batch#:	164132
Lab ID:	220633-003	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-128A-GW-10Q2	Batch#:	164132
Lab ID:	220633-003	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	104	77-120	
1,2-Dichloroethane-d4	101	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	112	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-98A-GW-10Q2	Batch#:	164132
Lab ID:	220633-004	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-98A-GW-10Q2	Batch#:	164132
Lab ID:	220633-004	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	106	77-120	
1,2-Dichloroethane-d4	103	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	115	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-99A-GW-10Q2	Batch#:	164132
Lab ID:	220633-005	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-99A-GW-10Q2	Batch#:	164132
Lab ID:	220633-005	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	105	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	113	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-001	Batch#:	164132
Lab ID:	220633-006	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-001	Batch#:	164132
Lab ID:	220633-006	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	106	77-120	
1,2-Dichloroethane-d4	104	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	112	78-120	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-110A-GW-10Q2	Batch#:	164132
Lab ID:	220633-007	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-110A-GW-10Q2	Batch#:	164132
Lab ID:	220633-007	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	106	77-120	
1,2-Dichloroethane-d4	104	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	111	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-103A-GW-10Q2	Batch#:	164132
Lab ID:	220633-009	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-103A-GW-10Q2	Batch#:	164132
Lab ID:	220633-009	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	106	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	114	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 M1 V1
1,1-Dichloroethane	ND	0.5	M1
2-Butanone	ND	10	L1 M1 V1
cis-1,2-Dichloroethene	ND	0.5	M1
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	M1
Bromochloromethane	ND	0.5	M1
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	106	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	115	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-101A-GW-10Q2	Batch#:	164132
Lab ID:	220633-011	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	0.7	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-101A-GW-10Q2	Batch#:	164132
Lab ID:	220633-011	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	106	77-120	
1,2-Dichloroethane-d4	104	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	113	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-005-GW-10Q2	Batch#:	164132
Lab ID:	220633-012	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	0.9	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	0.7	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	2.2	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-005-GW-10Q2	Batch#:	164132
Lab ID:	220633-012	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	0.5	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	107	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	110	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-005-GW-10Q2	Batch#:	164132
Lab ID:	220633-013	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-005-GW-10Q2	Batch#:	164132
Lab ID:	220633-013	Sampled:	06/07/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	106	77-120	
1,2-Dichloroethane-d4	104	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	112	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	PL-2102-GW-10Q2	Batch#:	164132
Lab ID:	220633-014	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	0.9	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	1.5	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	0.6	0.5	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	PL-2102-GW-10Q2	Batch#:	164132
Lab ID:	220633-014	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	106	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	116	78-120	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	PL-2101-GW-10Q2	Batch#:	164167
Lab ID:	220633-015	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	8.1	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	6.4	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	0.6	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	1.8	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	PL-2101-GW-10Q2	Batch#:	164167
Lab ID:	220633-015	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	108	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	112	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-54A-GW-10Q2	Batch#:	164167
Lab ID:	220633-016	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	1.8	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	0.9	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	1.8	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-54A-GW-10Q2	Batch#:	164167
Lab ID:	220633-016	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	115	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-004	Batch#:	164167
Lab ID:	220633-017	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	1.9	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	0.9	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	1.8	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-004	Batch#:	164167
Lab ID:	220633-017	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	107	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	115	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-61A-GW-10Q2	Batch#:	164167
Lab ID:	220633-018	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	0.9	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	0.6	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	0.7	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	1.3	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-61A-GW-10Q2	Batch#:	164167
Lab ID:	220633-018	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	117	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-60A-GW-10Q2	Batch#:	164167
Lab ID:	220633-019	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	1.2	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	3.4	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	19	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	1.2	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-60A-GW-10Q2	Batch#:	164167
Lab ID:	220633-019	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	116	78-120	

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549026	Batch#:	164132
Matrix:	Water	Analyzed:	06/17/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549026	Batch#:	164132
Matrix:	Water	Analyzed:	06/17/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	102	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	108	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164132
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549027

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	27.12	108	56-140		
Chloromethane	25.00	27.86	111	46-142		
Vinyl Chloride	25.00	25.13	101	49-136		
Bromomethane	25.00	31.22	125	42-154		
Chloroethane	25.00	27.69	111	51-133		
Trichlorofluoromethane	25.00	26.42	106	63-135		
Iodomethane	25.00	32.70	b 131 *	70-130	L1	
Acetone	25.00	27.41	110	48-130		
1,1-Dichloroethene	25.00	24.54	98	68-133		
Methylene Chloride	25.00	26.05	104	71-120		
Carbon Disulfide	25.00	20.85	83	56-120		
MTBE	25.00	24.48	98	58-120		
trans-1,2-Dichloroethene	25.00	26.13	105	80-120		
Vinyl Acetate	25.00	28.89	b 116	63-124	V3	
1,1-Dichloroethane	25.00	26.32	105	77-120		
2-Butanone	25.00	27.96	112	57-120		
cis-1,2-Dichloroethene	25.00	26.25	105	75-120		
2,2-Dichloropropane	25.00	30.27	b 121	72-128	V3	
Chloroform	25.00	26.70	107	78-120		
Bromochloromethane	25.00	26.96	108	78-120		
1,1,1-Trichloroethane	25.00	26.09	104	78-120		
1,1-Dichloropropene	25.00	25.20	101	75-120		
Carbon Tetrachloride	25.00	26.39	106	80-120		
1,2-Dichloroethane	25.00	25.72	103	74-120		
Benzene	25.00	25.87	103	77-120		
Trichloroethene	25.00	25.25	101	78-122		
1,2-Dichloropropane	25.00	24.93	100	76-120		
Bromodichloromethane	25.00	26.18	105	78-120		
Dibromomethane	25.00	26.37	105	77-120		
4-Methyl-2-Pentanone	25.00	26.78	107	65-120		
cis-1,3-Dichloropropene	25.00	26.41	106	76-120		
Toluene	25.00	25.02	100	73-120		
trans-1,3-Dichloropropene	25.00	23.64	95	72-120		
1,1,2-Trichloroethane	25.00	24.82	99	76-120		
2-Hexanone	25.00	27.07	108	57-121		
1,3-Dichloropropane	25.00	25.08	100	75-120		
Tetrachloroethene	25.00	25.02	100	77-120		
Dibromochloromethane	25.00	25.42	102	76-120		
1,2-Dibromoethane	25.00	24.61	98	77-120		
Chlorobenzene	25.00	25.10	100	78-120		
1,1,1,2-Tetrachloroethane	25.00	24.94	100	77-120		
Ethylbenzene	25.00	25.18	101	78-120		
m,p-Xylenes	50.00	51.47	103	77-120		
o-Xylene	25.00	26.01	104	77-120		
Styrene	25.00	26.07	104	77-120		
Bromoform	25.00	26.27	105	74-121		
Isopropylbenzene	25.00	21.60	86	71-120		
1,1,2,2-Tetrachloroethane	25.00	23.56	94	73-120		
1,2,3-Trichloropropane	25.00	23.79	95	72-120		
Propylbenzene	25.00	24.31	97	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164132
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	24.86	99	75-120	
1,3,5-Trimethylbenzene	25.00	25.45	102	77-120	
2-Chlorotoluene	25.00	24.77	99	76-120	
4-Chlorotoluene	25.00	24.75	99	78-120	
tert-Butylbenzene	25.00	25.28	101	76-120	
1,2,4-Trimethylbenzene	25.00	25.94	104	77-120	
sec-Butylbenzene	25.00	25.25	101	80-120	
para-Isopropyl Toluene	25.00	24.63	99	76-120	
1,3-Dichlorobenzene	25.00	24.65	99	75-120	
1,4-Dichlorobenzene	25.00	24.39	98	77-120	
n-Butylbenzene	25.00	25.83	103	76-120	
1,2-Dichlorobenzene	25.00	25.05	100	76-120	
1,2-Dibromo-3-Chloropropane	25.00	23.95	96	65-120	
1,2,4-Trichlorobenzene	25.00	25.24	101	73-121	
Hexachlorobutadiene	25.00	24.17	97	73-123	
Naphthalene	25.00	25.93	104	62-121	
1,2,3-Trichlorobenzene	25.00	25.98	104	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	101	77-120	
1,2-Dichloroethane-d4	93	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	96	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164132
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549028

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	27.54	110	56-140	2	24		
Chloromethane	25.00	27.78	111	46-142	0	24		
Vinyl Chloride	25.00	25.12	100	49-136	0	24		
Bromomethane	25.00	29.18	117	42-154	7	24		
Chloroethane	25.00	27.79	111	51-133	0	25		
Trichlorofluoromethane	25.00	26.56	106	63-135	1	20		
Iodomethane	25.00	31.82	b	127	70-130	3	20	
Acetone	25.00	27.26	109	48-130	1	41		
1,1-Dichloroethene	25.00	24.69	99	68-133	1	20		
Methylene Chloride	25.00	25.96	104	71-120	0	20		
Carbon Disulfide	25.00	20.62	82	56-120	1	20		
MTBE	25.00	24.74	99	58-120	1	21		
trans-1,2-Dichloroethene	25.00	25.98	104	80-120	1	24		
Vinyl Acetate	25.00	28.54	b	114	63-124	1	24	V3
1,1-Dichloroethane	25.00	26.32	105	77-120	0	20		
2-Butanone	25.00	27.95	112	57-120	0	32		
cis-1,2-Dichloroethene	25.00	26.06	104	75-120	1	20		
2,2-Dichloropropane	25.00	29.54	b	118	72-128	2	24	V3
Chloroform	25.00	26.12	104	78-120	2	20		
Bromochloromethane	25.00	27.09	108	78-120	0	20		
1,1,1-Trichloroethane	25.00	26.23	105	78-120	1	20		
1,1-Dichloropropene	25.00	25.13	101	75-120	0	21		
Carbon Tetrachloride	25.00	26.33	105	80-120	0	21		
1,2-Dichloroethane	25.00	25.71	103	74-120	0	20		
Benzene	25.00	25.74	103	77-120	1	20		
Trichloroethene	25.00	25.72	103	78-122	2	20		
1,2-Dichloropropane	25.00	24.91	100	76-120	0	20		
Bromodichloromethane	25.00	25.94	104	78-120	1	20		
Dibromomethane	25.00	26.19	105	77-120	1	20		
4-Methyl-2-Pentanone	25.00	27.17	109	65-120	1	22		
cis-1,3-Dichloropropene	25.00	25.99	104	76-120	2	20		
Toluene	25.00	25.22	101	73-120	1	20		
trans-1,3-Dichloropropene	25.00	23.81	95	72-120	1	20		
1,1,2-Trichloroethane	25.00	25.00	100	76-120	1	20		
2-Hexanone	25.00	28.16	113	57-121	4	25		
1,3-Dichloropropane	25.00	25.39	102	75-120	1	20		
Tetrachloroethene	25.00	25.66	103	77-120	3	20		
Dibromochloromethane	25.00	25.87	103	76-120	2	20		
1,2-Dibromoethane	25.00	25.39	102	77-120	3	20		
Chlorobenzene	25.00	25.21	101	78-120	0	20		
1,1,1,2-Tetrachloroethane	25.00	25.08	100	77-120	1	20		
Ethylbenzene	25.00	25.28	101	78-120	0	26		
m,p-Xylenes	50.00	51.68	103	77-120	0	20		
o-Xylene	25.00	25.90	104	77-120	0	20		
Styrene	25.00	26.18	105	77-120	0	20		
Bromoform	25.00	27.14	109	74-121	3	21		
Isopropylbenzene	25.00	21.89	88	71-120	1	20		
1,1,2,2-Tetrachloroethane	25.00	24.23	97	73-120	3	20		
1,2,3-Trichloropropane	25.00	24.88	100	72-120	4	20		
Propylbenzene	25.00	24.56	98	76-120	1	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164132
Units:	ug/L	Analyzed:	06/17/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	25.25	101	75-120	2	20		
1,3,5-Trimethylbenzene	25.00	24.99	100	77-120	2	20		
2-Chlorotoluene	25.00	25.08	100	76-120	1	20		
4-Chlorotoluene	25.00	24.86	99	78-120	0	20		
tert-Butylbenzene	25.00	25.42	102	76-120	1	21		
1,2,4-Trimethylbenzene	25.00	25.61	102	77-120	1	20		
sec-Butylbenzene	25.00	25.50	102	80-120	1	21		
para-Isopropyl Toluene	25.00	24.53	98	76-120	0	20		
1,3-Dichlorobenzene	25.00	25.13	101	75-120	2	20		
1,4-Dichlorobenzene	25.00	24.88	100	77-120	2	23		
n-Butylbenzene	25.00	25.67	103	76-120	1	21		
1,2-Dichlorobenzene	25.00	25.52	102	76-120	2	20		
1,2-Dibromo-3-Chloropropane	25.00	25.07	100	65-120	5	22		
1,2,4-Trichlorobenzene	25.00	25.31	101	73-121	0	20		
Hexachlorobutadiene	25.00	24.87	99	73-123	3	25		
Naphthalene	25.00	26.30	105	62-121	1	32		
1,2,3-Trichlorobenzene	25.00	26.20	105	66-123	1	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	101	77-120		
1,2-Dichloroethane-d4	95	70-127		
Toluene-d8	98	83-125		
Bromofluorobenzene	97	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549146	Batch#:	164167
Matrix:	Water	Analyzed:	06/18/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549146	Batch#:	164167
Matrix:	Water	Analyzed:	06/18/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	115	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164167
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549147

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	28.65	115	56-140		
Chloromethane	25.00	28.62	114	46-142		
Vinyl Chloride	25.00	26.63	107	49-136		
Bromomethane	25.00	30.26	b 121	42-154	V3	
Chloroethane	25.00	30.07	120	51-133		
Trichlorofluoromethane	25.00	27.84	111	63-135		
Iodomethane	25.00	30.96	b 124	70-130	V3	
Acetone	25.00	30.86	b 123	48-130	V3	
1,1-Dichloroethene	25.00	26.19	105	68-133		
Methylene Chloride	25.00	28.26	113	71-120		
Carbon Disulfide	25.00	22.25	89	56-120		
MTBE	25.00	26.76	107	58-120		
trans-1,2-Dichloroethene	25.00	27.74	111	80-120		
Vinyl Acetate	25.00	36.09	b 144 *	63-124	L1 V3	
1,1-Dichloroethane	25.00	28.75	115	77-120		
2-Butanone	25.00	31.72	b 127 *	57-120	L1 V3	
cis-1,2-Dichloroethene	25.00	28.49	114	75-120		
2,2-Dichloropropane	25.00	33.73	b 135 *	72-128	L1 V3	
Chloroform	25.00	28.84	115	78-120		
Bromochloromethane	25.00	29.39	118	78-120		
1,1,1-Trichloroethane	25.00	27.99	112	78-120		
1,1-Dichloropropene	25.00	26.11	104	75-120		
Carbon Tetrachloride	25.00	27.08	108	80-120		
1,2-Dichloroethane	25.00	27.05	108	74-120		
Benzene	25.00	27.03	108	77-120		
Trichloroethene	25.00	26.01	104	78-122		
1,2-Dichloropropane	25.00	25.77	103	76-120		
Bromodichloromethane	25.00	27.24	109	78-120		
Dibromomethane	25.00	27.93	112	77-120		
4-Methyl-2-Pentanone	25.00	28.36	113	65-120		
cis-1,3-Dichloropropene	25.00	27.82	111	76-120		
Toluene	25.00	25.45	102	73-120		
trans-1,3-Dichloropropene	25.00	24.40	98	72-120		
1,1,2-Trichloroethane	25.00	25.51	102	76-120		
2-Hexanone	25.00	27.96	112	57-121		
1,3-Dichloropropane	25.00	25.80	103	75-120		
Tetrachloroethene	25.00	24.14	97	77-120		
Dibromochloromethane	25.00	25.42	102	76-120		
1,2-Dibromoethane	25.00	25.40	102	77-120		
Chlorobenzene	25.00	25.37	101	78-120		
1,1,1,2-Tetrachloroethane	25.00	24.85	99	77-120		
Ethylbenzene	25.00	25.55	102	78-120		
m,p-Xylenes	50.00	51.41	103	77-120		
o-Xylene	25.00	25.81	103	77-120		
Styrene	25.00	26.09	104	77-120		
Bromoform	25.00	25.92	104	74-121		
Isopropylbenzene	25.00	21.82	87	71-120		
1,1,2,2-Tetrachloroethane	25.00	25.53	102	73-120		
1,2,3-Trichloropropane	25.00	24.93	100	72-120		
Propylbenzene	25.00	24.98	100	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164167
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	24.68	99	75-120	
1,3,5-Trimethylbenzene	25.00	25.24	101	77-120	
2-Chlorotoluene	25.00	25.58	102	76-120	
4-Chlorotoluene	25.00	25.17	101	78-120	
tert-Butylbenzene	25.00	25.02	100	76-120	
1,2,4-Trimethylbenzene	25.00	25.94	104	77-120	
sec-Butylbenzene	25.00	25.39	102	80-120	
para-Isopropyl Toluene	25.00	24.51	98	76-120	
1,3-Dichlorobenzene	25.00	24.80	99	75-120	
1,4-Dichlorobenzene	25.00	24.67	99	77-120	
n-Butylbenzene	25.00	25.99	104	76-120	
1,2-Dichlorobenzene	25.00	25.19	101	76-120	
1,2-Dibromo-3-Chloropropane	25.00	24.69	99	65-120	
1,2,4-Trichlorobenzene	25.00	24.13	97	73-121	
Hexachlorobutadiene	25.00	23.52	94	73-123	
Naphthalene	25.00	25.16	101	62-121	
1,2,3-Trichlorobenzene	25.00	25.14	101	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	108	77-120	
1,2-Dichloroethane-d4	101	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	99	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164167
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549148

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	28.91	116	56-140	1	24		
Chloromethane	25.00	29.83	119	46-142	4	24		
Vinyl Chloride	25.00	27.23	109	49-136	2	24		
Bromomethane	25.00	32.38	b	130	42-154	7	24	V3
Chloroethane	25.00	30.38	122	51-133	1	25		
Trichlorofluoromethane	25.00	28.19	113	63-135	1	20		
Iodomethane	25.00	34.11	b	136	* 70-130	10	20	L1 V3
Acetone	25.00	30.97	b	124	48-130	0	41	V3
1,1-Dichloroethene	25.00	26.35	105	68-133	1	20		
Methylene Chloride	25.00	28.71	115	71-120	2	20		
Carbon Disulfide	25.00	22.57	90	56-120	1	20		
MTBE	25.00	26.37	105	58-120	1	21		
trans-1,2-Dichloroethene	25.00	27.72	111	80-120	0	24		
Vinyl Acetate	25.00	33.25	b	133	* 63-124	8	24	L1 V3
1,1-Dichloroethane	25.00	28.92	116	77-120	1	20		
2-Butanone	25.00	30.19	b	121	* 57-120	5	32	L1 V3
cis-1,2-Dichloroethene	25.00	28.77	115	75-120	1	20		
2,2-Dichloropropane	25.00	33.74	b	135	* 72-128	0	24	L1 V3
Chloroform	25.00	28.78	115	78-120	0	20		
Bromochloromethane	25.00	29.18	117	78-120	1	20		
1,1,1-Trichloroethane	25.00	27.93	112	78-120	0	20		
1,1-Dichloropropene	25.00	26.28	105	75-120	1	21		
Carbon Tetrachloride	25.00	26.99	108	80-120	0	21		
1,2-Dichloroethane	25.00	27.12	108	74-120	0	20		
Benzene	25.00	27.26	109	77-120	1	20		
Trichloroethene	25.00	26.35	105	78-122	1	20		
1,2-Dichloropropane	25.00	26.06	104	76-120	1	20		
Bromodichloromethane	25.00	27.18	109	78-120	0	20		
Dibromomethane	25.00	27.23	109	77-120	3	20		
4-Methyl-2-Pentanone	25.00	27.21	109	65-120	4	22		
cis-1,3-Dichloropropene	25.00	27.60	110	76-120	1	20		
Toluene	25.00	25.81	103	73-120	1	20		
trans-1,3-Dichloropropene	25.00	24.58	98	72-120	1	20		
1,1,2-Trichloroethane	25.00	25.56	102	76-120	0	20		
2-Hexanone	25.00	28.32	113	57-121	1	25		
1,3-Dichloropropane	25.00	25.97	104	75-120	1	20		
Tetrachloroethene	25.00	24.57	98	77-120	2	20		
Dibromochloromethane	25.00	25.28	101	76-120	1	20		
1,2-Dibromoethane	25.00	25.26	101	77-120	1	20		
Chlorobenzene	25.00	25.60	102	78-120	1	20		
1,1,1,2-Tetrachloroethane	25.00	25.06	100	77-120	1	20		
Ethylbenzene	25.00	26.11	104	78-120	2	26		
m,p-Xylenes	50.00	52.70	105	77-120	2	20		
o-Xylene	25.00	26.51	106	77-120	3	20		
Styrene	25.00	26.51	106	77-120	2	20		
Bromoform	25.00	25.72	103	74-121	1	21		
Isopropylbenzene	25.00	22.31	89	71-120	2	20		
1,1,2,2-Tetrachloroethane	25.00	24.96	100	73-120	2	20		
1,2,3-Trichloropropane	25.00	24.98	100	72-120	0	20		
Propylbenzene	25.00	25.43	102	76-120	2	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164167
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	25.11	100	75-120	2	20		
1,3,5-Trimethylbenzene	25.00	25.93	104	77-120	3	20		
2-Chlorotoluene	25.00	25.86	103	76-120	1	20		
4-Chlorotoluene	25.00	25.73	103	78-120	2	20		
tert-Butylbenzene	25.00	25.77	103	76-120	3	21		
1,2,4-Trimethylbenzene	25.00	26.26	105	77-120	1	20		
sec-Butylbenzene	25.00	26.08	104	80-120	3	21		
para-Isopropyl Toluene	25.00	25.20	101	76-120	3	20		
1,3-Dichlorobenzene	25.00	25.33	101	75-120	2	20		
1,4-Dichlorobenzene	25.00	25.16	101	77-120	2	23		
n-Butylbenzene	25.00	26.70	107	76-120	3	21		
1,2-Dichlorobenzene	25.00	25.50	102	76-120	1	20		
1,2-Dibromo-3-Chloropropane	25.00	24.79	99	65-120	0	22		
1,2,4-Trichlorobenzene	25.00	24.45	98	73-121	1	20		
Hexachlorobutadiene	25.00	24.47	98	73-123	4	25		
Naphthalene	25.00	25.43	102	62-121	1	32		
1,2,3-Trichlorobenzene	25.00	25.75	103	66-123	2	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	106	77-120		
1,2-Dichloroethane-d4	101	70-127		
Toluene-d8	98	83-125		
Bromofluorobenzene	99	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
MSS Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549173

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1104	25.00	29.21	117	56-140		
Chloromethane	<0.1000	25.00	28.54	114	46-142		
Vinyl Chloride	<0.1000	25.00	27.77	111	49-136		
Bromomethane	<0.1671	25.00	26.60	b 106	42-154	V3	
Chloroethane	<0.1012	25.00	31.57	126	51-133		
Trichlorofluoromethane	<0.1000	25.00	28.95	116	63-135		
Iodomethane	<0.1554	25.00	23.77	b 95	60-140	V3	
Acetone	<0.5288	25.00	27.15	b 109	48-130	V3	
1,1-Dichloroethene	<0.1268	25.00	26.63	107	68-133		
Methylene Chloride	<0.1261	25.00	29.89	120	71-120		
Carbon Disulfide	<0.1000	25.00	23.72	95	56-120		
MTBE	0.1081	25.00	27.41	109	58-120		
trans-1,2-Dichloroethene	<0.1000	25.00	28.51	114	80-120		
Vinyl Acetate	<0.1904	25.00	31.99	b 128	* 63-124	M1	V3
1,1-Dichloroethane	<0.1000	25.00	31.05	124	* 77-120	M1	
2-Butanone	<0.2122	25.00	31.22	b 125	* 57-120	M1	V3
cis-1,2-Dichloroethene	<0.1000	25.00	29.92	120	75-120		
2,2-Dichloropropane	<0.1208	25.00	30.70	b 123	72-128	V3	
Chloroform	<0.1000	25.00	31.10	124	* 78-120	M1	
Bromochloromethane	<0.1603	25.00	31.09	124	* 78-120	M1	
1,1,1-Trichloroethane	<0.1471	25.00	29.44	118	78-120		
1,1-Dichloropropene	<0.1000	25.00	26.77	107	75-120		
Carbon Tetrachloride	<0.1000	25.00	27.25	109	80-120		
1,2-Dichloroethane	<0.1000	25.00	27.82	111	74-120		
Benzene	<0.1000	25.00	27.81	111	77-120		
Trichloroethene	<0.1000	25.00	26.45	106	78-122		
1,2-Dichloropropane	<0.1000	25.00	26.91	108	76-120		
Bromodichloromethane	<0.1000	25.00	27.96	112	78-120		
Dibromomethane	<0.1456	25.00	27.94	112	77-120		
4-Methyl-2-Pentanone	<0.1556	25.00	29.14	117	65-120		
cis-1,3-Dichloropropene	<0.1126	25.00	27.54	110	76-120		
Toluene	<0.1000	25.00	25.40	102	73-120		
trans-1,3-Dichloropropene	<0.1000	25.00	23.87	95	72-120		
1,1,2-Trichloroethane	<0.1000	25.00	25.80	103	76-120		
2-Hexanone	<0.1698	25.00	27.20	109	57-121		
1,3-Dichloropropane	<0.1000	25.00	26.07	104	75-120		
Tetrachloroethene	<0.1081	25.00	23.25	93	77-120		
Dibromochloromethane	<0.1000	25.00	25.15	101	76-120		
1,2-Dibromoethane	<0.1252	25.00	25.13	101	77-120		
Chlorobenzene	<0.1000	25.00	24.97	100	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	25.00	24.41	98	77-120		
Ethylbenzene	<0.1000	25.00	25.55	102	78-120		
m,p-Xylenes	<0.1309	50.00	50.39	101	77-120		
o-Xylene	<0.1000	25.00	25.25	101	77-120		
Styrene	<0.1578	25.00	22.42	90	77-120		
Bromoform	<0.1000	25.00	25.23	101	74-121		
Isopropylbenzene	<0.1000	25.00	21.83	87	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	25.00	26.86	107	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
MSS Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ Flags
1,2,3-Trichloropropane	<0.1043	25.00	26.30	105	72-120	
Propylbenzene	<0.1000	25.00	24.72	99	76-120	
Bromobenzene	<0.1000	25.00	24.96	100	75-120	
1,3,5-Trimethylbenzene	<0.1000	25.00	25.26	101	77-120	
2-Chlorotoluene	<0.1000	25.00	25.68	103	76-120	
4-Chlorotoluene	<0.1000	25.00	25.31	101	78-120	
tert-Butylbenzene	<0.1000	25.00	24.96	100	76-120	
1,2,4-Trimethylbenzene	<0.1000	25.00	25.44	102	77-120	
sec-Butylbenzene	<0.1000	25.00	25.21	101	80-120	
para-Isopropyl Toluene	<0.1000	25.00	23.90	96	76-120	
1,3-Dichlorobenzene	<0.1018	25.00	24.29	97	75-120	
1,4-Dichlorobenzene	<0.1000	25.00	24.10	96	77-120	
n-Butylbenzene	<0.1000	25.00	24.99	100	76-120	
1,2-Dichlorobenzene	<0.1000	25.00	25.07	100	76-120	
1,2-Dibromo-3-Chloropropane	<0.1766	25.00	25.83	103	65-120	
1,2,4-Trichlorobenzene	<0.1000	25.00	22.74	91	73-121	
Hexachlorobutadiene	<0.2383	25.00	22.25	89	73-123	
Naphthalene	<0.1825	25.00	23.68	95	62-121	
1,2,3-Trichlorobenzene	<0.1000	25.00	23.70	95	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	111	77-120	
1,2-Dichloroethane-d4	108	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	102	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
MSS Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549174

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	29.70	119	56-140	2	24		
Chloromethane	25.00	30.46	122	46-142	7	24		
Vinyl Chloride	25.00	28.10	112	49-136	1	24		
Bromomethane	25.00	30.46 b	122	42-154	14	24	V3	
Chloroethane	25.00	31.40	126	51-133	1	25		
Trichlorofluoromethane	25.00	29.27	117	63-135	1	20		
Iodomethane	25.00	27.82 b	111	60-140	16	30	V3	
Acetone	25.00	26.97 b	108	48-130	1	41	V3	
1,1-Dichloroethene	25.00	27.91	112	68-133	5	20		
Methylene Chloride	25.00	29.66	119	71-120	1	20		
Carbon Disulfide	25.00	23.68	95	56-120	0	20		
MTBE	25.00	27.37	109	58-120	0	21		
trans-1,2-Dichloroethene	25.00	29.29	117	80-120	3	24		
Vinyl Acetate	25.00	30.90 b	124	63-124	3	24	V3	
1,1-Dichloroethane	25.00	30.93	124	* 77-120	0	20	M1	
2-Butanone	25.00	30.66 b	123	* 57-120	2	32	M1	V3
cis-1,2-Dichloroethene	25.00	30.21	121	* 75-120	1	20	M1	
2,2-Dichloropropane	25.00	29.81 b	119	72-128	3	24	V3	
Chloroform	25.00	30.51	122	* 78-120	2	20	M1	
Bromochloromethane	25.00	30.79	123	* 78-120	1	20	M1	
1,1,1-Trichloroethane	25.00	29.44	118	78-120	0	20		
1,1-Dichloropropene	25.00	26.40	106	75-120	1	21		
Carbon Tetrachloride	25.00	27.49	110	80-120	1	21		
1,2-Dichloroethane	25.00	27.63	111	74-120	1	20		
Benzene	25.00	27.74	111	77-120	0	20		
Trichloroethene	25.00	26.34	105	78-122	0	20		
1,2-Dichloropropane	25.00	27.05	108	76-120	1	20		
Bromodichloromethane	25.00	27.76	111	78-120	1	20		
Dibromomethane	25.00	27.71	111	77-120	1	20		
4-Methyl-2-Pentanone	25.00	28.57	114	65-120	2	22		
cis-1,3-Dichloropropene	25.00	27.33	109	76-120	1	20		
Toluene	25.00	25.74	103	73-120	1	20		
trans-1,3-Dichloropropene	25.00	24.06	96	72-120	1	20		
1,1,2-Trichloroethane	25.00	25.62	102	76-120	1	20		
2-Hexanone	25.00	26.90	108	57-121	1	25		
1,3-Dichloropropane	25.00	25.98	104	75-120	0	20		
Tetrachloroethene	25.00	23.69	95	77-120	2	20		
Dibromochloromethane	25.00	24.95	100	76-120	1	20		
1,2-Dibromoethane	25.00	25.03	100	77-120	0	20		
Chlorobenzene	25.00	25.22	101	78-120	1	20		
1,1,1,2-Tetrachloroethane	25.00	24.88	100	77-120	2	20		
Ethylbenzene	25.00	25.60	102	78-120	0	26		
m,p-Xylenes	50.00	51.37	103	77-120	2	20		
o-Xylene	25.00	25.65	103	77-120	2	20		
Styrene	25.00	22.76	91	77-120	2	20		
Bromoform	25.00	25.53	102	74-121	1	21		
Isopropylbenzene	25.00	22.28	89	71-120	2	20		
1,1,1,2,2-Tetrachloroethane	25.00	26.74	107	73-120	0	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220633	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
MSS Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	25.00	26.03	104	72-120	1	20		
Propylbenzene	25.00	25.05	100	76-120	1	20		
Bromobenzene	25.00	25.20	101	75-120	1	20		
1,3,5-Trimethylbenzene	25.00	25.33	101	77-120	0	20		
2-Chlorotoluene	25.00	26.00	104	76-120	1	20		
4-Chlorotoluene	25.00	25.41	102	78-120	0	20		
tert-Butylbenzene	25.00	25.38	102	76-120	2	21		
1,2,4-Trimethylbenzene	25.00	25.72	103	77-120	1	20		
sec-Butylbenzene	25.00	25.55	102	80-120	1	21		
para-Isopropyl Toluene	25.00	24.24	97	76-120	1	20		
1,3-Dichlorobenzene	25.00	24.86	99	75-120	2	20		
1,4-Dichlorobenzene	25.00	24.39	98	77-120	1	23		
n-Butylbenzene	25.00	25.38	102	76-120	2	21		
1,2-Dichlorobenzene	25.00	25.16	101	76-120	0	20		
1,2-Dibromo-3-Chloropropane	25.00	25.70	103	65-120	1	22		
1,2,4-Trichlorobenzene	25.00	23.12	92	73-121	2	20		
Hexachlorobutadiene	25.00	23.10	92	73-123	4	25		
Naphthalene	25.00	24.31	97	62-121	3	32		
1,2,3-Trichlorobenzene	25.00	24.21	97	66-123	2	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	110	77-120		
1,2-Dichloroethane-d4	105	70-127		
Toluene-d8	98	83-125		
Bromofluorobenzene	102	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

CURTIS & TOMPKINS BFB TUNE FOR 220633 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830238218008 File : kfe08 Time : 14-JUN-2010 19:19

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	7944	18.40	
75	30% - 60% of mass 95	22021	51.01	
95		43173	100.00	
96	5% - 9% of mass 95	2781	6.44	
173	< 2% of mass 174	563	1.66	
174	> 50% and < 100% of mass 95	33946	78.63	
175	5% - 9% of mass 174	2553	7.52	
176	> 95% and < 101% of mass 174	33037	97.32	
177	5% - 9% of mass 176	2304	6.97	

Analyst: BJP Date: 06/15/10 Reviewer: LW Date: 06/17/10

CURTIS & TOMPKINS BFB TUNE FOR 220633 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830239803004 File : kff04 Time : 15-JUN-2010 16:17

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	8117	17.34	
75	30% - 60% of mass 95	22770	48.64	
95		46816	100.00	
96	5% - 9% of mass 95	3056	6.53	
173	< 2% of mass 174	347	0.95	
174	> 50% and < 100% of mass 95	36400	77.75	
175	5% - 9% of mass 174	2916	8.01	
176	> 95% and < 101% of mass 174	35149	96.56	
177	5% - 9% of mass 176	2298	6.54	

Analyst: BJP Date: 06/15/10 Reviewer: LW Date: 06/17/10

CURTIS & TOMPKINS BFB TUNE FOR 220633 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830242547002 File : kfh02 Time : 17-JUN-2010 10:51

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	4464	16.68	
75	30% - 60% of mass 95	13185	49.28	
95		26757	100.00	
96	5% - 9% of mass 95	1794	6.70	
173	< 2% of mass 174	110	0.52	
174	> 50% and < 100% of mass 95	21029	78.59	
175	5% - 9% of mass 174	1616	7.68	
176	> 95% and < 101% of mass 174	21021	99.96	
177	5% - 9% of mass 176	1281	6.09	

Analyst: MCT Date: 06/17/10 Reviewer: LW Date: 06/18/10

CURTIS & TOMPKINS BFB TUNE FOR 220633 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830243964002 File : kfi02 Time : 18-JUN-2010 10:28

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	4467	18.20	
75	30% - 60% of mass 95	12142	49.46	
95		24549	100.00	
96	5% - 9% of mass 95	1473	6.00	
173	< 2% of mass 174	210	1.13	
174	> 50% and < 100% of mass 95	18634	75.91	
175	5% - 9% of mass 174	1573	8.44	
176	> 95% and < 101% of mass 174	17752	95.27	
177	5% - 9% of mass 176	1235	6.96	

Analyst: MCT Date: 06/18/10 Reviewer: BO Date: 06/21/10

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220633 MSVOA Water: EPA 8260B

Inst : MSVOA11
 Calnum : 830238218001
 Units : ug/L

Name : 8260GX11
 Date : 14-JUN-2010 21:45
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	kfe13	830238218013	.25/.5PPB	14-JUN-2010 21:45	S14738 (20000X), S14834 (20000X), S14742 (20000X), S14739 (100000X), S14746 (2500X)
L2	kfe14	830238218014	0.5/1PPB	14-JUN-2010 22:13	S14738 (100000X), S14834 (100000X), S14742 (100000X), S14739 (50000X), S14746 (2500X)
L3	kfe15	830238218015	2PPB	14-JUN-2010 22:41	S14738 (25000X), S14834 (25000X), S14742 (50000X), S14739 (25000X), S14746 (2500X)
L4	kfe16	830238218016	5PPB	14-JUN-2010 23:09	S14738 (10000X), S14834 (10000X), S14742 (20000X), S14739 (10000X), S14746 (2500X)
L5	kfe17	830238218017	10PPB	14-JUN-2010 23:37	S14738 (5000X), S14834 (5000X), S14742 (10000X), S14739 (5000X), S14746 (2500X)
L6	kfe18	830238218018	20PPB	15-JUN-2010 00:05	S14722 (25000X), S14747 (25000X), S14228 (50000X), S14230 (25000X), S14746 (2500X)
L7	kfe19	830238218019	50PPB	15-JUN-2010 00:33	S14722 (10000X), S14747 (10000X), S14228 (20000X), S14230 (10000X), S14746 (2500X)
L8	kfe20	830238218020	75PPB	15-JUN-2010 01:01	S14722 (6667X), S14747 (6667X), S14228 (13330X), S14230 (6667X), S14746 (2500X)
L9	kfe21	830238218021	100PPB	15-JUN-2010 01:29	S14722 (5000X), S14747 (5000X), S14228 (10000X), S14230 (5000X), S14746 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.5452m	0.5279	0.5542	0.5206	0.7076	0.6956	0.6723	0.6909	AVRG		1.62793		0.6143	14	15	0.05	0.99	
Chloromethane		0.5342	0.6078	0.5788	0.5555	0.6202	0.5947	0.5850	0.6030	AVRG		1.70971		0.5849	5	15	0.10	0.99	
Vinyl Chloride	0.6475	0.6907	0.7073	0.7042	0.6779	0.7675	0.7590	0.7349	0.7595	AVRG		1.39567		0.7165	6	15	0.05	0.99	
Bromomethane		0.1929	0.2439	0.2202	0.2261	0.2697	0.3106			QUAD	0.46172	3.97896	-0.05094	0.2439	0.999	15	0.05	0.99	
Chloroethane		0.3074m	0.3629m	0.3461	0.3349	0.3718	0.3660	0.3564	0.3618	AVRG		2.84963		0.3509	6	15	0.05	0.99	
Trichlorofluoromethane		0.7925	0.7928	0.8530	0.8272	0.9196	0.9166	0.9079	0.9383	AVRG		1.15141		0.8685	7	15	0.05	0.99	
Acetone			0.1697	0.1400	0.1399	0.1339	0.1268	0.1281	0.1260	AVRG		7.25916		0.1378	11	15	0.05	0.99	
1,1-Dichloroethene		0.4868	0.4778	0.4624	0.4459	0.4544	0.4493	0.4494	0.4589	AVRG		2.17104		0.4606	3	15	0.05	0.99	
Iodomethane				0.1052	0.1425	0.2013	0.2744	0.2640	0.2833	QUAD	4.20930	3.62862	-0.00812	0.2118	0.998	15	0.05	0.99	
Methylene Chloride		0.5267	0.5794	0.5403	0.5352	0.5454	0.5345	0.5289	0.5288	AVRG		1.85216		0.5399	3	15	0.05	0.99	
Carbon Disulfide		1.6785	1.7711	1.7238	1.6997	1.7321	1.7093	1.7219	1.7142	AVRG		0.58179		1.7188	2	15	0.05	0.99	
MTBE		1.7387	1.6691	1.6791	1.6297	1.6973	1.7059	1.7079	1.7038	AVRG		0.59122		1.6914	2	15	0.05	0.99	
trans-1,2-Dichloroethene		0.6174	0.5646	0.5451	0.5228	0.5422	0.5384	0.5400	0.5436	AVRG		1.81235		0.5518	5	15	0.05	0.99	
Vinyl Acetate		0.6265	0.7496	0.6994	0.7121	0.7839	0.8200	0.8149	0.8300	AVRG		1.32529		0.7546	9	15	0.05	0.99	
1,1-Dichloroethane		0.8906	0.9352	0.9006	0.8999	0.9349	0.9161	0.9238	0.9104	AVRG		1.09419		0.9139	2	15	0.10	0.99	
2-Butanone			0.1822	0.1934	0.1900	0.1896	0.1868	0.1844	0.1840	AVRG		5.34144		0.1872	2	15	0.05	0.99	
2,2-Dichloropropane		0.7510	0.7404	0.7159	0.6999	0.7175	0.7091	0.7162	0.7118	AVRG		1.38846		0.7202	2	15	0.05	0.99	
cis-1,2-Dichloroethene		0.6853	0.6185	0.6200	0.5981	0.6234	0.6221	0.6282	0.6283	AVRG		1.59242		0.6280	4	15	0.05	0.99	
Chloroform		0.9752	0.9778	0.9507	0.9455	0.9822	0.9700	0.9763	0.9767	AVRG		1.03168		0.9693	1	15	0.05	0.99	
Bromochloromethane		0.2432	0.2832	0.2817	0.2824	0.2903	0.2965	0.2937	0.2830	AVRG		3.54928		0.2817	6	15	0.05	0.99	
1,1,1-Trichloroethane		0.9179	0.8925	0.8453	0.8518	0.8682	0.8636	0.8815	0.8854	AVRG		1.14186		0.8758	3	15	0.05	0.99	
1,1-Dichloropropene		0.4214	0.4342	0.4188	0.4167	0.4284	0.4278	0.4398	0.4456	AVRG		2.33053		0.4291	2	15	0.05	0.99	
Carbon Tetrachloride		0.3775	0.3952	0.3835	0.3854	0.4036	0.4178	0.4359	0.4486	AVRG		2.46347		0.4059	6	15	0.05	0.99	
1,2-Dichloroethane		0.3994	0.4055	0.4015	0.3924	0.4236	0.4128	0.4126	0.4147	AVRG		2.45204		0.4078	2	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.2844	1.2900	1.2364	1.2357	1.2814	1.2895	1.3148	1.3298	AVRG		0.77958		1.2827	3	15	0.05	0.99	
Trichloroethene		0.3407	0.3261	0.3176	0.3286	0.3350	0.3386	0.3453	0.3470	AVRG		2.98626		0.3349	3	15	0.05	0.99	
1,2-Dichloropropane		0.3049	0.3102	0.3003	0.3011	0.3166	0.3126	0.3179	0.3213	AVRG		3.21936		0.3106	3	15	0.05	0.99	
Bromodichloromethane		0.3755	0.4092	0.4048	0.3971	0.4243	0.4299	0.4332	0.4381	AVRG		2.41540		0.4140	5	15	0.05	0.99	
Dibromomethane		0.1891	0.1902	0.1854	0.1835	0.1989	0.1986	0.1995	0.2005	AVRG		5.17495		0.1932	4	15	0.05	0.99	
4-Methyl-2-Pentanone			0.2165	0.2130	0.2126	0.2210	0.2260	0.2240	0.2240	AVRG		4.55394		0.2196	3	15	0.05	0.99	
cis-1,3-Dichloropropene		0.4967	0.4870	0.4889	0.4742	0.5121	0.5198	0.5193	0.5254	AVRG		1.98831		0.5029	4	15	0.05	0.99	
Toluene		0.8688	0.8395	0.8204	0.8142	0.8264	0.8424	0.8482	0.8506	AVRG		1.19218		0.8388	2	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4710	0.4517	0.4475	0.4619	0.4729	0.4818	0.4811	0.4801	AVRG		2.13450		0.4685	3	15	0.05	0.99	
1,1,2-Trichloroethane		0.1643	0.1609	0.1570	0.1524	0.1550	0.1579	0.1588	0.1563	AVRG		6.33612		0.1578	2	15	0.05	0.99	
2-Hexanone			0.1417	0.1459	0.1454	0.1512	0.1552	0.1537	0.1524	AVRG		6.69607		0.1493	3	15	0.05	0.99	
1,3-Dichloropropane		0.4923	0.4982	0.4854	0.4847	0.4955	0.5077	0.5045	0.4990	AVRG		2.01652		0.4959	2	15	0.05	0.99	
Tetrachloroethene		0.3346	0.3556	0.3412	0.3332	0.3371	0.3458	0.3611	0.3634	AVRG		2.88600		0.3465	3	15	0.05	0.99	
Dibromochloromethane		0.2954	0.2988	0.3063	0.3096	0.3281	0.3460	0.3541	0.3563	AVRG		3.08341		0.3243	8	15	0.05	0.99	
1,2-Dibromoethane		0.3086	0.3025	0.2966	0.2939	0.3054	0.3101	0.3118	0.3108	AVRG		3.27910		0.3050	2	15	0.05	0.99	
Chlorobenzene		0.9935	0.9429	0.9288	0.9350	0.9466	0.9830	0.9933	0.9972	AVRG		1.03623		0.9650	3	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3163	0.3083	0.3140	0.3141	0.3283	0.3364	0.3453	0.3494	AVRG		3.06285		0.3265	5	15	0.05	0.99	
Ethylbenzene		1.6633	1.5249	1.5415	1.5321	1.5566	1.6234	1.6645	1.6712	AVRG		0.62610		1.5972	4	15	0.05	0.99	
m,p-Xylenes	0.5550	0.5385	0.5415	0.5457	0.5553	0.5786	0.6275	0.6505	0.6646	AVRG		1.71193		0.5841	9	15	0.05	0.99	
o-Xylene		0.5078	0.5163	0.5232	0.5336	0.5612	0.6036	0.6233	0.6306	AVRG		1.77793		0.5625	9	15	0.05	0.99	
Styrene		0.8037	0.8195	0.8339	0.8761	0.9443	1.0293	1.0634	1.0843	AVRG		1.07316		0.9318	12	15	0.05	0.99	
Bromoform		0.1742	0.1937	0.1983	0.2047	0.2202	0.2403	0.2452	0.2499	AVRG		4.63349		0.2158	13	15	0.10	0.99	
Isopropylbenzene		3.4413	3.4588	3.4324	3.3319	3.2734	3.2652	3.3343	3.3328	AVRG		0.29773		3.3588	2	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.9331	0.8696	0.8509	0.8030	0.7982	0.7602	0.7357	0.7224	AVRG		1.23588		0.8091	9	15	0.30	0.99	
1,2,3-Trichloropropane		0.9308	0.8484	0.8569	0.7938	0.7791	0.7491	0.7353	0.7210	AVRG		1.24717		0.8018	9	15	0.05	0.99	
Propylbenzene		3.7412	3.5902	3.4860	3.4283	3.4601	3.5412	3.6590	3.6554	AVRG		0.28010		3.5702	3	15	0.05	0.99	
Bromobenzene		0.8959	0.9407	0.9205	0.8777	0.8717	0.8548	0.8610	0.8553	AVRG		1.13031		0.8847	4	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.1875	2.2020	2.1730	2.1752	2.2440	2.3432	2.3984	2.3791	AVRG		0.44193		2.2628	4	15	0.05	0.99	
2-Chlorotoluene		2.5980	2.6076	2.5411	2.4525	2.4384	2.4586	2.4804	2.4673	AVRG		0.39912		2.5055	3	15	0.05	0.99	
4-Chlorotoluene		2.2397	2.1508	2.1644	2.1288	2.1518	2.1484	2.1865	2.1814	AVRG		0.46105		2.1690	2	15	0.05	0.99	
tert-Butylbenzene		2.0945	2.0973	2.0518	2.0363	2.0171	2.1285	2.2138	2.2169	AVRG		0.47460		2.1070	4	15	0.05	0.99	
1,2,4-Trimethylbenzene		1.9687	1.8785	1.8288	1.8691	1.9892	2.1280	2.1493	2.1501	AVRG		0.50120		1.9952	7	15	0.05	0.99	
sec-Butylbenzene		2.9551	3.0116	2.9834	2.9553	2.9843	3.1458	3.2813	3.3045	AVRG		0.32492		3.0777	5	15	0.05	0.99	
para-Isopropyl Toluene		2.1055	2.1364	2.1318	2.1627	2.2490	2.4675	2.5935	2.6118	AVRG		0.43341		2.3073	9	15	0.05	0.99	
1,3-Dichlorobenzene		1.5391	1.5006	1.5021	1.4647	1.4706	1.4978	1.5096	1.5156	AVRG		0.66666		1.5000	2	15	0.05	0.99	
1,4-Dichlorobenzene		1.5526	1.5110	1.4415	1.4292	1.4594	1.4854	1.5235	1.5207	AVRG		0.67096		1.4904	3	15	0.05	0.99	
n-Butylbenzene		1.8447	1.7446	1.6578	1.6682	1.7579	1.9411	2.0137	2.0286	AVRG		0.54583		1.8321	8	15	0.05	0.99	
1,2-Dichlorobenzene		1.4133	1.4411	1.4029	1.3996	1.4048	1.4140	1.4158	1.4185	AVRG		0.70733		1.4138	1	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.1648	0.1626	0.1455	0.1471	0.1442	0.1397	0.1378	AVRG		6.72049		0.1488	7	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.6908	0.6719	0.6318	0.6304	0.6695	0.7095	0.6952	0.7049	AVRG		1.48040		0.6755	5	15	0.05	0.99	
Hexachlorobutadiene		0.3893	0.4219	0.4227	0.4234	0.4156	0.4347	0.4525	0.4598	AVRG		2.33925		0.4275	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.8324	1.7734	1.5328	1.4244	1.5022	1.4750	1.3602	1.3636	AVRG		0.65232		1.5330	12	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6796	0.6503	0.6130	0.5799	0.6269	0.6468	0.6295	0.6324	AVRG		1.58151		0.6323	5	15	0.05	0.99	
Dibromofluoromethane	0.5259	0.5281	0.5294	0.5223	0.5197	0.5216	0.5231	0.5276	0.5175	AVRG		1.90876		0.5239	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3489	0.3520	0.3512	0.3483	0.3394	0.3486	0.3533	0.3537	0.3509	AVRG		2.86058		0.3496	1	15	0.05	0.99	
Toluene-d8	1.3375	1.3344	1.3296	1.3281	1.3212	1.3116	1.3076	1.2912	1.2838	AVRG		0.75981		1.3161	1	15	0.05	0.99	
Bromofluorobenzene	1.1379	1.1638	1.1478	1.1229	1.0833	1.0448	0.9988	0.9748	0.9711	AVRG		0.93309		1.0717	7	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-11	2.000	-14	5.000	-10	10.00	-15	20.00	15	50.00	13	75.00	9	100.0	12
Chloromethane			1.000	-9	2.000	4	5.000	-1	10.00	-5	20.00	6	50.00	2	75.00	0	100.0	3
Vinyl Chloride	0.500	-10	1.000	-4	2.000	-1	5.000	-2	10.00	-5	20.00	7	50.00	6	75.00	3	100.0	6
Bromomethane			1.000	23	2.000	20	5.000	-4	10.00	-8	20.00	2	50.00	0				
Chloroethane			1.000	-12	2.000	3	5.000	-1	10.00	-5	20.00	6	50.00	4	75.00	2	100.0	3
Trichlorofluoromethane			1.000	-9	2.000	-9	5.000	-2	10.00	-5	20.00	6	50.00	6	75.00	5	100.0	8
Acetone					2.000	23	5.000	2	10.00	2	20.00	-3	50.00	-8	75.00	-7	100.0	-9
1,1-Dichloroethene			0.500	6	2.000	4	5.000	0	10.00	-3	20.00	-1	50.00	-2	75.00	-2	100.0	0
Iodomethane							5.000	22	10.00	-6	20.00	-7	50.00	5	75.00	-3	100.0	0
Methylene Chloride			0.500	-2	2.000	7	5.000	0	10.00	-1	20.00	1	50.00	-1	75.00	-2	100.0	-2
Carbon Disulfide			0.500	-2	2.000	3	5.000	0	10.00	-1	20.00	1	50.00	-1	75.00	0	100.0	0
MTBE			0.500	3	2.000	-1	5.000	-1	10.00	-4	20.00	0	50.00	1	75.00	1	100.0	1
trans-1,2-Dichloroethene			0.500	12	2.000	2	5.000	-1	10.00	-5	20.00	-2	50.00	-2	75.00	-2	100.0	-1
Vinyl Acetate			0.500	-17	2.000	-1	5.000	-7	10.00	-6	20.00	4	50.00	9	75.00	8	100.0	10
1,1-Dichloroethane			0.500	-3	2.000	2	5.000	-1	10.00	-2	20.00	2	50.00	0	75.00	1	100.0	0
2-Butanone					2.000	-3	5.000	3	10.00	2	20.00	1	50.00	0	75.00	-2	100.0	-2
2,2-Dichloropropane			0.500	4	2.000	3	5.000	-1	10.00	-3	20.00	0	50.00	-2	75.00	-1	100.0	-1
cis-1,2-Dichloroethene			0.500	9	2.000	-2	5.000	-1	10.00	-5	20.00	-1	50.00	-1	75.00	0	100.0	0
Chloroform			0.500	1	2.000	1	5.000	-2	10.00	-2	20.00	1	50.00	0	75.00	1	100.0	1
Bromochloromethane			0.500	-14	2.000	1	5.000	0	10.00	0	20.00	3	50.00	5	75.00	4	100.0	0
1,1,1-Trichloroethane			0.500	5	2.000	2	5.000	-3	10.00	-3	20.00	-1	50.00	-1	75.00	1	100.0	1
1,1-Dichloropropene			0.500	-2	2.000	1	5.000	-2	10.00	-3	20.00	0	50.00	0	75.00	2	100.0	4
Carbon Tetrachloride			0.500	-7	2.000	-3	5.000	-6	10.00	-5	20.00	-1	50.00	3	75.00	7	100.0	11
1,2-Dichloroethane			0.500	-2	2.000	-1	5.000	-2	10.00	-4	20.00	4	50.00	1	75.00	1	100.0	2
Benzene			0.500	0	2.000	1	5.000	-4	10.00	-4	20.00	0	50.00	1	75.00	2	100.0	4
Trichloroethene			0.500	2	2.000	-3	5.000	-5	10.00	-2	20.00	0	50.00	1	75.00	3	100.0	4
1,2-Dichloropropane			0.500	-2	2.000	0	5.000	-3	10.00	-3	20.00	2	50.00	1	75.00	2	100.0	3
Bromodichloromethane			0.500	-9	2.000	-1	5.000	-2	10.00	-4	20.00	2	50.00	4	75.00	5	100.0	6
Dibromomethane			0.500	-2	2.000	-2	5.000	-4	10.00	-5	20.00	3	50.00	3	75.00	3	100.0	4
4-Methyl-2-Pentanone					2.000	-1	5.000	-3	10.00	-3	20.00	1	50.00	3	75.00	2	100.0	2
cis-1,3-Dichloropropene			0.500	-1	2.000	-3	5.000	-3	10.00	-6	20.00	2	50.00	3	75.00	3	100.0	4
Toluene			0.500	4	2.000	0	5.000	-2	10.00	-3	20.00	-1	50.00	0	75.00	1	100.0	1
trans-1,3-Dichloropropene			0.500	1	2.000	-4	5.000	-4	10.00	-1	20.00	1	50.00	3	75.00	3	100.0	2
1,1,2-Trichloroethane			0.500	4	2.000	2	5.000	0	10.00	-3	20.00	-2	50.00	0	75.00	1	100.0	-1
2-Hexanone					2.000	-5	5.000	-2	10.00	-3	20.00	1	50.00	4	75.00	3	100.0	2
1,3-Dichloropropane			0.500	-1	2.000	0	5.000	-2	10.00	-2	20.00	0	50.00	2	75.00	2	100.0	1
Tetrachloroethene			0.500	-3	2.000	3	5.000	-2	10.00	-4	20.00	-3	50.00	0	75.00	4	100.0	5
Dibromochloromethane			0.500	-9	2.000	-8	5.000	-6	10.00	-5	20.00	1	50.00	7	75.00	9	100.0	10
1,2-Dibromoethane			0.500	1	2.000	-1	5.000	-3	10.00	-4	20.00	0	50.00	2	75.00	2	100.0	2
Chlorobenzene			0.500	3	2.000	-2	5.000	-4	10.00	-3	20.00	-2	50.00	2	75.00	3	100.0	3
1,1,1,2-Tetrachloroethane			0.500	-3	2.000	-6	5.000	-4	10.00	-4	20.00	1	50.00	3	75.00	6	100.0	7
Ethylbenzene			0.500	4	2.000	-5	5.000	-3	10.00	-4	20.00	-3	50.00	2	75.00	4	100.0	5

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	-5	1.000	-8	4.000	-7	10.00	-7	20.00	-5	40.00	-1	100.0	7	150.0	11	200.0	14
o-Xylene			0.500	-10	2.000	-8	5.000	-7	10.00	-5	20.00	0	50.00	7	75.00	11	100.0	12
Styrene			0.500	-14	2.000	-12	5.000	-11	10.00	-6	20.00	1	50.00	10	75.00	14	100.0	16
Bromoform			0.500	-19	2.000	-10	5.000	-8	10.00	-5	20.00	2	50.00	11	75.00	14	100.0	16
Isopropylbenzene			0.500	2	2.000	3	5.000	2	10.00	-1	20.00	-3	50.00	-3	75.00	-1	100.0	-1
1,1,2,2-Tetrachloroethane			0.500	15	2.000	7	5.000	5	10.00	-1	20.00	-1	50.00	-6	75.00	-9	100.0	-11
1,2,3-Trichloropropane			0.500	16	2.000	6	5.000	7	10.00	-1	20.00	-3	50.00	-7	75.00	-8	100.0	-10
Propylbenzene			0.500	5	2.000	1	5.000	-2	10.00	-4	20.00	-3	50.00	-1	75.00	2	100.0	2
Bromobenzene			0.500	1	2.000	6	5.000	4	10.00	-1	20.00	-1	50.00	-3	75.00	-3	100.0	-3
1,3,5-Trimethylbenzene			0.500	-3	2.000	-3	5.000	-4	10.00	-4	20.00	-1	50.00	4	75.00	6	100.0	5
2-Chlorotoluene			0.500	4	2.000	4	5.000	1	10.00	-2	20.00	-3	50.00	-2	75.00	-1	100.0	-2
4-Chlorotoluene			0.500	3	2.000	-1	5.000	0	10.00	-2	20.00	-1	50.00	-1	75.00	1	100.0	1
tert-Butylbenzene			0.500	-1	2.000	0	5.000	-3	10.00	-3	20.00	-4	50.00	1	75.00	5	100.0	5
1,2,4-Trimethylbenzene			0.500	-1	2.000	-6	5.000	-8	10.00	-6	20.00	0	50.00	7	75.00	8	100.0	8
sec-Butylbenzene			0.500	-4	2.000	-2	5.000	-3	10.00	-4	20.00	-3	50.00	2	75.00	7	100.0	7
para-Isopropyl Toluene			0.500	-9	2.000	-7	5.000	-8	10.00	-6	20.00	-3	50.00	7	75.00	12	100.0	13
1,3-Dichlorobenzene			0.500	3	2.000	0	5.000	0	10.00	-2	20.00	-2	50.00	0	75.00	1	100.0	1
1,4-Dichlorobenzene			0.500	4	2.000	1	5.000	-3	10.00	-4	20.00	-2	50.00	0	75.00	2	100.0	2
n-Butylbenzene			0.500	1	2.000	-5	5.000	-10	10.00	-9	20.00	-4	50.00	6	75.00	10	100.0	11
1,2-Dichlorobenzene			0.500	0	2.000	2	5.000	-1	10.00	-1	20.00	-1	50.00	0	75.00	0	100.0	0
1,2-Dibromo-3-Chloropropane					2.000	11	5.000	9	10.00	-2	20.00	-1	50.00	-3	75.00	-6	100.0	-7
1,2,4-Trichlorobenzene			0.500	2	2.000	-1	5.000	-6	10.00	-7	20.00	-1	50.00	5	75.00	3	100.0	4
Hexachlorobutadiene			0.500	-9	2.000	-1	5.000	-1	10.00	-1	20.00	-3	50.00	2	75.00	6	100.0	8
Naphthalene			0.500	20	2.000	16	5.000	0	10.00	-7	20.00	-2	50.00	-4	75.00	-11	100.0	-11
1,2,3-Trichlorobenzene			0.500	7	2.000	3	5.000	-3	10.00	-8	20.00	-1	50.00	2	75.00	0	100.0	0
Dibromofluoromethane	50.00	0	50.00	1	50.00	1	50.00	0	50.00	-1	50.00	0	50.00	0	50.00	1	50.00	-1
1,2-Dichloroethane-d4	50.00	0	50.00	1	50.00	0	50.00	0	50.00	-3	50.00	0	50.00	1	50.00	1	50.00	0
Toluene-d8	50.00	2	50.00	1	50.00	1	50.00	1	50.00	0	50.00	0	50.00	-1	50.00	-2	50.00	-2
Bromofluorobenzene	50.00	6	50.00	9	50.00	7	50.00	5	50.00	1	50.00	-3	50.00	-7	50.00	-9	50.00	-9

BJP 06/15/10 [Freon 12]: Combined split peak1PPB (kfel4).

BJP 06/15/10 [Chloroethane]: Combined split peak in multiple levels.

BJP 06/15/10 [Ethanol]: Combined split peak1PPB (kfel4).

Analyst: BJP

Date: 06/15/10

Reviewer: LW

Date: 06/17/10

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

Page 5 of 5

830238218001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220633 MSVOA Water
EPA 8260B

Inst : MSVOA11
Calnum : 830238218001

Name : 8260GX11
Cal Date : 14-JUN-2010

Type : WATER

ICV 830238218023 (kfe23 15-JUN-2010) stds: S14688 (10000X), S14594 (10000X),
S14573 (10000X), S14746 (2500X)

ICV 830239803005 (kff05 15-JUN-2010) stds: S14843 (10000X), S14746 (2500X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	830239803005	25.00	26.11	ug/L	4	25	
Chloromethane	830239803005	25.00	26.56	ug/L	6	25	
Vinyl Chloride	830239803005	25.00	25.24	ug/L	1	25	
Bromomethane	830239803005	25.00	21.51	ug/L	-14	25	
Chloroethane	830239803005	25.00	27.83	ug/L	11	25	
Trichlorofluoromethane	830239803005	25.00	26.68	ug/L	7	25	
Acetone	830238218023	25.00	25.20	ug/L	1	25	
1,1-Dichloroethene	830238218023	25.00	24.97	ug/L	0	25	
Iodomethane	830238218023	25.00	9.264	ug/L	-63	25	v-
Methylene Chloride	830238218023	25.00	25.34	ug/L	1	25	
Carbon Disulfide	830238218023	25.00	20.84	ug/L	-17	25	
MTBE	830238218023	25.00	22.78	ug/L	-9	25	
trans-1,2-Dichloroethene	830238218023	25.00	25.04	ug/L	0	25	
Vinyl Acetate	830238218023	25.00	27.95	ug/L	12	25	
1,1-Dichloroethane	830238218023	25.00	25.76	ug/L	3	25	
2-Butanone	830238218023	25.00	25.05	ug/L	0	25	
2,2-Dichloropropane	830238218023	25.00	23.53	ug/L	-6	25	
cis-1,2-Dichloroethene	830238218023	25.00	25.81	ug/L	3	25	
Chloroform	830238218023	25.00	25.55	ug/L	2	25	
Bromochloromethane	830238218023	25.00	26.76	ug/L	7	25	
1,1,1-Trichloroethane	830238218023	25.00	25.41	ug/L	2	25	
1,1-Dichloropropene	830238218023	25.00	25.74	ug/L	3	25	
Carbon Tetrachloride	830238218023	25.00	26.79	ug/L	7	25	
1,2-Dichloroethane	830238218023	25.00	25.19	ug/L	1	25	
Benzene	830238218023	25.00	25.82	ug/L	3	25	
Trichloroethene	830238218023	25.00	25.57	ug/L	2	25	
1,2-Dichloropropane	830238218023	25.00	24.74	ug/L	-1	25	
Bromodichloromethane	830238218023	25.00	25.88	ug/L	4	25	
Dibromomethane	830238218023	25.00	25.69	ug/L	3	25	
4-Methyl-2-Pentanone	830238218023	25.00	25.96	ug/L	4	25	
cis-1,3-Dichloropropene	830238218023	25.00	25.31	ug/L	1	25	
Toluene	830238218023	25.00	25.80	ug/L	3	25	
trans-1,3-Dichloropropene	830238218023	25.00	23.76	ug/L	-5	25	
1,1,2-Trichloroethane	830238218023	25.00	25.00	ug/L	0	25	
2-Hexanone	830238218023	25.00	26.17	ug/L	5	25	
1,3-Dichloropropane	830238218023	25.00	25.27	ug/L	1	25	
Tetrachloroethene	830238218023	25.00	26.18	ug/L	5	25	
Dibromochloromethane	830238218023	25.00	26.11	ug/L	4	25	
1,2-Dibromoethane	830238218023	25.00	25.42	ug/L	2	25	
Chlorobenzene	830238218023	25.00	26.00	ug/L	4	25	
1,1,1,2-Tetrachloroethane	830238218023	25.00	25.75	ug/L	3	25	
Ethylbenzene	830238218023	25.00	26.07	ug/L	4	25	
m,p-Xylenes	830238218023	50.00	53.71	ug/L	7	25	
o-Xylene	830238218023	25.00	26.88	ug/L	8	25	
Styrene	830238218023	25.00	27.21	ug/L	9	25	
Bromoform	830238218023	25.00	27.07	ug/L	8	25	
Isopropylbenzene	830238218023	25.00	22.61	ug/L	-10	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	830238218023	25.00	23.79	ug/L	-5	25	
1,2,3-Trichloropropane	830238218023	25.00	24.37	ug/L	-3	25	
Propylbenzene	830238218023	25.00	25.45	ug/L	2	25	
Bromobenzene	830238218023	25.00	25.81	ug/L	3	25	
1,3,5-Trimethylbenzene	830238218023	25.00	26.52	ug/L	6	25	
2-Chlorotoluene	830238218023	25.00	26.04	ug/L	4	25	
4-Chlorotoluene	830238218023	25.00	25.75	ug/L	3	25	
tert-Butylbenzene	830238218023	25.00	26.59	ug/L	6	25	
1,2,4-Trimethylbenzene	830238218023	25.00	27.15	ug/L	9	25	
sec-Butylbenzene	830238218023	25.00	26.60	ug/L	6	25	
para-Isopropyl Toluene	830238218023	25.00	25.76	ug/L	3	25	
1,3-Dichlorobenzene	830238218023	25.00	25.78	ug/L	3	25	
1,4-Dichlorobenzene	830238218023	25.00	25.71	ug/L	3	25	
n-Butylbenzene	830238218023	25.00	26.58	ug/L	6	25	
1,2-Dichlorobenzene	830238218023	25.00	26.34	ug/L	5	25	
1,2-Dibromo-3-Chloropropane	830238218023	25.00	24.08	ug/L	-4	25	
1,2,4-Trichlorobenzene	830238218023	25.00	25.62	ug/L	2	25	
Hexachlorobutadiene	830238218023	25.00	25.87	ug/L	3	25	
Naphthalene	830238218023	25.00	25.03	ug/L	0	25	
1,2,3-Trichlorobenzene	830238218023	25.00	26.32	ug/L	5	25	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.8091	0.8229	30.00	30.51	ug/L	2	20	0.3000	
1,2,3-Trichloropropane	0.8018	0.8064	30.00	30.17	ug/L	1	20	0.0500	
Propylbenzene	3.5702	3.4927	30.00	29.35	ug/L	-2	20	0.0500	
Bromobenzene	0.8847	0.8755	30.00	29.69	ug/L	-1	20	0.0500	
1,3,5-Trimethylbenzene	2.2628	2.2666	30.00	30.05	ug/L	0	20	0.0500	
2-Chlorotoluene	2.5055	2.4751	30.00	29.64	ug/L	-1	20	0.0500	
4-Chlorotoluene	2.1690	2.1553	30.00	29.81	ug/L	-1	20	0.0500	
tert-Butylbenzene	2.1070	2.0900	30.00	29.76	ug/L	-1	20	0.0500	
1,2,4-Trimethylbenzene	1.9952	2.0405	30.00	30.68	ug/L	2	20	0.0500	
sec-Butylbenzene	3.0777	3.0609	30.00	29.84	ug/L	-1	20	0.0500	
para-Isopropyl Toluene	2.3073	2.3542	30.00	30.61	ug/L	2	20	0.0500	
1,3-Dichlorobenzene	1.5000	1.4980	30.00	29.96	ug/L	0	20	0.0500	
1,4-Dichlorobenzene	1.4904	1.4777	30.00	29.74	ug/L	-1	20	0.0500	
n-Butylbenzene	1.8321	1.8571	30.00	30.41	ug/L	1	20	0.0500	
1,2-Dichlorobenzene	1.4138	1.4050	30.00	29.82	ug/L	-1	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.1488	0.1531	30.00	30.86	ug/L	3	20	0.0500	
1,2,4-Trichlorobenzene	0.6755	0.6881	30.00	30.56	ug/L	2	20	0.0500	
Hexachlorobutadiene	0.4275	0.4208	30.00	29.53	ug/L	-2	20	0.0500	
Naphthalene	1.5330	1.5149	30.00	29.65	ug/L	-1	20	0.0500	
1,2,3-Trichlorobenzene	0.6323	0.6435	30.00	30.53	ug/L	2	20	0.0500	
Dibromofluoromethane	0.5239	0.5302	50.00	50.60	ug/L	1	20	0.0500	
1,2-Dichloroethane-d4	0.3496	0.3467	50.00	49.59	ug/L	-1	20	0.0500	
Toluene-d8	1.3161	1.2983	50.00	49.32	ug/L	-1	20	0.0500	
Bromofluorobenzene	1.0717	1.0352	50.00	48.30	ug/L	-3	20	0.0500	

ISTD (ICAL kfe19)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	674857	650451	-3.62	10.45	10.45	0.00
1,4-Difluorobenzene	1199364	1177139	-1.85	11.38	11.38	0.01
Chlorobenzene-d5	1205193	1208786	0.30	14.46	14.46	0.00
1,4-Dichlorobenzene-d4	579558	559113	-3.53	16.69	16.69	0.00

Analyst: PDM

Date: 06/21/10

Reviewer: BJP

Date: 06/21/10

+ = high bias c = CCV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220633 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : QC549147 IDF : 1.0
 Seqnum : 830243964004.5 File : kfi04 Time : 18-JUN-2010 11:29
 Cal : 830238218001 Caldate : 14-JUN-2010 Caltype : WATER
 Standards: S14573 (10000X), S14688 (10000X), S14846 (10000X), S14746 (2500X)

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
Freon 12	0.6143	0.7040	25.00	28.65	ug/L	15	20	0.0500	u
Chloromethane	0.5849	0.6696	25.00	28.62	ug/L	14	20	0.1000	u
Vinyl Chloride	0.7165	0.7633	25.00	26.63	ug/L	7	20	0.0500	u
Bromomethane	0.2439	0.3356	25.00	30.26	ug/L	21	20	0.0500	c+ u ***
Chloroethane	0.3509	0.4221	25.00	30.07	ug/L	20	20	0.0500	u
Trichlorofluoromethane	0.8685	0.9673	25.00	27.84	ug/L	11	20	0.0500	u
Iodomethane	0.2118	0.2999	25.00	30.96	ug/L	24	20	0.0500	c+ u v- ***
Acetone	0.1378	0.1700	25.00	30.86	ug/L	23	20	0.0500	c+ u ***
1,1-Dichloroethene	0.4606	0.4826	25.00	26.19	ug/L	5	20	0.0500	u
Methylene Chloride	0.5399	0.6104	25.00	28.26	ug/L	13	20	0.0500	u
Carbon Disulfide	1.7188	1.5301	25.00	22.25	ug/L	-11	20	0.0500	u
MTBE	1.6914	1.8107	25.00	26.76	ug/L	7	20	0.0500	u
trans-1,2-Dichloroethene	0.5518	0.6123	25.00	27.74	ug/L	11	20	0.0500	u
Vinyl Acetate	0.7546	1.0892	25.00	36.09	ug/L	44	20	0.0500	c+ u ***
1,1-Dichloroethane	0.9139	1.0509	25.00	28.75	ug/L	15	20	0.1000	u
2-Butanone	0.1872	0.2375	25.00	31.72	ug/L	27	20	0.0500	c+ u ***
cis-1,2-Dichloroethene	0.6280	0.7157	25.00	28.49	ug/L	14	20	0.0500	u
2,2-Dichloropropane	0.7202	0.9718	25.00	33.73	ug/L	35	20	0.0500	c+ u ***
Chloroform	0.9693	1.1180	25.00	28.84	ug/L	15	20	0.0500	u
Bromochloromethane	0.2817	0.3312	25.00	29.39	ug/L	18	20	0.0500	u
1,1,1-Trichloroethane	0.8758	0.9805	25.00	27.99	ug/L	12	20	0.0500	u
1,1-Dichloropropene	0.4291	0.4482	25.00	26.11	ug/L	4	20	0.0500	u
Carbon Tetrachloride	0.4059	0.4397	25.00	27.08	ug/L	8	20	0.0500	u
1,2-Dichloroethane	0.4078	0.4413	25.00	27.05	ug/L	8	20	0.0500	u
Benzene	1.2827	1.3871	25.00	27.03	ug/L	8	20	0.0500	u
Trichloroethene	0.3349	0.3483	25.00	26.01	ug/L	4	20	0.0500	u
1,2-Dichloropropane	0.3106	0.3202	25.00	25.77	ug/L	3	20	0.0500	u
Bromodichloromethane	0.4140	0.4512	25.00	27.24	ug/L	9	20	0.0500	u
Dibromomethane	0.1932	0.2159	25.00	27.93	ug/L	12	20	0.0500	u
4-Methyl-2-Pentanone	0.2196	0.2491	25.00	28.36	ug/L	13	20	0.0500	u
cis-1,3-Dichloropropene	0.5029	0.5598	25.00	27.82	ug/L	11	20	0.0500	u
Toluene	0.8388	0.8539	25.00	25.45	ug/L	2	20	0.0500	u
trans-1,3-Dichloropropene	0.4685	0.4572	25.00	24.40	ug/L	-2	20	0.0500	u
1,1,2-Trichloroethane	0.1578	0.1610	25.00	25.51	ug/L	2	20	0.0500	u
2-Hexanone	0.1493	0.1670	25.00	27.96	ug/L	12	20	0.0500	u
1,3-Dichloropropane	0.4959	0.5117	25.00	25.80	ug/L	3	20	0.0500	u
Tetrachloroethene	0.3465	0.3346	25.00	24.14	ug/L	-3	20	0.0500	u
Dibromochloromethane	0.3243	0.3298	25.00	25.42	ug/L	2	20	0.0500	u
1,2-Dibromoethane	0.3050	0.3099	25.00	25.40	ug/L	2	20	0.0500	u
Chlorobenzene	0.9650	0.9795	25.00	25.37	ug/L	1	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3265	0.3246	25.00	24.85	ug/L	-1	20	0.0500	u
Ethylbenzene	1.5972	1.6323	25.00	25.55	ug/L	2	20	0.0500	u
m,p-Xylenes	0.5841	0.6006	50.00	51.41	ug/L	3	20	0.0500	u
o-Xylene	0.5625	0.5806	25.00	25.81	ug/L	3	20	0.0500	u
Styrene	0.9318	0.9724	25.00	26.09	ug/L	4	20	0.0500	u
Bromoform	0.2158	0.2237	25.00	25.92	ug/L	4	20	0.1000	u
Isopropylbenzene	3.3588	2.9320	25.00	21.82	ug/L	-13	20	0.0500	u
1,1,2,2-Tetrachloroethane	0.8091	0.8262	25.00	25.53	ug/L	2	20	0.3000	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,2,3-Trichloropropane	0.8018	0.7996	25.00	24.93	ug/L	0	20	0.0500	u
Propylbenzene	3.5702	3.5670	25.00	24.98	ug/L	0	20	0.0500	u
Bromobenzene	0.8847	0.8734	25.00	24.68	ug/L	-1	20	0.0500	u
1,3,5-Trimethylbenzene	2.2628	2.2846	25.00	25.24	ug/L	1	20	0.0500	u
2-Chlorotoluene	2.5055	2.5633	25.00	25.58	ug/L	2	20	0.0500	u
4-Chlorotoluene	2.1690	2.1837	25.00	25.17	ug/L	1	20	0.0500	u
tert-Butylbenzene	2.1070	2.1085	25.00	25.02	ug/L	0	20	0.0500	u
1,2,4-Trimethylbenzene	1.9952	2.0701	25.00	25.94	ug/L	4	20	0.0500	u
sec-Butylbenzene	3.0777	3.1261	25.00	25.39	ug/L	2	20	0.0500	u
para-Isopropyl Toluene	2.3073	2.2624	25.00	24.51	ug/L	-2	20	0.0500	u
1,3-Dichlorobenzene	1.5000	1.4880	25.00	24.80	ug/L	-1	20	0.0500	u
1,4-Dichlorobenzene	1.4904	1.4708	25.00	24.67	ug/L	-1	20	0.0500	u
n-Butylbenzene	1.8321	1.9047	25.00	25.99	ug/L	4	20	0.0500	u
1,2-Dichlorobenzene	1.4138	1.4244	25.00	25.19	ug/L	1	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1488	0.1470	25.00	24.69	ug/L	-1	20	0.0500	u
1,2,4-Trichlorobenzene	0.6755	0.6519	25.00	24.13	ug/L	-3	20	0.0500	u
Hexachlorobutadiene	0.4275	0.4022	25.00	23.52	ug/L	-6	20	0.0500	u
Naphthalene	1.5330	1.5426	25.00	25.16	ug/L	1	20	0.0500	u
1,2,3-Trichlorobenzene	0.6323	0.6358	25.00	25.14	ug/L	1	20	0.0500	u
Dibromofluoromethane	0.5239	0.5643	50.00	53.86	ug/L	8	20	0.0500	u
1,2-Dichloroethane-d4	0.3496	0.3521	50.00	50.37	ug/L	1	20	0.0500	u
Toluene-d8	1.3161	1.2901	50.00	49.01	ug/L	-2	20	0.0500	u
Bromofluorobenzene	1.0717	1.0656	50.00	49.72	ug/L	-1	20	0.0500	u

ISTD (ICAL kfe19)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	674857	532711	-21.06	10.45	10.45	0.00
1,4-Difluorobenzene	1199364	1015843	-15.30	11.38	11.38	0.01
Chlorobenzene-d5	1205193	1077961	-10.56	14.46	14.46	0.00
1,4-Dichlorobenzene-d4	579558	486552	-16.05	16.69	16.69	0.00

Analyst: PDM Date: 06/21/10 Reviewer: BJP Date: 06/21/10

+ = high bias - = low bias c = CCV u = use v = ICV

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 830242547

Date : 06/17/10
 Sequence : MSVOA11 kfh

Reference : kfe19
 Analyzed : 06/15/10 00:33

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	674857	10.45	1199364	11.38	1205193	14.46	579558	16.69
		LOWER LIMIT	337429	9.95	599682	10.88	602597	13.96	289779	16.19
		UPPER LIMIT	1349714	10.95	2398728	11.88	2410386	14.96	1159116	17.19
003	CCV		650451	10.45	1177139	11.38	1208786	14.46	559113	16.69
005	BS	QC549027	636088	10.45	1159475	11.37	1206394	14.46	553622	16.69
006	BSD	QC549028	634279	10.45	1152031	11.38	1189349	14.46	540006	16.69
008	BLANK	QC549026	619079	10.45	1150439	11.37	1178329	14.46	457486	16.69
009	SAMPLE	220635-005	589279	10.45	1115681	11.37	1150483	14.46	440961	16.69
010	SAMPLE	220635-001	585487	10.45	1110721	11.38	1139741	14.46	440368	16.69
011	SAMPLE	220635-002	574784	10.45	1087474	11.38	1125522	14.46	425732	16.69
012	SAMPLE	220635-003	581881	10.45	1098219	11.38	1138643	14.46	434054	16.69
013	SAMPLE	220635-004	582846	10.45	1101969	11.38	1134904	14.46	436402	16.69
014	SAMPLE	220633-001	574510	10.45	1086140	11.38	1122854	14.46	427055	16.69
015	SAMPLE	220633-002	572684	10.45	1081964	11.38	1118199	14.46	426309	16.69
016	SAMPLE	220633-003	568353	10.45	1074123	11.38	1105740	14.46	418498	16.69
017	SAMPLE	220633-004	545139	10.45	1042168	11.38	1077729	14.46	395621	16.69
018	SAMPLE	220633-005	556365	10.45	1064936	11.38	1097645	14.46	412456	16.69
019	SAMPLE	220633-006	549816	10.45	1053014	11.38	1082396	14.46	406640	16.69
020	SAMPLE	220633-007	541920	10.45	1036191	11.38	1076729	14.46	408932	16.69
021	SAMPLE	220633-009	541570	10.45	1039228	11.38	1075679	14.46	398704	16.69
022	SAMPLE	220633-011	531188	10.45	1021505	11.38	1064399	14.46	403366	16.69
023	SAMPLE	220633-012	537190	10.45	1032799	11.37	1072837	14.46	412157	16.69
024	SAMPLE	220633-013	531676	10.45	1014584	11.38	1057743	14.46	398517	16.69
025	SAMPLE	220633-014	530649	10.45	1022302	11.37	1058678	14.46	385546	16.69

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 830243964

Date : 06/18/10
 Sequence : MSVOA11 kfi

Reference : kfe19
 Analyzed : 06/15/10 00:33

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	674857	10.45	1199364	11.38	1205193	14.46	579558	16.69
		LOWER LIMIT	337429	9.95	599682	10.88	602597	13.96	289779	16.19
		UPPER LIMIT	1349714	10.95	2398728	11.88	2410386	14.96	1159116	17.19
003	CCV		521743	10.45	1005608	11.38	1072352	14.46	471492	16.69
004	CCV/BS	QC549147	532711	10.45	1015843	11.38	1077961	14.46	486552	16.69
005	BSD	QC549148	542351	10.45	1031491	11.38	1084126	14.46	492197	16.69
007	BLANK	QC549146	521399	10.44	1010819	11.37	1069436	14.46	391608	16.69
008	SAMPLE	220749-001	506424	10.45	991282	11.37	1043448	14.46	399490	16.69
009	SAMPLE	220635-003	508389	10.45	1000302	11.37	1040432	14.46	388864	16.69
010	SAMPLE	220633-015	505437	10.45	986923	11.38	1035283	14.46	394602	16.69
011	SAMPLE	220633-016	492804	10.45	973471	11.37	1034846	14.46	383602	16.69
012	SAMPLE	220633-017	494957	10.45	965560	11.38	1030688	14.46	381305	16.69
013	SAMPLE	220633-018	490408	10.45	969478	11.38	1021850	14.46	366521	16.69
014	SAMPLE	220633-019	483472	10.45	960582	11.38	1015361	14.46	369961	16.69
015	MSS	220633-010	485137	10.45	952984	11.38	1014071	14.46	372969	16.69
016	SAMPLE	220749-002	491935	10.45	962198	11.37	1012534	14.46	373308	16.69
017	SAMPLE	220749-003	485278	10.45	961855	11.38	1019453	14.46	369671	16.69
018	SAMPLE	220749-004	483497	10.45	954087	11.38	1010483	14.46	369847	16.69
019	SAMPLE	220749-005	464942	10.45	924694	11.38	982035	14.46	359117	16.69
020	SAMPLE	220749-006	467117	10.45	926177	11.38	989904	14.46	372305	16.69
021	SAMPLE	220749-007	463803	10.45	924572	11.38	981139	14.46	356723	16.69
022	SAMPLE	220657-006	470256	10.45	942445	11.37	1000872	14.46	372317	16.69
023	SAMPLE	220657-007	465886	10.45	928711	11.38	988457	14.46	368740	16.69
024	SAMPLE	220657-008	458109	10.45	922790	11.38	984580	14.46	363684	16.69
025	MS	QC549173	485300	10.45	953530	11.38	1041507	14.46	458555	16.69
026	MSD	QC549174	505244	10.45	994956	11.38	1065833	14.46	467298	16.69

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 830238218

Instrument : MSVOA11 Begun : 06/14/10 10:18
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	kfe01	X	IB			06/14/10 10:18	1.0	1
002	kfe02	X	IB			06/14/10 10:46	1.0	1
003	kfe03	X	STD 0.5 PPB			06/14/10 14:02	1.0	1
004	kfe04	TUN	BFB			06/14/10 16:24	1.0	2
005	kfe05	TUN	BFB			06/14/10 18:39	1.0	2
006	kfe06	TUN	BFB			06/14/10 18:58	1.0	2
007	kfe07	TUN	BFB			06/14/10 19:07	1.0	2
008	kfe08	TUN	BFB			06/14/10 19:19	1.0	2
009	kfe09	X	IB			06/14/10 19:52	1.0	1
010	kfe10	X	IB			06/14/10 20:20	1.0	1
011	kfe11	X	IB			06/14/10 20:48	1.0	1
012	kfe12	IB	CALIB			06/14/10 21:16	1.0	1
013	kfe13	ICAL	.25/.5PPB			06/14/10 21:45	1.0	3 4 5 6 1
014	kfe14	ICAL	0.5/1PPB			06/14/10 22:13	1.0	3 4 5 6 1
015	kfe15	ICAL	2PPB			06/14/10 22:41	1.0	3 4 5 6 1
016	kfe16	ICAL	5PPB			06/14/10 23:09	1.0	3 4 5 6 1
017	kfe17	ICAL	10PPB			06/14/10 23:37	1.0	3 4 5 6 1
018	kfe18	ICAL	20PPB			06/15/10 00:05	1.0	7 8 9 10 1
019	kfe19	ICAL	50PPB			06/15/10 00:33	1.0	7 8 9 10 1
020	kfe20	ICAL	75PPB			06/15/10 01:01	1.0	7 8 9 10 1
021	kfe21	ICAL	100PPB			06/15/10 01:29	1.0	7 8 9 10 1
022	kfe22	ICV	25PPB			06/15/10 01:57	1.0	11 1
023	kfe23	ICV	25PPB			06/15/10 02:25	1.0	12 13 14 1
024	kfe24	X	IB			06/15/10 02:53	1.0	1
025	kfe25	X	IB			06/15/10 03:21	1.0	1

BJP 06/15/10 : Adjusted tune for kfe06.

BJP 06/15/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Analyst: BJP Date: 06/15/10 Reviewer: LW Date: 06/17/10
 Standards used: 1=S14746 2=S13652 3=S14738 4=S14834 5=S14742 6=S14739 7=S14722 8=S14747 9=S14228 10=S14230 11=S14846
 12=S14688 13=S14594 14=S14573

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 830243964

Instrument : MSVOA11 Begun : 06/18/10 10:04
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	kfi01	X	IB			06/18/10 10:04	1.0	1
002	kfi02	TUN	BFB			06/18/10 10:28	1.0	2
003	kfi03	CCV				06/18/10 10:51	1.0	3 4 5 6 1
004	kfi04	CCV/BS	QC549147	Water	164167	06/18/10 11:29	1.0	7 8 9 1
005	kfi05	BSD	QC549148	Water	164167	06/18/10 12:12	1.0	7 8 9 1
006	kfi06	X	IB			06/18/10 12:41	1.0	1
007	kfi07	BLANK	QC549146	Water	164167	06/18/10 13:20	1.0	1
008	kfi08	SAMPLE	220749-001	Water	164167	06/18/10 13:49	1.0	1
009	kfi09	SAMPLE	220635-003	Water	164167	06/18/10 14:17	2.0	1
010	kfi10	SAMPLE	220633-015	Water	164167	06/18/10 14:45	1.0	1
011	kfi11	SAMPLE	220633-016	Water	164167	06/18/10 15:13	1.0	1
012	kfi12	SAMPLE	220633-017	Water	164167	06/18/10 15:41	1.0	1
013	kfi13	SAMPLE	220633-018	Water	164167	06/18/10 16:09	1.0	1
014	kfi14	SAMPLE	220633-019	Water	164167	06/18/10 16:37	1.0	1
015	kfi15	MSS	220633-010	Water	164167	06/18/10 17:05	1.0	1
016	kfi16	SAMPLE	220749-002	Water	164167	06/18/10 17:33	1.0	1
017	kfi17	SAMPLE	220749-003	Water	164167	06/18/10 18:01	1.0	1
018	kfi18	SAMPLE	220749-004	Water	164167	06/18/10 18:29	1.0	1
019	kfi19	SAMPLE	220749-005	Water	164167	06/18/10 18:57	1.0	1
020	kfi20	SAMPLE	220749-006	Water	164167	06/18/10 19:25	1.0	1
021	kfi21	SAMPLE	220749-007	Water	164167	06/18/10 19:53	1.0	1
022	kfi22	SAMPLE	220657-006	Water	164167	06/18/10 20:21	1.0	1
023	kfi23	SAMPLE	220657-007	Water	164167	06/18/10 20:49	1.0	1
024	kfi24	SAMPLE	220657-008	Water	164167	06/18/10 21:17	1.0	1
025	kfi25	MS	QC549173	Water	164167	06/18/10 21:45	1.0	7 8 9 1
026	kfi26	MSD	QC549174	Water	164167	06/18/10 22:13	1.0	7 8 9 1
027	kfi27	X	IB			06/18/10 22:41	1.0	1
028	kfi28	X	IB			06/18/10 23:09	1.0	1
029	kfi29	X	IB			06/18/10 23:37	1.0	1
030	kfi30	X	IB			06/19/10 00:06	1.0	1

MCT 06/21/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Analyst: MCT Date: 06/21/10 Reviewer: BO Date: 06/21/10

Standards used: 1=S14746 2=S13652 3=S14747 4=S14228 5=S14722 6=S14230 7=S14573 8=S14688 9=S14846

GC/MS VOLATILE ORGANICS

Batch #: 164132

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
1 220635-001	B	<2				11		UCP 6/17/10
2 -002	B							
3 -003	B							
4 -004	B							
5 -005	A							
6 220635-001	A							
7 -002	A							
8 -003	B							
9 -004	B							
10 -005	B							
11 -006	B							
12 -007	B							
13 -008	B							
14 -011	B							
15 -012	A							
16 -013	A							
17 -014	B							
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								

GC/MS VOLATILE ORGANICS

Batch #: 164167

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
1 220635-003	C	<2			3	11	RA @ 2x for TCE (stand/stand)	W.S. 6/18/08
2 220633-015	B	<2						
3 -016	B							
4 -017	B							
5 -018	B							
6 -019	B							
7 -010	B							
8 -010 (stand/stand)	C							
9 220749-001	A	<2						
10 -002	B							
11 -003	A							
12 -004	A							
13 -005	A							
14 -006	A							
15 -007	A							
16 220657-006	A							
17 -007	A							
18 -008	A							
19								
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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220657
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 383868.US.60.61.QS
Location : Quarterly UST
Level : III

Table with 2 columns: Sample ID and Lab ID. Lists various sample identifiers and their corresponding lab IDs.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Senior Program Manager

Date: 06/24/2010

CASE NARRATIVE

Laboratory number: 220657
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/10/10
Samples Received: 06/10/10

This data package contains sample and QC results for twenty water samples, requested for the above referenced project on 06/10/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

Low responses were observed for iodomethane in the ICV analyzed 04/28/10 01:25 and the ICV analyzed 06/15/10 02:25; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low response was observed for 1,2-dibromo-3-chloropropane in the CCV analyzed 06/18/10 09:41; this analyte met minimum response criteria, and affected data was qualified with "b". High responses were observed for many analytes; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

High responses were observed for many analytes in the CCV analyzed 06/18/10 11:29; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

High responses were observed for a number of analytes in the CCV analyzed 06/20/10 12:05; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

High responses were observed for acetone, 2,2-dichloropropane, and 2-butanone in the CCV analyzed 06/20/10 12:57; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

High responses were observed for a number of analytes in the CCV analyzed 06/21/10 15:25; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low responses were observed for bromomethane and iodomethane in the CCV analyzed 06/22/10 15:15; these analytes met minimum response criteria. High response was observed for hexachlorobutadiene.

CASE NARRATIVE

Laboratory number: 220657
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/10/10
Samples Received: 06/10/10

Volatile Organics by GC/MS (EPA 8260B):

Low responses were observed for iodomethane and naphthalene in the CCV analyzed 06/22/10 08:57; these analytes met minimum response criteria, and affected data was qualified with "b". High responses were observed for many analytes; affected data was qualified with "b".

Low response was observed for carbon disulfide in the CCV analyzed 06/22/10 15:15; this analyte met minimum response criteria.

High recoveries were observed for a number of analytes in the BS/BSD for batch 164167; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples.

High recoveries were observed for many analytes in the MS/MSD of ASE-100A-GW-10Q2 (lab # 220633-010); the associated RPDs were within limits.

High recoveries were observed for many analytes in the BS/BSD for batch 164202; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples.

High recoveries were observed for many analytes in the MS/MSD for batch 164202; the parent sample was not a project sample, and the associated RPDs were within limits.

High recoveries were observed for a number of analytes in the BS/BSD for batch 164228; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples.

Low recovery was observed for iodomethane in the MS of ASE-116A-GW-10Q2 (lab # 220657-019); the BS/BSD were within limits. High recoveries were observed for many analytes in the MS/MSD of ASE-116A-GW-10Q2 (lab # 220657-019). High RPD was observed for acetone, bromomethane, and iodomethane; the RPD was acceptable in the BS/BSD, and these analytes were not detected at or above the RL in the associated samples.

Low recoveries were observed for iodomethane in the BS/BSD for batch 164260; the associated RPD was within limits. High recoveries were observed for a number of analytes; the associated RPDs were within limits, and these high recoveries were not associated with any reported results.

CASE NARRATIVE

Laboratory number: 220657
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/10/10
Samples Received: 06/10/10

Volatile Organics by GC/MS (EPA 8260B):

No other analytical problems were encountered.

Chain of Custody

220657

37380-100609

Honeywell Chain of Custody / Analysis Request

Curtis & Tompkins Laboratories
2323 5th St.
Berkeley, CA 94710
510-204-2221

ASIS Ref: 40336.60247
COC#: 37380

Privileged & Confidential

EDD To: Tuesdal Powers, Critigen
Melanie West, Critigen

Sampler: Derek Focher
PO #: PO: 5101516, PNI: 397664 CL 90, DM, 02, CC: 6400
Analysis Turnaround Time (TAT): 10

Consultant: Laboratory Contact
Report Tier Level: 10
Full Report TAT: 10

Site Name: Sky Harbor AZ
Location of Site: PHOENIX, AZ

Phase: Sampling Program

Quarterly: JUST

Preservative: 8 1

Field Filtered Sample? Total VOCs (SW820B)
TRPH DRO C10-C21 - ORO C22-C32 (SW6015B)

Location ID	Sample Identification		Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Composite/Grd	Lab Sample Numbers
	Start Depth (ft)	End Depth (ft)										
1	GW-10QZ	---	---	060810	2230	01kwater GW-GWS	WATER	TB	1	G	N	X
2	ASE-109A	---	---	060810	2324	GW-GWS	water	REG	5	G	N	X
3	ASE-123A	---	---	060910	0002	GW-GWS	water	REG	5	G	N	X
4	ASE-124A	---	---	060910	0054	GW-GWS	water	REG	5	G	N	X
5	ASE-106A	---	---	060910	0147	GW-GWS	water	REG	5	G	N	X
6	GN-10QZ	---	---	060910	0200	01kwater water	water	EB	5	G	N	X
7	ASE-122A	---	---	060910	0322	GW-GWS	water	REG	5	G	N	X
8	10QZ-007	---	---	060910	0332	GW-GWS	water	REG	5	G	N	X
9	BC-7A	---	---	060910	0510	GW-GWS	water	REG	5	G	N	X
10	ASE-127A	---	---	060910	0543	GW-GWS	water	REG	5	G	N	X
11												
12												

Relinquished by: CH2MHILL
Date/Time: 060910

Received by: [Signature]
Date/Time: 060910

Relinquished by: [Signature]
Date/Time: 060910

Received by: [Signature]
Date/Time: 060910

Preservatives: (Other, Specify): 1 (HCl, pH<2); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, pH>12); 7 (H2SO4, pH<2); 8 (HCl, pH<2); 9 (HCl, 4 Deg C); 10 (HNO3, pH<2, 4 Deg C); 11 (NaOH, pH>12, 4 Deg, Ascorbic Acid); 12 (H2SO4, NazS2O3, 4 Deg C, pH<2); 13 (Zn Acetate); 14 (1-MeOH, 4 Deg C and 2-NaHSO4, 4 Deg C); 15 (NaOH, pH>12, 4 Deg C); sp (special instructions)

220657

37380-100609

Curtis & Tompkins Laboratories
 2323 5th St.
 Berkeley, CA 94710
 510-204-2221

Honeywell
 Chain Of Custody / Analysis Request

Privileged & Confidential

Sampling Co.: CH2MHILL
 Client Contact: (name, co., address)
 CH2M HILL
 2625 South Plaza Drive, Suite 300
 Tempe, AZ 85282
 Preliminary Data To: Tuesdai Powers, Critigen
 Sample Receipt: Tuesdai Powers, Critigen
 Acknowledgement To: Melanie West, Critigen
 Hard Copy To: Tuesdai Powers and Melanie West, Critigen
 Invoice To: Honeywell/Copy Tuesdai Powers

EDD To: Tuesdai Powers, Critigen
 Melanie West, Critigen
 Sampler: Donna Rorback
 PO #: PO: 5101516, PN: 397864, CL: 90, DM: 02, CC: 6400
 Analysis Turnaround Time (TAT): 10
 Consultant
 Laboratory Contact
 Report Tier Level
 Full Report TAT: 10

Site Name: Sky Harbor AZ
 Location of Site: PHOENIX, AZ
 Phase: Quarterny UST
 Sampling Program
 Lab ID
 Site ID
 Lab Job #
 Authorized User: Honeywell
 Text & Excel File Drive
 Excel & Text File Order

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 Unauthorized use strictly prohibited.

Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	Sample # of Cont.	Units	Field Filtered Sample?	Compass Grab	TPH DRC C10-C22 - ORO C22-C32 (SW8015B)	Total VOCs (SW8260B)	Lab Sample Numbers
1	0	0	TB-006-GW-1002	6/10/10	2130	REG	water	TB	1	-	X				
2	0	0	ASE-65A-GW-1002	6/10/10	2035	REG	water	REG	15	G	N	X			
3	0	0	ASE-68A-GW-1002	6/10/10	2132	REG	water	REG	5	G	N	X			
4	0	0	PL-201A-GW-1002	6/9/10	1206	REG	water	REG	5	G	N	X			
5	0	0	GW-1002-005	6/9/10	1216	REG	water	REG	5	G	N	X			
6	0	0	ASE-58A-GW-1002	6/9/10	1242	REG	water	REG	5	G	N	X			
7	0	0	ASE-11A-GW-1002	6/9/10		REG	water	REG	5	G	N	X			
8	0	0	ASE-52A-GW-1002	6/9/10	0142	REG	water	REG	5	G	N	X			
9	0	0	EB-006-GW-1002	6/9/10	0200	REG	water	REG	5	G	N	X			
10	0	0	ASE-116A-GW-1002	6/9/10	0257	REG	water	REG	15	G	N	X			
11	0	0	ASE-37A-GW-1002	6/9/10	0243	REG	water	REG	5	G	N	X			
12															

Relinquished by: [Signature] Company: CH2M HILL Received by: [Signature] Company: CH2M HILL
 Date/Time: 06/09/10 Date/Time: 1700
 Relinquished by: [Signature] Company: CH2M HILL Received by: [Signature] Company: CH2M HILL
 Date/Time: 06/10/10 Date/Time: 0610

Preservatives: (Other, Specify):
 0 (none); 1 (4 Deg C); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4, pH<2, 4 Deg C); 8 (HCl, pH<2, 4 Deg C); 9 (HCl, 4 Deg C); 10 (HNO3, pH<2, 4 Deg C); 11 (NaOH, pH>12, 4 Deg, Ascorbic Acid); 12 (H2SO4, Na2S2O3, 4 Deg C, pH<2); 13 (Zn Acetate); 14 (1-MeOH, 4 Deg C and 2-NaHSO4, 4 Deg C); 15 (NaOH, pH>12, 4 Deg C); sp (special instructions)

COOLER RECEIPT CHECKLIST



Login # 220657 Date Received 6/10/10 Number of coolers 4
 Client CH2M AZ Honeywell Project _____

Date Opened 6-10-10 By (print) S. EVANS (sign) _____
 Date Logged in J By (print) _____ (sign) _____

1. Did cooler come with a shipping slip (airbill, etc) Fedex # YES NO
 Shipping info 8726 5964 0364

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
 How many 1 EA Name SIGNATURE Date 6-9-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(°C) 3.0, 1.5, 0.8, 1.1

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO

If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

SAMPLE # 011 : 1/1 VOAs HAVE BUBBLES.

Laboratory Job Number 220657

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Total Extractable Hydrocarbons			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164006
Units:	ug/L	Received:	06/10/10
Diln Fac:	1.000	Prepared:	06/14/10

Field ID: ASE-109A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-002

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	93	50-120	

Field ID: ASE-123A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-003

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	95	50-120	

Field ID: ASE-124A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-004

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	93	50-120	

Field ID: ASE-106A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-005

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	105	50-120	

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164006
Units:	ug/L	Received:	06/10/10
Diln Fac:	1.000	Prepared:	06/14/10

Field ID: EB-002-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-006

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	98	50-120	

Field ID: ASE-122A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/16/10
 Lab ID: 220657-007

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	96	50-120	

Field ID: GW-10Q2-007 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-008

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	88	50-120	

Field ID: BC-7A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-009

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	80	50-120	

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164006
Units:	ug/L	Received:	06/10/10
Diln Fac:	1.000	Prepared:	06/14/10

Field ID: ASE-127A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-010

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	90	50-120	

Field ID: ASE-65A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-012

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	93	50-120	

Field ID: ASE-68A-GW-10Q2 Sampled: 06/08/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-013

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	1,700 Y	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	85	50-120	

Field ID: PL-201A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/15/10
 Lab ID: 220657-014

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	1,900	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	92	50-120	

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164006
Units:	ug/L	Received:	06/10/10
Diln Fac:	1.000	Prepared:	06/14/10

Field ID: GW-10Q2-005 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/16/10
 Lab ID: 220657-015

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	2,300	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	99	50-120	

Field ID: ASE-58A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/16/10
 Lab ID: 220657-016

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	81	50-120	

Field ID: ASE-52A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/16/10
 Lab ID: 220657-017

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	5,500	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	89	50-120	

Field ID: EB-006-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/16/10
 Lab ID: 220657-018

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	81	50-120	

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164006
Units:	ug/L	Received:	06/10/10
Diln Fac:	1.000	Prepared:	06/14/10

Field ID: ASE-116A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/16/10
 Lab ID: 220657-019

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	100	50-120	

Field ID: ASE-37A-GW-10Q2 Sampled: 06/09/10
 Type: SAMPLE Analyzed: 06/16/10
 Lab ID: 220657-020

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	80	50-120	

Type: BLANK Analyzed: 06/15/10
 Lab ID: QC548509

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	100	50-120	

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC548510	Batch#:	164006
Matrix:	Water	Prepared:	06/14/10
Units:	ug/L	Analyzed:	06/15/10

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Diesel C10-C22	2,500	2,599	104	54-120	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	108	50-120	

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Field ID:	ASE-65A-GW-10Q2	Batch#:	164006
MSS Lab ID:	220657-012	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Prepared:	06/14/10
Diln Fac:	1.000	Analyzed:	06/15/10

Type: MS Lab ID: QC548511

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Diesel C10-C22	19.49	2,500	2,229	88	54-120		

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	93	50-120		

Type: MSD Lab ID: QC548512

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Diesel C10-C22	2,500	2,726	108	54-120	20	31		

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	114	50-120		

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Field ID:	ASE-116A-GW-10Q2	Batch#:	164006
MSS Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Prepared:	06/14/10
Diln Fac:	1.000	Analyzed:	06/16/10

Type: MS Lab ID: QC548513

Analyte	MSS Result	Spiked	Result	%REC	Limits ADEQ	Flags
Diesel C10-C22	194.9	2,500	2,402	88	54-120	

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	94	50-120		

Type: MSD Lab ID: QC548514

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Diesel C10-C22	2,500	2,548	94	54-120	6	31		

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	96	50-120		

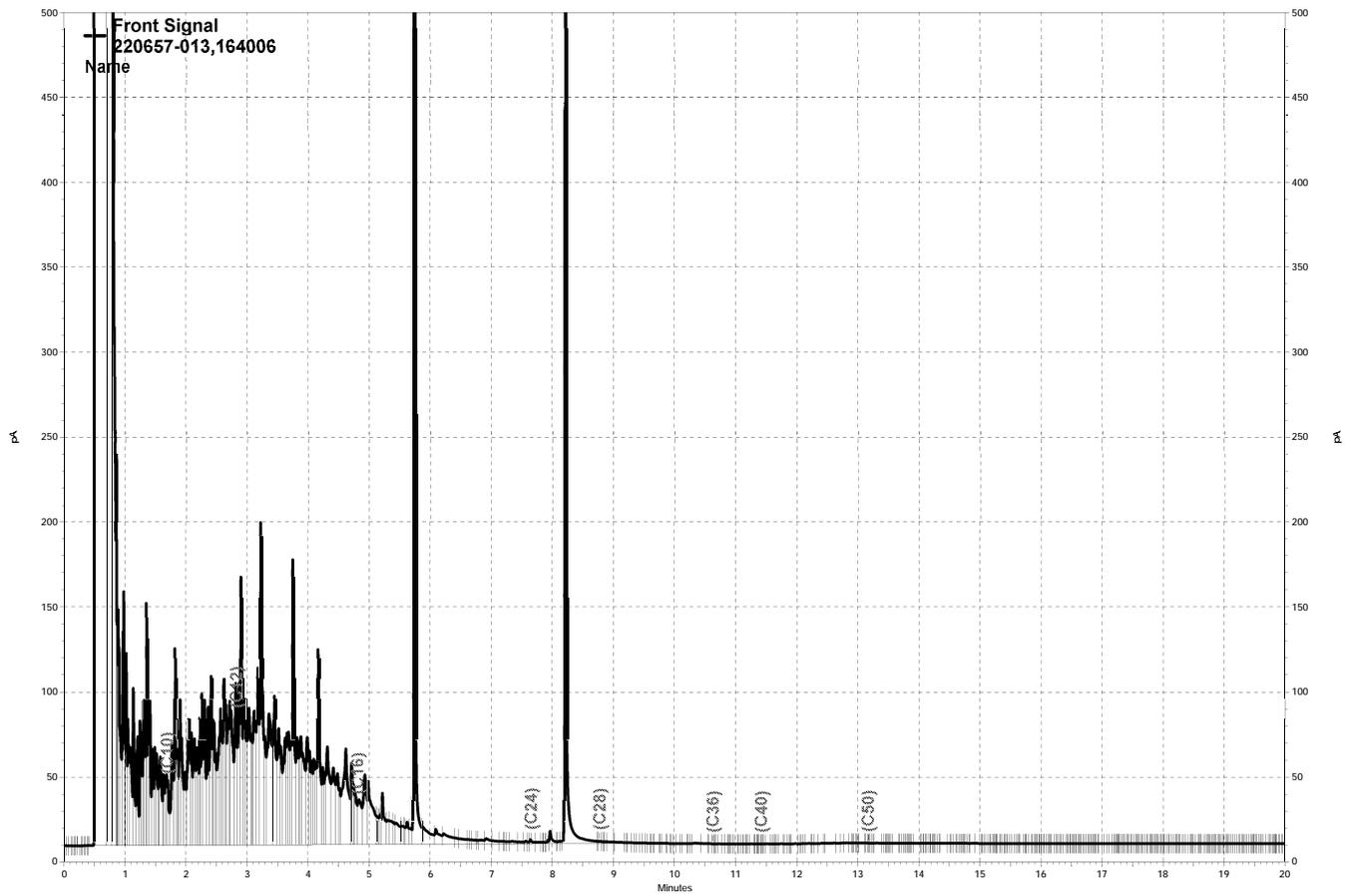
RPD= Relative Percent Difference

Batch QC Report

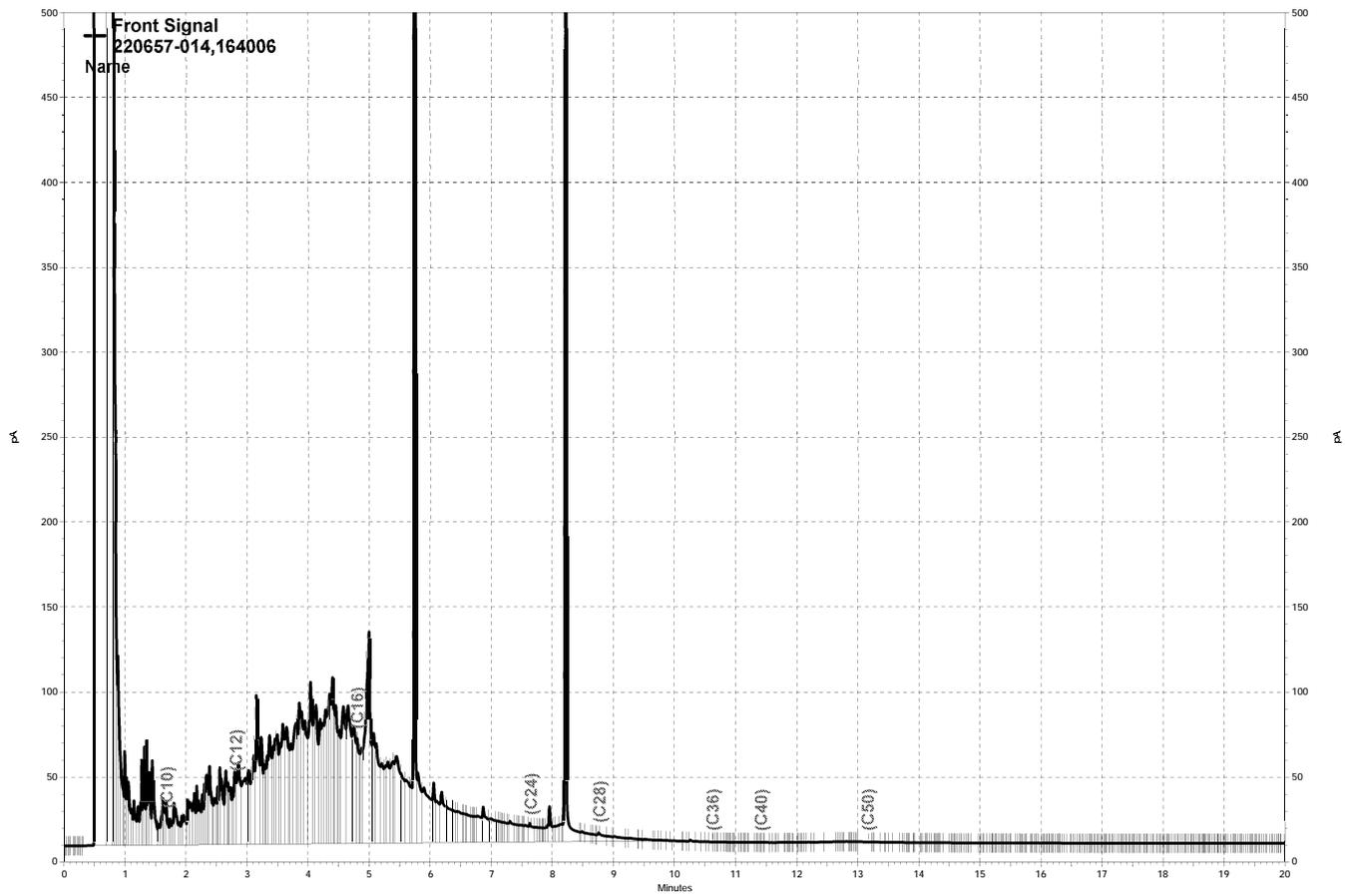
Total Extractable Hydrocarbons			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC548515	Batch#:	164006
Matrix:	Water	Prepared:	06/14/10
Units:	ug/L	Analyzed:	06/15/10

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Motor Oil C22-C32	2,500	2,779	111	75-138	

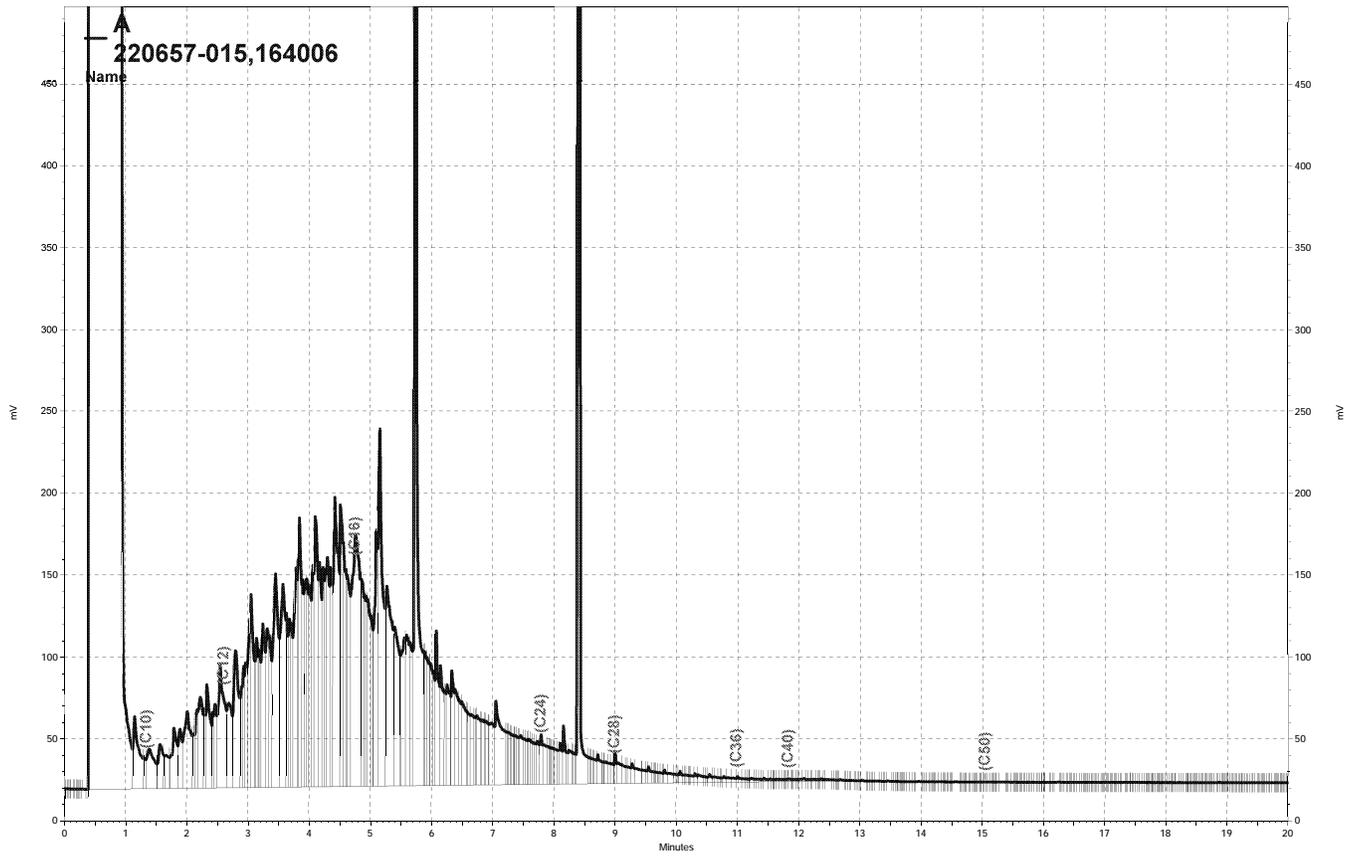
Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	107	50-120	



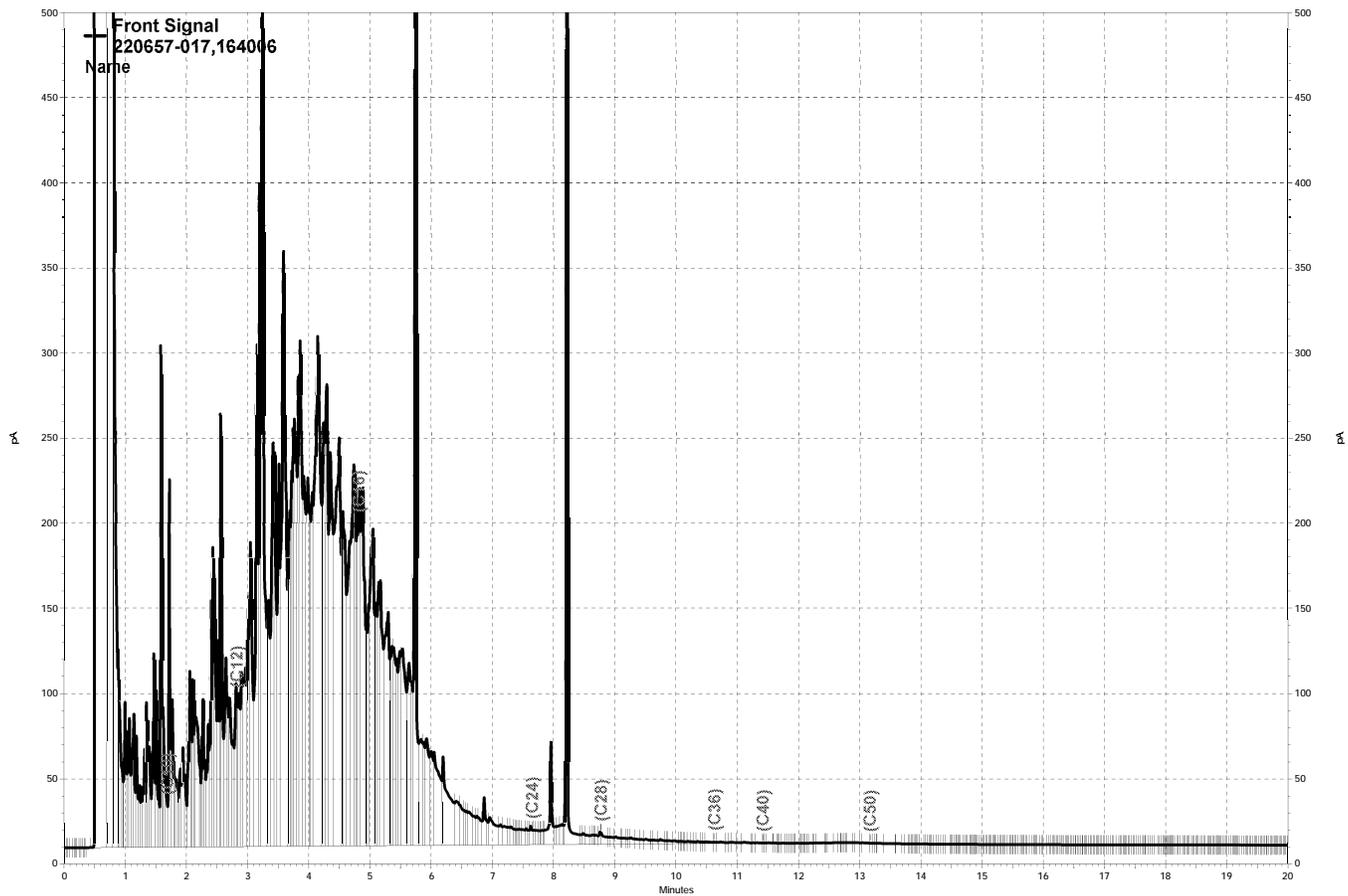
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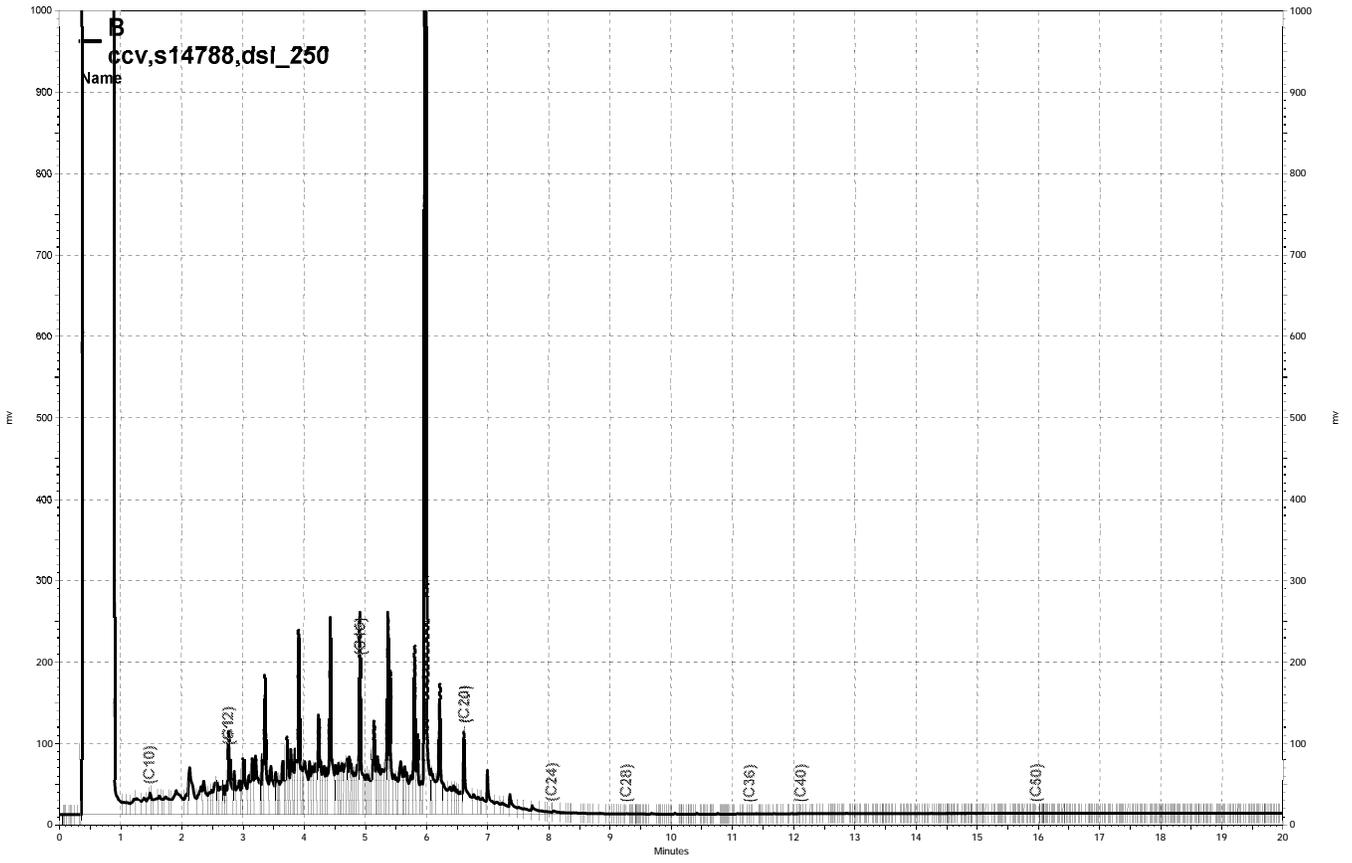
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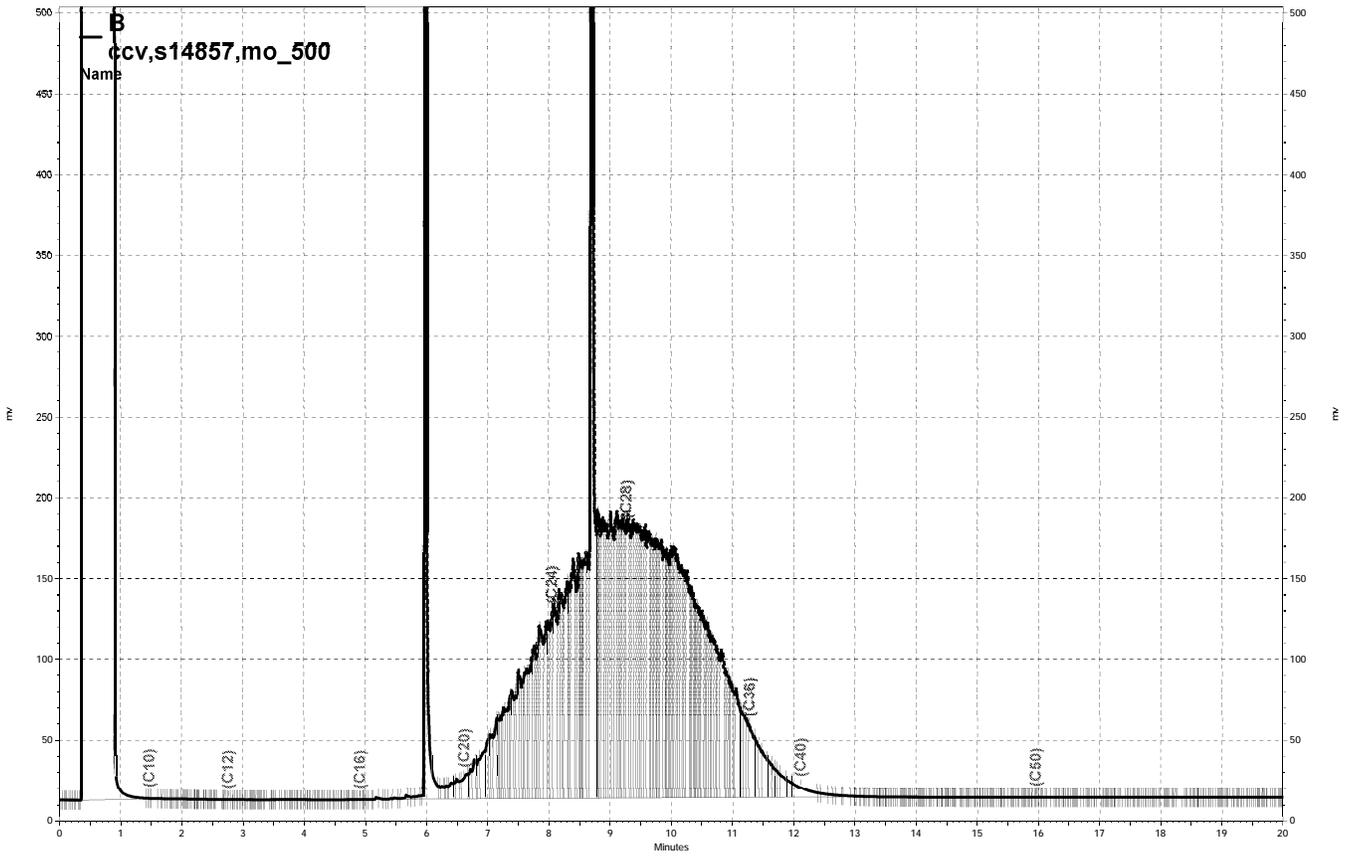
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— G:\ezchrom\Projects\GC27\Data\166a013.dat, Front Signal



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\166b012, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\166b011, B

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160015122002
 Units : mg/L

Name : DSL_010
 Date : 10-JAN-2010 16:41
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	010b011	160015122011	DSL_10	10-JAN-2010 16:41	S13230
L2	010b012	160015122012	DSL_100	10-JAN-2010 17:09	S13231
L3	010b013	160015122013	DSL_500	10-JAN-2010 17:37	S13232
L4	010b014	160015122014	DSL_1000	10-JAN-2010 18:05	S13233
L5	010b015	160015122015	DSL_5000	10-JAN-2010 18:33	S13229
L6	010b016	160015122016	DSL_7500	10-JAN-2010 19:01	S13234

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	46290	57423	63137	60591	59298	62684	AVRG		1.72E-5		58237	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-21	100.0	-1	500.0	8	1000	4	5000	2	7500	8

JDG 01/11/10 : Corrected automatically drawn baseline in DSL_10 (010b011).

Analyst: JDG

Date: 01/11/10

Reviewer: EAH

Date: 01/12/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220657 GCSV Water
EPA 8015B

Inst : GC15B
Calnum : 160015122002

Name : DSL_010
Cal Date : 10-JAN-2010

ICV 160015122018 (010b018 10-JAN-2010) stds: S13457

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	514.5	mg/L	3	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160157409001
 Units : mg/L

Name : MO_109
 Date : 19-APR-2010 15:30
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	109b012	160157409012	MO_50	19-APR-2010 15:30	S13804
L2	109b013	160157409013	MO_250	19-APR-2010 15:58	S13805
L3	109b014	160157409014	MO_500	19-APR-2010 16:26	S13806
L4	109b015	160157409015	MO_1000	19-APR-2010 16:53	S13807
L5	109b016	160157409016	MO_5000	19-APR-2010 17:21	S13808
L6	109b017	160157409017	MO_7500	19-APR-2010 17:49	S13809

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	47660	46325	45753	44866	44598	42001	AVRG		2.21E-5		45200	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	50.00	5	250.0	2	500.0	1	1000	-1	5000	-1	7500	-7

JDG 04/20/10 : Levels 3-5: corrected automatically drawn baseline.

Analyst: JDG

Date: 04/20/10

Reviewer: EAH

Date: 04/20/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160167652002
 Units : mg/L

Name : hexotp_116
 Date : 26-APR-2010 20:24
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	116b015	160167652015	HEXOTP_5	26-APR-2010 20:24	S13690
L2	116b016	160167652016	HEXOTP_10	26-APR-2010 20:53	S13691
L3	116b017	160167652017	HEXOTP_25	26-APR-2010 21:20	S13692
L4	116b018	160167652018	HEXOTP_50	26-APR-2010 21:48	S13693
L5	116b019	160167652019	HEXOTP_100	26-APR-2010 22:15	S13694
L6	116b020	160167652020	HEXOTP_200	26-APR-2010 22:43	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71909	71114	69841	73261	73391	75657	AVRG		1.38E-5		72529	3	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-1	10.00	-2	25.00	-4	50.00	1	100.0	1	200.0	4

JDG 04/27/10 : Levels 4-6: corrected automatically drawn baseline

Analyst: JDG

Date: 04/27/10

Reviewer: CP

Date: 04/27/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170100399001
 Units : mg/L

Name : DSL_069
 Date : 10-MAR-2010 09:30
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	069a004	170100399004	DSL_10	10-MAR-2010 09:30	S14114
L2	069a005	170100399005	DSL_100	10-MAR-2010 09:58	S14115
L3	069a006	170100399006	DSL_500	10-MAR-2010 10:25	S14116
L4	069a007	170100399007	DSL_1000	10-MAR-2010 10:52	S14117
L5	069a008	170100399008	DSL_5000	10-MAR-2010 11:20	S14113
L6	069a009	170100399009	DSL_7500	10-MAR-2010 11:48	S14118

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	38992	57098	61023	62848	63686	64949	AVRG		1.72E-5		58099	17	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-33	100.0	-2	500.0	5	1000	8	5000	10	7500	12

JDG 03/11/10 : Corrected automatically baseline for: Levels 1-5.

Analyst: JDG

Date: 03/11/10

Reviewer: EAH

Date: 03/11/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220657 GCSV Water
EPA 8015B

Inst : GC17A
Calnum : 170100399001

Name : DSL_069
Cal Date : 10-MAR-2010

ICV 170100399011 (069a011 10-MAR-2010) stds: S14077

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	542.9	mg/L	9	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170108447001
 Units : mg/L

Name : HEXOTP_075
 Date : 16-MAR-2010 15:35
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	075a012	170108447012	HEXOTP_5	16-MAR-2010 15:35	S13690
L2	075a013	170108447013	HEXOTP_10	16-MAR-2010 16:03	S13691
L3	075a014	170108447014	HEXOTP_25	16-MAR-2010 16:30	S13692
L4	075a015	170108447015	HEXOTP_50	16-MAR-2010 16:58	S13693
L5	075a016	170108447016	HEXOTP_100	16-MAR-2010 17:25	S13694
L6	075a017	170108447017	HEXOTP_200	16-MAR-2010 17:53	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	73067	76327	75701	75675	73539	74396	AVRG		1.34E-5		74784	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-2	10.00	2	25.00	1	50.00	1	100.0	-2	200.0	-1

JDG 03/17/10 : Corrected automatically drawn baseline for L1 & L2.

Analyst: JDG

Date: 03/17/10

Reviewer: EAH

Date: 03/17/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170157422001
 Units : mg/L

Name : MO_109
 Date : 19-APR-2010 15:03
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	109a010	170157422010	MO_50	19-APR-2010 15:03	S13804
L2	109a011	170157422011	MO_250	19-APR-2010 15:30	S13805
L3	109a012	170157422012	MO_500	19-APR-2010 15:58	S13806
L4	109a013	170157422013	MO_1000	19-APR-2010 16:25	S13807
L5	109a014	170157422014	MO_5000	19-APR-2010 16:53	S13808
L6	109a015	170157422015	MO_7500	19-APR-2010 17:20	S13809

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	46862	47770	48072	48307	48764	49608	AVRG		2.07E-5		48231	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	50.00	-3	250.0	-1	500.0	0	1000	0	5000	1	7500	3

JDG 04/20/10 : Manually integrated fuel hump in MO_50 (109a010).

JDG 04/20/10 : Manually integrated fuel hump in MO_5000 (109a014).

Analyst: JDG

Date: 04/20/10

Reviewer: CP

Date: 04/20/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970011942001
 Units : mg/L

Name : dsl_008
 Date : 08-JAN-2010 20:36
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	008a020	970011942020	DSL_10	08-JAN-2010 20:36	S13230
L2	008a021	970011942021	DSL_100	08-JAN-2010 21:02	S13231
L3	008a022	970011942022	DSL_500	08-JAN-2010 21:27	S13232
L4	008a023	970011942023	DSL_1000	08-JAN-2010 21:52	S13233
L5	008a024	970011942024	DSL_5000	08-JAN-2010 22:18	S13229
L6	008a025	970011942025	DSL_7500	08-JAN-2010 22:43	S13234

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	231276	286167	288481	286110	258602	263712	AVRG		3.72E-6		269058	8	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-14	100.0	6	500.0	7	1000	6	5000	-4	7500	-2

SFL 01/11/10 : Corrected automatically drawn baseline in all levels.

Analyst: SFL

Date: 01/11/10

Reviewer: EAH

Date: 01/11/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220657 GCSV Water
EPA 8015B

Inst : GC27A
Calnum : 970011942001

Name : dsl_008
Cal Date : 08-JAN-2010

ICV 970011942027 (008a027 08-JAN-2010) stds: S13457

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	529.7	mg/L	6	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970048088001
 Units : mg/L

Name : otphex_033
 Date : 02-FEB-2010 22:40
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	033a016	970048088016	HEXOTP_5	02-FEB-2010 22:40	S13690
L2	033a017	970048088017	HEXOTP_10	02-FEB-2010 23:05	S13691
L3	033a018	970048088018	HEXOTP_25	02-FEB-2010 23:30	S13692
L4	033a019	970048088019	HEXOTP_50	02-FEB-2010 23:55	S13693
L5	033a020	970048088020	HEXOTP_100	03-FEB-2010 00:21	S13694
L6	033a021	970048088021	HEXOTP_200	03-FEB-2010 00:46	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	267452	297547	281470	296034	284259	273149	AVRG		3.53E-6		283319	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-6	10.00	5	25.00	-1	50.00	4	100.0	0	200.0	-4

SFL 02/03/10 : Corrected automatically drawn baseline in all levels.

Analyst: SFL

Date: 02/03/10

Reviewer: EAH

Date: 02/04/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970199313001
 Units : mg/L

Name : MO_138
 Date : 18-MAY-2010 14:09
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	138a008	970199313008	MO_25	18-MAY-2010 14:09	S13804 (2X)
L2	138a009	970199313009	MO_50	18-MAY-2010 14:35	S13804
L3	138a010	970199313010	MO_250	18-MAY-2010 15:00	S13805
L4	138a011	970199313011	MO_500	18-MAY-2010 15:26	S13806
L5	138a012	970199313012	MO_1000	18-MAY-2010 15:52	S13807
L6	138a013	970199313013	MO_2500	18-MAY-2010 16:17	S13808 (2X)

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	105247	131455	132068	143278	138465	131049	AVRG		7.68E-6		130260	10	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	25.00	-19	50.00	1	250.0	1	500.0	10	1000	6	2500	1

Analyst: JDG

Date: 05/19/10

Reviewer: EAH

Date: 05/19/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
 Seqnum : 160239531012 File : 166b012 Time : 15-JUN-2010 15:34
 Standards: S14788

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	63694	250.0	273.4	mg/L	9	15	
o-Terphenyl	160167652002	26-APR-2010	72529	71732	50.00	49.45	mg/L	-1	15	

PRW 06/15/10 [o-Terphenyl B]: Corrected automatically drawn baseline.

Analyst: PRW Date: 06/15/10 Reviewer: EAH Date: 06/15/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
 Seqnum : 160239531025 File : 166b025 Time : 16-JUN-2010 01:15
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	160157409001	19-APR-2010	45200	49753	500.0	550.4	mg/L	10	15	
o-Terphenyl	160167652002	26-APR-2010	72529	73554	50.00	50.71	mg/L	1	15	

Analyst: JDG Date: 06/16/10 Reviewer: EAH Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
 Seqnum : 160239531026 File : 166b026 Time : 16-JUN-2010 01:43
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	63710	1000	1094	mg/L	9	15	
o-Terphenyl	160167652002	26-APR-2010	72529	73939	50.00	50.97	mg/L	2	15	

JDG 06/16/10 [o-Terphenyl B]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/16/10 Reviewer: EAH Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
Seqnum : 160239531031 File : 166b031 Time : 16-JUN-2010 04:03
Standards: S14789

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	66257	500.0	568.9	mg/L	14	15	
o-Terphenyl	160167652002	26-APR-2010	72529	74817	50.00	51.58	mg/L	3	15	

JDG 06/16/10 : Manually integrated fuel hump.

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170239565019 File : 166a019 Time : 15-JUN-2010 18:43
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	52650	500.0	545.8	mg/L	9	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	76811	50.00	51.36	mg/L	3	15	

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
 Seqnum : 170239565021 File : 166a021 Time : 15-JUN-2010 21:35
 Standards: S14789

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	170100399001	10-MAR-2010	58099	66895	500.0	575.7	mg/L	15	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	75640	50.00	50.57	mg/L	1	15	

JDG 06/16/10 [o-Terphenyl A]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/16/10 Reviewer: SFL Date: 06/16/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_250 IDF : 1.0
 Seqnum : 170239565029 File : 166a029 Time : 16-JUN-2010 01:17
 Standards: S14788

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	170100399001	10-MAR-2010	58099	65101	250.0	280.1	mg/L	12	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	72057	50.00	48.18	mg/L	-4	15	

Analyst: JDG Date: 06/16/10 Reviewer: TFB Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 170239565030 File : 166a030 Time : 16-JUN-2010 01:44
Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	51183	500.0	530.6	mg/L	6	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	75513	50.00	50.49	mg/L	1	15	

JDG 06/16/10 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/16/10 Reviewer: TFB Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
 Seqnum : 170240926004 File : 167a004 Time : 16-JUN-2010 09:01
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	170100399001	10-MAR-2010	58099	64911	1000	1117	mg/L	12	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	75643	50.00	50.57	mg/L	1	15	

JDG 06/17/10 : Manually integrated fuel hump.

Analyst: JDG Date: 06/17/10 Reviewer: SFL Date: 06/17/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170240926005 File : 167a005 Time : 16-JUN-2010 09:29
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	51108	500.0	529.8	mg/L	6	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	74324	50.00	49.69	mg/L	-1	15	

Analyst: JDG Date: 06/17/10 Reviewer: SFL Date: 06/17/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170240926017 File : 167a017 Time : 16-JUN-2010 22:20
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	51432	500.0	533.2	mg/L	7	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	77313	50.00	51.69	mg/L	3	15	

JDG 06/17/10 : Manually integrated fuel hump.

Analyst: JDG Date: 06/17/10 Reviewer: SFL Date: 06/17/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 970239524004 File : 166a004 Time : 15-JUN-2010 09:20
Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	970199313001	18-MAY-2010	130260	134274	500.0	515.4	mg/L	3	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	241464	50.00	42.61	mg/L	-15	15	

SFL 06/16/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/16/10 Reviewer: TFB Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_250 IDF : 1.0
Seqnum : 970239524005 File : 166a005 Time : 15-JUN-2010 09:45
Standards: S14788

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	258333	250.0	240.0	mg/L	-4	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	255410	50.00	45.07	mg/L	-10	15	

SFL 06/16/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/16/10 Reviewer: TFB Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 970239524017 File : 166a017 Time : 16-JUN-2010 02:49
Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	970199313001	18-MAY-2010	130260	139076	500.0	533.8	mg/L	7	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	244475	50.00	43.14	mg/L	-14	15	

SFL 06/16/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/16/10 Reviewer: TFB Date: 06/22/10
Page 1 of 1 970239524017

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220657 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_500 IDF : 1.0
 Seqnum : 970239524018 File : 166a018 Time : 16-JUN-2010 03:15
 Standards: S14789

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	246966	500.0	458.9	mg/L	-8	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	255972	50.00	45.17	mg/L	-10	15	

SFL 06/16/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/16/10 Reviewer: TFB Date: 06/22/10

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160015122

Instrument : GC15B
 Method : EPA 8015B

Begun : 01/10/10 12:02
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	010b001	X	PRIMER			01/10/10 12:02	1.0	
002	010b002	X	IB			01/10/10 12:30	1.0	
003	010b003	X	IB			01/10/10 12:58	1.0	
004	010b004	ICAL	HEXOTP_5			01/10/10 13:26	1.0	1
005	010b005	ICAL	HEXOTP_10			01/10/10 13:54	1.0	2
006	010b006	ICAL	HEXOTP_25			01/10/10 14:21	1.0	3
007	010b007	ICAL	HEXOTP_50			01/10/10 14:49	1.0	4
008	010b008	ICAL	HEXOTP_100			01/10/10 15:17	1.0	5
009	010b009	ICAL	HEXOTP_200			01/10/10 15:45	1.0	6
010	010b010	IB	CALIB			01/10/10 16:13	1.0	
011	010b011	ICAL	DSL_10			01/10/10 16:41	1.0	7
012	010b012	ICAL	DSL_100			01/10/10 17:09	1.0	8
013	010b013	ICAL	DSL_500			01/10/10 17:37	1.0	9
014	010b014	ICAL	DSL_1000			01/10/10 18:05	1.0	10
015	010b015	ICAL	DSL_5000			01/10/10 18:33	1.0	11
016	010b016	ICAL	DSL_7500			01/10/10 19:01	1.0	12
017	010b017	IB	CALIB			01/10/10 19:29	1.0	
018	010b018	ICV	DSL_500			01/10/10 19:57	1.0	13
019	010b019	X	ICV			01/10/10 20:24	1.0	13
020	010b020	IB	CALIB			01/10/10 20:52	1.0	
021	010b021	ICAL	MO_50			01/10/10 21:20	1.0	14
022	010b022	ICAL	MO_250			01/10/10 21:47	1.0	15
023	010b023	ICAL	MO_500			01/10/10 22:15	1.0	16
024	010b024	ICAL	MO_1000			01/10/10 22:43	1.0	17
025	010b025	ICAL	MO_5000			01/10/10 23:10	1.0	18
026	010b026	ICAL	MO_7500			01/10/10 23:38	1.0	19
027	010b027	IB	CALIB			01/11/10 00:06	1.0	
028	010b028	ICAL	JET_10			01/11/10 00:33	1.0	20
029	010b029	ICAL	JET_100			01/11/10 01:01	1.0	21
030	010b030	ICAL	JET_500			01/11/10 01:28	1.0	22
031	010b031	ICAL	JET_1000			01/11/10 01:56	1.0	23
032	010b032	ICAL	JET_2000			01/11/10 02:24	1.0	24
033	010b033	ICAL	JET_3000			01/11/10 02:51	1.0	25
034	010b034	IB	CALIB			01/11/10 03:19	1.0	
035	010b035	ICAL	JP5_10			01/11/10 03:46	1.0	26
036	010b036	ICAL	JP5_100			01/11/10 04:14	1.0	27
037	010b037	ICAL	JP5_500			01/11/10 04:42	1.0	28
038	010b038	ICAL	JP5_1500			01/11/10 05:09	1.0	29
039	010b039	ICAL	JP5_2500			01/11/10 05:37	1.0	30
040	010b040	ICAL	JP5_5000			01/11/10 06:05	1.0	31
041	010b041	IB	CALIB			01/11/10 06:33	1.0	
042	010b042	ICAL	BUNK_50			01/11/10 07:01	1.0	32
043	010b043	ICAL	BUNK_250			01/11/10 07:28	1.0	33
044	010b044	ICAL	BUNK_500			01/11/10 07:56	1.0	34
045	010b045	ICAL	BUNK_1250			01/11/10 08:24	1.0	35
046	010b046	ICAL	BUNK_2500			01/11/10 08:52	1.0	36
047	010b047	ICAL	BUNK_5000			01/11/10 09:20	1.0	37
048	010b048	IB	CALIB			01/11/10 09:48	1.0	
049	010b049	CMARKER	C8_C50			01/11/10 10:16	1.0	38
050	010b050	IB	CALIB			01/11/10 10:44	1.0	

JDG 01/11/10 : I verified that the vials loaded on the instrument matched the

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160157409

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/19/10 07:29
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	109b001	X	IB				04/19/10 07:29	1.0	
002	109b002	X	CMARKER				04/19/10 07:56	1.0	1
003	109b003	X	IB				04/19/10 09:49	1.0	
004	109b004	X	IB				04/19/10 10:16	1.0	
005	109b005	X	CMARKER				04/19/10 10:44	1.0	1
006	109b006	X	MO_500				04/19/10 11:12	1.0	2
007	109b007	X	CCV				04/19/10 11:39	1.0	3
008	109b008	X	MO_500				04/19/10 12:18	1.0	2
009	109b009	X	MO_500				04/19/10 12:46	1.0	2
010	109b010	X	IB				04/19/10 14:35	1.0	
011	109b011	IB	CALIB				04/19/10 15:02	1.0	
012	109b012	ICAL	MO_50				04/19/10 15:30	1.0	4
013	109b013	ICAL	MO_250				04/19/10 15:58	1.0	5
014	109b014	ICAL	MO_500				04/19/10 16:26	1.0	6
015	109b015	ICAL	MO_1000				04/19/10 16:53	1.0	7
016	109b016	ICAL	MO_5000				04/19/10 17:21	1.0	8
017	109b017	ICAL	MO_7500				04/19/10 17:49	1.0	9
018	109b018	IB	CALIB				04/19/10 18:17	1.0	
019	109b019	CMARKER	C8-C50				04/19/10 18:44	1.0	1
020	109b020	IB	CALIB				04/19/10 19:12	1.0	
021	109b021	X	MO_500				04/19/10 19:40	1.0	2
022	109b022	X	DSL_1000				04/19/10 20:07	1.0	10
023	109b023	CCV	CREOSOTE_1250				04/19/10 20:35	1.0	11
024	109b024	CCV	MO_500				04/19/10 21:03	1.0	2
025	109b025	CCV	DSL_1000				04/19/10 21:30	1.0	10
026	109b026	X	CCV				04/19/10 21:58	1.0	11
027	109b027	BLANK	QC540857	S	Soil	162119	04/19/10 22:25	1.0	
028	109b028	LCS	QC540858	S	Soil	162119	04/19/10 22:53	1.0	
029	109b029	SAMPLE	219448-010		Water	162064	04/19/10 23:20	1.0	
030	109b030	SAMPLE	219448-009		Water	162064	04/19/10 23:48	1.0	
031	109b031	SAMPLE	219469-012		Soil	162058	04/20/10 00:15	10.0	
032	109b032	SAMPLE	219475-004	S	Soil	162058	04/20/10 00:43	10.0	
033	109b033	SAMPLE	219469-013		Soil	162058	04/20/10 01:10	25.0	
034	109b034	X	IB				04/20/10 01:38	1.0	
035	109b035	SAMPLE	219469-016		Soil	162058	04/20/10 02:06	25.0	
036	109b036	X	IB				04/20/10 02:33	1.0	
037	109b037	SAMPLE	219469-014		Soil	162058	04/20/10 03:00	10.0	
038	109b038	SAMPLE	219469-015		Soil	162058	04/20/10 03:28	10.0	
039	109b039	X	CMARKER				04/20/10 03:55	1.0	1
040	109b040	CCV	MO_500				04/20/10 04:23	1.0	2
041	109b041	CCV	DSL_500				04/20/10 04:51	1.0	12
042	109b042	CCV	CREOSOTE_1250				04/20/10 05:19	1.0	11
043	109b043	X	CCV				04/20/10 05:46	1.0	2
044	109b044	X	CCV				04/20/10 06:14	1.0	12
045	109b045	X	CCV				04/20/10 06:42	1.0	11

JDG 04/20/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 45.

Standards used: 1=S13646 2=S14243 3=S14076 4=S13804 5=S13805 6=S13806 7=S13807 8=S13808 9=S13809 10=S14078 11=S14244
 12=S14077

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160167652

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/26/10 10:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	116b001	X	PRIMER			04/26/10 10:12	1.0		
002	116b002	X	IB			04/26/10 10:40	1.0		
003	116b003	X	CMARKER			04/26/10 11:08	1.0	1	
004	116b004	X	MO_500			04/26/10 11:58	1.0	2	
005	116b005	X	IB			04/26/10 15:02	1.0		
006	116b006	X	IB			04/26/10 15:29	1.0		
007	116b007	X	IB			04/26/10 16:00	1.0		
008	116b008	X	CMARKER			04/26/10 17:12	1.0	1	
009	116b009	X	MO_500			04/26/10 17:39	1.0	2	
010	116b010	X	DSL_1000			04/26/10 18:07	1.0	3	
011	116b011	X	MO_500			04/26/10 18:34	1.0	2	
012	116b012	X	DSL_1000			04/26/10 19:02	1.0	3	
014	116b014	IB	CALIB			04/26/10 19:56	1.0		
015	116b015	ICAL	HEXOTP_5			04/26/10 20:24	1.0	4	
016	116b016	ICAL	HEXOTP_10			04/26/10 20:53	1.0	5	
017	116b017	ICAL	HEXOTP_25			04/26/10 21:20	1.0	6	
018	116b018	ICAL	HEXOTP_50			04/26/10 21:48	1.0	7	
019	116b019	ICAL	HEXOTP_100			04/26/10 22:15	1.0	8	
020	116b020	ICAL	HEXOTP_200			04/26/10 22:43	1.0	9	
021	116b021	IB	CALIB			04/26/10 23:10	1.0		
022	116b022	X	CMARKER			04/26/10 23:38	1.0	1	
023	116b023	CCV	MO_500			04/27/10 00:05	1.0	2	
024	116b024	CCV	DSL_1000			04/27/10 00:33	1.0	3	
025	116b025	X	CCV			04/27/10 01:01	1.0	2	
026	116b026	X	CCV			04/27/10 01:28	1.0	3	
027	116b027	BLANK	QC542108	Soil	162431	04/27/10 01:56	1.0		
028	116b028	LCS	QC542109	Soil	162431	04/27/10 02:23	1.0		
029	116b029	LCS	QC542112	Soil	162431	04/27/10 02:50	1.0		
030	116b030	SAMPLE	219732-002	Soil	162431	04/27/10 03:18	1.0		
031	116b031	SAMPLE	219732-004	Soil	162431	04/27/10 03:45	1.0		
032	116b032	SAMPLE	219732-006	Soil	162431	04/27/10 04:13	1.0		
033	116b033	SAMPLE	219732-007	Soil	162431	04/27/10 04:41	1.0		
034	116b034	SAMPLE	219732-001	Soil	162431	04/27/10 05:08	1.0		12:BUNKC:12-40=30000
035	116b035	X	IB			04/27/10 05:36	1.0		
036	116b036	SAMPLE	219732-005	Soil	162431	04/27/10 06:04	1.0		
037	116b037	SAMPLE	219732-003	Soil	162431	04/27/10 06:31	1.0		
038	116b038	CCV	MO_500			04/27/10 06:59	1.0	2	
039	116b039	CCV	DSL_500			04/27/10 07:27	1.0	10	
040	116b040	SAMPLE	219732-017	Soil	162431	04/27/10 08:19	1.0		
041	116b041	SAMPLE	219732-011	Soil	162431	04/27/10 08:47	1.0		
042	116b042	SAMPLE	219732-016	Soil	162431	04/27/10 09:14	1.0		
043	116b043	SAMPLE	219732-010	Soil	162431	04/27/10 09:42	1.0		
044	116b044	SAMPLE	219732-014	Soil	162431	04/27/10 10:11	1.0		
045	116b045	SAMPLE	219732-012	Soil	162431	04/27/10 10:38	1.0		2:BUNKC:12-40=13000
046	116b046	X	IB			04/27/10 11:06	1.0		
047	116b047	SAMPLE	219732-013	Soil	162431	04/27/10 11:33	1.0		
048	116b048	SAMPLE	219732-015	Soil	162431	04/27/10 12:01	1.0		
049	116b049	SAMPLE	219732-009	Soil	162431	04/27/10 12:28	1.0		
050	116b050	MSS	219732-008	Soil	162431	04/27/10 12:55	1.0		
051	116b051	X	CMARKER			04/27/10 13:23	1.0	1	
052	116b052	CCV	MO_500			04/27/10 13:51	1.0	2	
053	116b053	CCV	DSL_250			04/27/10 14:19	1.0	11	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160167652

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/26/10 10:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
054	116b054	SAMPLE	219732-001	Soil	162431	04/27/10 14:49	5.0		2:BUNKC:12-40=7300
055	116b055	CCV	MO_500			04/27/10 15:17	1.0	2	
056	116b056	X	DSL_1000			04/27/10 15:45	1.0	3	
057	116b057	SAMPLE	219732-018			04/27/10 16:13	1.0		
058	116b058	CCV	DSL_250			04/27/10 17:53	1.0	11	
059	116b059	SAMPLE	219478-002	Soil	162456	04/27/10 18:24	1.0		
060	116b060	X				04/27/10 18:51	1.0		
061	116b061	SAMPLE	219478-004	Soil	162456	04/27/10 19:20	1.0		
062	116b062	SAMPLE	219478-005	Soil	162456	04/27/10 19:48	1.0		
063	116b063	SAMPLE	219478-006	Soil	162456	04/27/10 20:16	1.0		
064	116b064	SAMPLE	219478-008	Soil	162456	04/27/10 20:44	1.0		
065	116b065	SAMPLE	219478-009	Soil	162456	04/27/10 21:12	1.0		
066	116b066	SAMPLE	219478-011	Soil	162456	04/27/10 21:40	1.0		
067	116b067	SAMPLE	219478-012	Soil	162456	04/27/10 22:08	1.0		
068	116b068	SAMPLE	219478-013	Soil	162456	04/27/10 22:36	1.0		
069	116b069	SAMPLE	219478-014	Soil	162456	04/27/10 23:04	1.0		
070	116b070	CCV	MO_500			04/27/10 23:32	1.0	2	
071	116b071	CCV	DSL_500			04/28/10 00:00	1.0	10	
072	116b072	X	CCV			04/28/10 00:28	1.0	2	
073	116b073	X	CCV			04/28/10 00:55	1.0	10	
075	116b075	LCS	QC542313	Soil	162482	04/28/10 01:24	1.0		
076	116b076	SAMPLE	219725-005	Soil	162482	04/28/10 01:51	1.0		
077	116b077	SAMPLE	219725-007	Soil	162482	04/28/10 02:19	1.0		
078	116b078	SAMPLE	219725-009	Soil	162482	04/28/10 02:47	1.0		2:BUNKC:12-40=5200
079	116b079	SAMPLE	219725-011	Soil	162482	04/28/10 03:15	1.0		
080	116b080	SAMPLE	219725-014	Soil	162482	04/28/10 03:43	1.0		
081	116b081	SAMPLE	219725-016	Soil	162482	04/28/10 04:10	1.0		
082	116b082	SAMPLE	219725-019	Soil	162482	04/28/10 04:38	1.0		
083	116b083	X	CMARKER			04/28/10 05:06	1.0	1	
084	116b084	CCV	MO_500			04/28/10 05:34	1.0	2	
085	116b085	CCV	DSL_250			04/28/10 06:02	1.0	11	
086	116b086	X	CCV			04/28/10 06:29	1.0	2	
087	116b087	X	CCV			04/28/10 06:56	1.0	11	
088	116b088	SAMPLE	219725-034	Soil	162482	04/28/10 07:24	1.0		
089	116b089	MSS	219725-035	Soil	162482	04/28/10 07:52	2.0		
090	116b090	X	QC542311	Soil	162482	04/28/10 08:22	2.0		
091	116b091	X	QC542312	Soil	162482	04/28/10 08:50	2.0		
092	116b092	CCV	MO_500			04/28/10 09:18	1.0	2	
093	116b093	CCV	DSL_500			04/28/10 09:46	1.0	10	

JDG 04/27/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 39.

JDG 04/28/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 40 through 90.

Standards used: 1=S13646 2=S14243 3=S14362 4=S13690 5=S13691 6=S13692 7=S13693 8=S13694 9=S13695 10=S14361 11=S14360

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160239531

Instrument : GC15B
 Method : EPA 8015B

Begun : 06/15/10 07:15
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	166b001	X	PRIMER				06/15/10 07:15	1.0	
002	166b002	X	IB				06/15/10 07:43	1.0	
003	166b003	X	CMARKER				06/15/10 08:11	1.0	1
004	166b004	CCV	MO_500				06/15/10 08:39	1.0	2
005	166b005	CCV	DSL_500				06/15/10 09:07	1.0	3
006	166b006	CCV	BUNK_500				06/15/10 09:34	1.0	4
007	166b007	CCV	JET_250				06/15/10 10:10	1.0	5
008	166b008	BLANK	QC547580	S	Water	163768	06/15/10 13:44	1.0	
009	166b009	BLANK	QC548108	S	Water	163901	06/15/10 14:11	1.0	
010	166b010	LCS	QC548109	S	Water	163901	06/15/10 14:38	1.0	
011	166b011	CCV	MO_500				06/15/10 15:06	1.0	2
012	166b012	CCV	DSL_250				06/15/10 15:34	1.0	6
013	166b013	CCV	JET_250				06/15/10 16:02	1.0	5
014	166b014	SAMPLE	220642-002		Water	163901	06/15/10 16:43	1.0	
015	166b015	SAMPLE	220642-001		Water	163901	06/15/10 17:11	1.0	
016	166b016	SAMPLE	220711-013		Soil	164034	06/15/10 17:39	1.0	
017	166b017	BLANK	QC548509		Water	164006	06/15/10 21:32	1.0	
018	166b018	LCS	QC548510		Water	164006	06/15/10 22:00	1.0	
019	166b019	LCS	QC548515		Water	164006	06/15/10 22:27	1.0	
020	166b020	MSS	220657-012		Water	164006	06/15/10 22:55	1.0	
021	166b021	MS	QC548511		Water	164006	06/15/10 23:23	1.0	
022	166b022	MSD	QC548512		Water	164006	06/15/10 23:51	1.0	
023	166b023	MSS	220657-019		Water	164006	06/16/10 00:19	1.0	
024	166b024	X	CMARKER				06/16/10 00:47	1.0	1
025	166b025	CCV	MO_500				06/16/10 01:15	1.0	2
026	166b026	CCV	DSL_1000				06/16/10 01:43	1.0	7
027	166b027	X	CCV				06/16/10 02:11	1.0	2
028	166b028	X	CCV				06/16/10 02:39	1.0	7
029	166b029	MS	QC548513		Water	164006	06/16/10 03:07	1.0	
030	166b030	MSD	QC548514		Water	164006	06/16/10 03:35	1.0	
031	166b031	CCV	DSL_500				06/16/10 04:03	1.0	8
032	166b032	X	CCV				06/16/10 04:31	1.0	8

PRW 06/15/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 13.

JDG 06/16/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 14 through 32.

Standards used: 1=S14557 2=S14857 3=S14556 4=S14872 5=S14856 6=S14788 7=S14790 8=S14789

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170100399

Instrument : GC17A
 Method : EPA 8015B

Begun : 03/10/10 08:00
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	069a001	X	PRIMER			03/10/10 08:00	1.0	
002	069a002	X	IB			03/10/10 08:28	1.0	
003	069a003	IB	CALIB			03/10/10 08:55	1.0	
004	069a004	ICAL	DSL_10			03/10/10 09:30	1.0	1
005	069a005	ICAL	DSL_100			03/10/10 09:58	1.0	2
006	069a006	ICAL	DSL_500			03/10/10 10:25	1.0	3
007	069a007	ICAL	DSL_1000			03/10/10 10:52	1.0	4
008	069a008	ICAL	DSL_5000			03/10/10 11:20	1.0	5
009	069a009	ICAL	DSL_7500			03/10/10 11:48	1.0	6
010	069a010	IB	CALIB			03/10/10 12:15	1.0	
011	069a011	ICV	DSL_500			03/10/10 12:42	1.0	7
012	069a012	X	ICV			03/10/10 13:09	1.0	7
013	069a013	IB	CALIB			03/10/10 13:37	1.0	
014	069a014	ICAL	MO_50			03/10/10 14:05	1.0	8
015	069a015	ICAL	MO_250			03/10/10 14:32	1.0	9
016	069a016	ICAL	MO_500			03/10/10 15:00	1.0	10
017	069a017	ICAL	MO_1000			03/10/10 15:27	1.0	11
018	069a018	ICAL	MO_5000			03/10/10 15:55	1.0	12
019	069a019	ICAL	MO_7500			03/10/10 16:23	1.0	13
020	069a020	IB	CALIB			03/10/10 16:51	1.0	
021	069a021	CMARKER	C8-C50			03/10/10 17:19	1.0	14
022	069a022	IB	CALIB			03/10/10 17:46	1.0	

JDG 03/11/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Standards used: 1=S14114 2=S14115 3=S14116 4=S14117 5=S14113 6=S14118 7=S14077 8=S13804 9=S13805 10=S13806 11=S13807
 12=S13808 13=S13809 14=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170108447

Instrument : GC17A
 Method : EPA 8015B

Begun : 03/16/10 07:27
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	075a001	X	PRIMER				03/16/10 07:27	1.0	
002	075a002	X	IB				03/16/10 07:55	1.0	
003	075a003	X	CMARKER				03/16/10 08:24	1.0	1
004	075a004	X	MO_500				03/16/10 08:52	1.0	2
005	075a005	X	DSL_500				03/16/10 09:19	1.0	3
006	075a006	X	JP5_250				03/16/10 09:47	1.0	4
007	075a007	X	IB				03/16/10 12:53	1.0	
008	075a008	X	CMARKER				03/16/10 13:21	1.0	1
009	075a009	X	MO_500				03/16/10 13:48	1.0	2
010	075a010	X	IB				03/16/10 14:40	1.0	
011	075a011	IB	CALIB				03/16/10 15:07	1.0	
012	075a012	ICAL	HEXOTP_5				03/16/10 15:35	1.0	5
013	075a013	ICAL	HEXOTP_10				03/16/10 16:03	1.0	6
014	075a014	ICAL	HEXOTP_25				03/16/10 16:30	1.0	7
015	075a015	ICAL	HEXOTP_50				03/16/10 16:58	1.0	8
016	075a016	ICAL	HEXOTP_100				03/16/10 17:25	1.0	9
017	075a017	ICAL	HEXOTP_200				03/16/10 17:53	1.0	10
018	075a018	IB	CALIB				03/16/10 18:20	1.0	
019	075a019	CMARKER	C8-C50				03/16/10 18:48	1.0	1
020	075a020	CCV	MO_500				03/16/10 19:15	1.0	2
021	075a021	CCV	DSL_250				03/16/10 19:42	1.0	11
022	075a022	X	CCV				03/16/10 20:10	1.0	2
023	075a023	X	CCV				03/16/10 20:37	1.0	11
024	075a024	BLANK	QC535926		Water	160891	03/16/10 21:05	1.0	
025	075a025	SAMPLE	218714-001	S	Water	160843	03/16/10 21:32	1.0	
026	075a026	BLANK	QC536089	S	Water	160933	03/16/10 22:00	1.0	
027	075a027	BLANK	QC536089		Water	160933	03/16/10 22:27	1.0	
028	075a028	BS	QC536090	S	Water	160933	03/16/10 22:54	1.0	
029	075a029	BSD	QC536091	S	Water	160933	03/16/10 23:22	1.0	
030	075a030	SAMPLE	218778-001		Water	160933	03/16/10 23:49	1.0	
031	075a031	SAMPLE	218778-002		Water	160933	03/17/10 00:17	1.0	
032	075a032	SAMPLE	218778-003		Water	160933	03/17/10 00:45	1.0	
033	075a033	SAMPLE	218778-004		Water	160933	03/17/10 01:12	1.0	
034	075a034	CCV	MO_500				03/17/10 01:39	1.0	2
035	075a035	CCV	DSL_1000				03/17/10 02:07	1.0	12
036	075a036	X	CCV				03/17/10 02:34	1.0	2
037	075a037	X	CCV				03/17/10 03:02	1.0	12
038	075a038	SAMPLE	218787-006	S	Water	160933	03/17/10 03:29	1.0	
039	075a039	SAMPLE	218787-007	S	Water	160933	03/17/10 03:56	1.0	
040	075a040	SAMPLE	218789-001	S	Water	160933	03/17/10 04:24	1.0	
041	075a041	SAMPLE	218789-002	S	Water	160933	03/17/10 04:52	1.0	
042	075a042	SAMPLE	218789-003	S	Water	160933	03/17/10 05:19	1.0	
043	075a043	X	CMARKER				03/17/10 05:47	1.0	1
044	075a044	X	MO_500				03/17/10 06:14	1.0	2
045	075a045	CCV	DSL_500				03/17/10 06:41	1.0	3
046	075a046	CCV	MO_500				03/17/10 07:09	1.0	2
047	075a047	X	CCV				03/17/10 07:36	1.0	3

JDG 03/17/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 47.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170157422

Instrument : GC17A
 Method : EPA 8015B

Begun : 04/19/10 07:42
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	109a001	X	IB				04/19/10 07:42	1.0	
002	109a002	X	CMARKER				04/19/10 08:10	1.0	1
003	109a003	X	IB				04/19/10 10:09	1.0	
004	109a004	X	IB				04/19/10 10:36	1.0	
005	109a005	X	CMARKER				04/19/10 11:04	1.0	1
006	109a006	X	MO_500				04/19/10 11:31	1.0	2
007	109a007	X	DSL_250				04/19/10 11:59	1.0	3
008	109a008	X	MO_500				04/19/10 12:36	1.0	2
009	109a009	IB	CALIB				04/19/10 14:35	1.0	
010	109a010	ICAL	MO_50				04/19/10 15:03	1.0	4
011	109a011	ICAL	MO_250				04/19/10 15:30	1.0	5
012	109a012	ICAL	MO_500				04/19/10 15:58	1.0	6
013	109a013	ICAL	MO_1000				04/19/10 16:25	1.0	7
014	109a014	ICAL	MO_5000				04/19/10 16:53	1.0	8
015	109a015	ICAL	MO_7500				04/19/10 17:20	1.0	9
016	109a016	IB	CALIB				04/19/10 17:47	1.0	
017	109a017	CMARKER	C8-C50				04/19/10 18:14	1.0	1
018	109a018	IB	CALIB				04/19/10 18:42	1.0	
019	109a019	CCV	MO_500				04/19/10 19:09	1.0	2
020	109a020	CCV	DSL_250				04/19/10 19:36	1.0	3
021	109a021	X	CCV				04/19/10 20:04	1.0	2
022	109a022	X	CCV				04/19/10 20:31	1.0	3
023	109a023	BLANK	QC540932		Soil	162140	04/19/10 20:58	1.0	
024	109a024	LCS	QC540936		Soil	162140	04/19/10 21:26	1.0	
025	109a025	SAMPLE	219555-004		Soil	162140	04/19/10 21:53	1.0	
026	109a026	MSS	219555-007		Soil	162140	04/19/10 22:20	5.0	
027	109a027	MS	QC540934		Soil	162140	04/19/10 22:47	5.0	
028	109a028	MSD	QC540935		Soil	162140	04/19/10 23:14	5.0	
029	109a029	SAMPLE	219555-001		Soil	162140	04/19/10 23:41	100.0	
030	109a030	X	IB				04/20/10 00:08	1.0	
031	109a031	SAMPLE	219555-005		Soil	162140	04/20/10 00:35	1.0	
032	109a032	SAMPLE	219555-008		Soil	162140	04/20/10 01:03	1.0	
033	109a033	SAMPLE	219555-003		Soil	162140	04/20/10 01:30	50.0	
034	109a034	CCV	MO_500				04/20/10 01:57	1.0	2
035	109a035	CCV	DSL_500				04/20/10 02:25	1.0	10
036	109a036	X	CCV				04/20/10 02:52	1.0	2
037	109a037	X	CCV				04/20/10 03:19	1.0	10
038	109a038	BLANK	QC540932	S	Soil	162140	04/20/10 03:47	1.0	
039	109a039	LCS	QC540933	S	Soil	162140	04/20/10 04:14	1.0	
040	109a040	SAMPLE	219555-011		Soil	162140	04/20/10 04:42	1.0	
041	109a041	SAMPLE	219555-009		Soil	162140	04/20/10 05:09	10.0	
042	109a042	SAMPLE	219555-010		Soil	162140	04/20/10 05:37	10.0	
043	109a043	X	IB				04/20/10 06:04	1.0	
044	109a044	SAMPLE	219555-002		Soil	162140	04/20/10 06:31	50.0	
045	109a045	X	IB				04/20/10 06:59	1.0	
046	109a046	SAMPLE	219555-006		Soil	162140	04/20/10 07:26	100.0	
047	109a047	X	IB				04/20/10 07:54	1.0	
048	109a048	SAMPLE	219358-007	S	Soil	162140	04/20/10 08:21	1.0	
049	109a049	SAMPLE	219358-008	S	Soil	162140	04/20/10 08:49	1.0	
050	109a050	SAMPLE	219413-001	S	Soil	162140	04/20/10 09:16	1.0	
051	109a051	X	CMARKER				04/20/10 09:43	1.0	1
052	109a052	CCV	MO_500				04/20/10 10:11	1.0	2

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170239565

Instrument : GC17A
 Method : EPA 8015B

Begun : 06/15/10 08:45
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	166a001	X	PRIMER				06/15/10 08:45	1.0	
002	166a002	X	IB				06/15/10 09:12	1.0	
003	166a003	X	CMARKER				06/15/10 09:39	1.0	1
004	166a004	CCV	DSL_1000				06/15/10 10:06	1.0	2
005	166a005	CCV	MO_500				06/15/10 10:34	1.0	3
006	166a006	CCV	BUNK_500				06/15/10 12:02	1.0	4
007	166a007	BLANK	QC548297		Water	163955	06/15/10 13:12	1.0	
008	166a008	BLANK	QC548297	S	Water	163955	06/15/10 13:39	1.0	
009	166a009	SAMPLE	220667-001		Water	163955	06/15/10 14:06	1.0	
010	166a010	SAMPLE	220667-001	S	Water	163955	06/15/10 14:33	1.0	
011	166a011	SAMPLE	220667-002		Water	163955	06/15/10 15:01	1.0	
012	166a012	SAMPLE	220667-002	S	Water	163955	06/15/10 15:29	1.0	
013	166a013	X	IB				06/15/10 15:56	1.0	
014	166a014	SAMPLE	220667-003		Water	163955	06/15/10 16:24	1.0	
015	166a015	SAMPLE	220667-003	S	Water	163955	06/15/10 16:52	1.0	
016	166a016	SAMPLE	220667-004		Water	163955	06/15/10 17:20	1.0	
017	166a017	SAMPLE	220667-004	S	Water	163955	06/15/10 17:48	1.0	
018	166a018	X	CCV				06/15/10 18:16	1.0	5
019	166a019	CCV	MO_500				06/15/10 18:43	1.0	3
020	166a020	CCV	BUNK_500				06/15/10 19:11	1.0	4
021	166a021	CCV	DSL_500				06/15/10 21:35	1.0	5
022	166a022	SAMPLE	220657-002		Water	164006	06/15/10 22:03	1.0	
023	166a023	SAMPLE	220657-003		Water	164006	06/15/10 22:30	1.0	
024	166a024	SAMPLE	220657-004		Water	164006	06/15/10 22:58	1.0	
025	166a025	SAMPLE	220657-005		Water	164006	06/15/10 23:25	1.0	
026	166a026	SAMPLE	220657-006		Water	164006	06/15/10 23:53	1.0	
027	166a027	SAMPLE	220657-007		Water	164006	06/16/10 00:21	1.0	
028	166a028	X	CMARKER				06/16/10 00:49	1.0	1
029	166a029	CCV	DSL_250				06/16/10 01:17	1.0	6
030	166a030	CCV	MO_500				06/16/10 01:44	1.0	3
031	166a031	X	CCV				06/16/10 02:12	1.0	6
032	166a032	X	CCV				06/16/10 02:40	1.0	3

JDG 06/16/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170240926

Instrument : GC17A
 Method : EPA 8015B

Begun : 06/16/10 07:26
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	167a001	X	PRIMER				06/16/10 07:26	1.0	
002	167a002	X	IB				06/16/10 07:54	1.0	
003	167a003	X	CMARKER				06/16/10 08:21	1.0	1
004	167a004	CCV	DSL_1000				06/16/10 09:01	1.0	2
005	167a005	CCV	MO_500				06/16/10 09:29	1.0	3
006	167a006	BLANK	QC548807	S	Soil	164077	06/16/10 17:21	1.0	
007	167a007	LCS	QC548808	S	Soil	164077	06/16/10 17:48	1.0	
008	167a008	SAMPLE	220739-001	S	Soil	164077	06/16/10 18:15	1.0	
009	167a009	SAMPLE	220739-002	S	Soil	164077	06/16/10 18:43	1.0	
010	167a010	SAMPLE	220657-015		Water	164006	06/16/10 19:10	1.0	
011	167a011	BLANK	QC548807		Soil	164077	06/16/10 19:37	1.0	
012	167a012	SAMPLE	220731-010		Soil	164077	06/16/10 20:05	5.0	
013	167a013	SAMPLE	220731-011		Soil	164077	06/16/10 20:32	5.0	
014	167a014	SAMPLE	220731-012		Soil	164077	06/16/10 20:59	5.0	
015	167a015	SAMPLE	220731-013		Soil	164077	06/16/10 21:26	1.0	
016	167a016	CCV	DSL_500				06/16/10 21:53	1.0	4
017	167a017	CCV	MO_500				06/16/10 22:20	1.0	3
018	167a018	X	CCV				06/16/10 22:48	1.0	4
019	167a019	X	CCV				06/16/10 23:15	1.0	3
020	167a020	X	CMARKER				06/17/10 08:02	1.0	1

JDG 06/17/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970011942

Instrument : GC27A
 Method : EPA 8015B

Begun : 01/08/10 07:02
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	008a001	X	PRIMER			01/08/10 07:02	1.0	
002	008a002	X	IB			01/08/10 07:27	1.0	
003	008a003	X	IB			01/08/10 07:52	1.0	
004	008a004	X	CMARKER			01/08/10 08:18	1.0	1
005	008a005	CCV	DSL_250			01/08/10 08:43	1.0	2
006	008a006	X	CMARKER			01/08/10 10:52	1.0	1
007	008a007	CCV	DSL_250			01/08/10 11:18	1.0	2
008	008a008	X	IB			01/08/10 13:49	1.0	
009	008a009	X	CMARKER			01/08/10 14:14	1.0	1
010	008a010	CCV	DSL_1000			01/08/10 14:40	1.0	3
011	008a011	CCV	DSL_500			01/08/10 15:16	1.0	4
012	008a012	IB	CALIB			01/08/10 17:12	1.0	
013	008a013	ICAL	HEXOPT_5			01/08/10 17:38	1.0	5
014	008a014	ICAL	HEXOPT_10			01/08/10 18:03	1.0	6
015	008a015	ICAL	HEXOPT_25			01/08/10 18:29	1.0	7
016	008a016	ICAL	HEXOPT_50			01/08/10 18:54	1.0	8
017	008a017	ICAL	HEXOPT_100			01/08/10 19:20	1.0	9
018	008a018	ICAL	HEXOPT_200			01/08/10 19:45	1.0	10
019	008a019	IB	CALIB			01/08/10 20:11	1.0	
020	008a020	ICAL	DSL_10			01/08/10 20:36	1.0	11
021	008a021	ICAL	DSL_100			01/08/10 21:02	1.0	12
022	008a022	ICAL	DSL_500			01/08/10 21:27	1.0	13
023	008a023	ICAL	DSL_1000			01/08/10 21:52	1.0	14
024	008a024	ICAL	DSL_5000			01/08/10 22:18	1.0	15
025	008a025	ICAL	DSL_7500			01/08/10 22:43	1.0	16
026	008a026	IB	CALIB			01/08/10 23:09	1.0	
027	008a027	ICV	DSL_500			01/08/10 23:34	1.0	4
028	008a028	X	ICV			01/09/10 00:00	1.0	4
029	008a029	IB	CALIB			01/09/10 00:25	1.0	
030	008a030	CMARKER	C8-C50			01/09/10 00:50	1.0	17
031	008a031	IB	CALIB			01/09/10 01:15	1.0	

SFL 01/11/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S12636 2=S13456 3=S13458 4=S13457 5=S13690 6=S13691 7=S13692 8=S13693 9=S13694 10=S13695 11=S13230
 12=S13231 13=S13232 14=S13233 15=S13229 16=S13234 17=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970048088

Instrument : GC27A
 Method : EPA 8015B

Begun : 02/02/10 09:28
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	033a001	X	PRIMER			02/02/10 09:28	1.0	
002	033a002	X	IB			02/02/10 09:53	1.0	
003	033a003	X	IB			02/02/10 10:19	1.0	
004	033a004	X	CMARKER			02/02/10 10:44	1.0	1
005	033a005	CCV	DSL_1000			02/02/10 11:10	1.0	2
006	033a006	CCV	MO_500			02/02/10 11:36	1.0	3
007	033a007	CCV	DSL_250			02/02/10 13:11	1.0	4
008	033a008	CCV	MO_500			02/02/10 13:37	1.0	3
009	033a009	X	IB			02/02/10 19:36	1.0	
010	033a010	X	IB			02/02/10 20:01	1.0	
011	033a011	X	CMARKER			02/02/10 20:27	1.0	1
012	033a012	CCV	DSL_500			02/02/10 20:53	1.0	5
013	033a013	CCV	MO_500			02/02/10 21:18	1.0	3
014	033a014	X	IB			02/02/10 21:48	1.0	
015	033a015	IB	CALIB			02/02/10 22:14	1.0	
016	033a016	ICAL	HEXOTP_5			02/02/10 22:40	1.0	6
017	033a017	ICAL	HEXOTP_10			02/02/10 23:05	1.0	7
018	033a018	ICAL	HEXOTP_25			02/02/10 23:30	1.0	8
019	033a019	ICAL	HEXOTP_50			02/02/10 23:55	1.0	9
020	033a020	ICAL	HEXOTP_100			02/03/10 00:21	1.0	10
021	033a021	ICAL	HEXOTP_200			02/03/10 00:46	1.0	11
022	033a022	IB	CALIB			02/03/10 01:12	1.0	
023	033a023	ICAL	MO_25			02/03/10 01:37	1.0	12
024	033a024	ICAL	MO_50			02/03/10 02:03	1.0	12
025	033a025	ICAL	MO_250			02/03/10 02:28	1.0	13
026	033a026	ICAL	MO_500			02/03/10 02:54	1.0	14
027	033a027	ICAL	MO_1000			02/03/10 03:19	1.0	15
028	033a028	ICAL	MO_2500			02/03/10 03:45	1.0	16
029	033a029	IB	CALIB			02/03/10 04:10	1.0	
030	033a030	CMARKER	C8-C50			02/03/10 04:36	1.0	1
031	033a031	IB	CALIB			02/03/10 05:02	1.0	

SFL 02/03/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S13646 2=S13458 3=S13744 4=S13456 5=S13457 6=S13690 7=S13691 8=S13692 9=S13693 10=S13694 11=S13695
 12=S13804 13=S13805 14=S13806 15=S13807 16=S13808

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970199313

Instrument : GC27A
 Method : EPA 8015B

Begun : 05/18/10 09:53
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	138a001	X	PRIMER			05/18/10 09:53	1.0	
002	138a002	X	IB			05/18/10 10:19	1.0	
003	138a003	X	IB			05/18/10 10:44	1.0	
004	138a004	X	CMARKER			05/18/10 11:10	1.0	1
005	138a005	CCV	DSL_500			05/18/10 11:35	1.0	2
006	138a006	X	IB			05/18/10 13:18	1.0	
007	138a007	IB	CALIB			05/18/10 13:44	1.0	
008	138a008	ICAL	MO_25			05/18/10 14:09	1.0	3
009	138a009	ICAL	MO_50			05/18/10 14:35	1.0	3
010	138a010	ICAL	MO_250			05/18/10 15:00	1.0	4
011	138a011	ICAL	MO_500			05/18/10 15:26	1.0	5
012	138a012	ICAL	MO_1000			05/18/10 15:52	1.0	6
013	138a013	ICAL	MO_2500			05/18/10 16:17	1.0	7
014	138a014	IB	CALIB			05/18/10 16:43	1.0	
015	138a015	CMARKER	C8-C50			05/18/10 17:09	1.0	1
016	138a016	IB	CALIB			05/18/10 17:34	1.0	
017	138a017	CCV	MO_500			05/18/10 18:00	1.0	8
018	138a018	X	CCV			05/18/10 18:25	1.0	8
019	138a019	LOD	212266-011	Water	162210	05/18/10 18:51	1.0	
020	138a020	LOD	207488-011	Soil	162228	05/18/10 19:16	1.0	
021	138a021	LOD	213039-011	Soil	162920	05/18/10 19:42	1.0	
022	138a022	CCV	MO_500			05/18/10 20:07	1.0	8
023	138a023	X	CCV			05/18/10 20:33	1.0	8

JDG 05/19/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 23.

SAMPLE PREPARATION SUMMARY

Batch # : 164006
 Started By : KKM
 Method : 3520C
 Spike #1 ID : S14657

Prep Date : 14-JUN-2010 15:25
 Spike #2 ID : S14835

Analysis : TEHM
 Finished By : NAV
 Units : mL
 Spike #3 ID : S14251

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
220657-002		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-003		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-004		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-005		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-006		Water	500	2.5	1	0.005	5	.5				TEHM	
220657-007		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-008		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-009		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-010		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-012		Water	500	2.5	1	0.005	7	.5				TEHM	MSS-1
220657-013		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-014		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-015		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-016		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-017		Water	500	2.5	1	0.005	7	.5				TEHM	
220657-018		Water	500	2.5	1	0.005	5	.5				TEHM	
220657-019		Water	500	2.5	1	0.005	7	.5				TEHM	MSS-2
220657-020		Water	500	2.5	1	0.005	7	.5				TEHM	
QC548509	BLANK	Water	500	2.5	1	0.005		.5				TEHM	
QC548510	LCS	Water	500	2.5	1	0.005		.5	.5			TEHM	
QC548511	MS	Water	500	2.5	1	0.005	7	.5	.5			TEHM	
QC548512	MSD	Water	500	2.5	1	0.005	7	.5	.5			TEHM	
QC548513	MS	Water	500	2.5	1	0.005	7	.5	.5			TEHM	
QC548514	MSD	Water	500	2.5	1	0.005	7	.5	.5			TEHM	
QC548515	LCS	Water	500	2.5	1	0.005		.5		.5		TEHM	

Analyst: SFL

Date: 06/22/10

Reviewer: TFB

Date: 06/22/10

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

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BK 3015

LIMS Batch No: 104000
 LIMS Analysis: TEHM
 Date Extracted: 6/14/10

Extraction Method:
 mod. EPA 3510c sep. funnel
 mod. EPA 3520c cont. L/L

Cleanup Method (if needed):
 EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
220057-002	D	500	7	2.5		
	C03					
	C04					
	C05					
	C06					
	C07					
	C08					
	C09					
	C10					
	C12					MCS-1
	C13					
	C14					
	C15					
	C16					
	C17					
	C18					
	C19					MCS-2
	C20					
MB	QC549008	NA	500	NA		
LCS	QC549008					
MS	511	K	500	7		
MSD	512	L				
MS	513	L				
MSD	514	M				
*LCS-MU	515	NA	500	NA		

Mfg & Lot# / LIMS # / Time Date/ Initials

0.5 mL of TEH_SURR was added to all samples
 0.5 mL of TEH_SP was added to all spikes
 pH of all samples adjusted to pH ≤ 2 with H₂SO₄

3520c: Samples were continually extracted about 450 mL of CH₂Cl₂

Extraction Start Time: 1525
 Extraction End Time: 1725

3510c: Samples were extracted 3 times with 60 mL of CH₂Cl₂
 Extracts filtered through baked, CH₂Cl₂-rinsed granular Na₂SO₄
 Concentrated to final volume at temperature (degrees C) 100
 Relinquished to TEH Department

Mfg & Lot# / LIMS # / Time Date/ Initials
 514057A KRM 6/14/10
 514835A/4514251C
 FS100311
 EM50022
 1525
 1725
 N/A
 EM50092013
 100

KRM 6/14/10
 Extraction Chemist Date

Continued from Page _____
 Continued on Page _____

[Signature] 6/16/10
 Reviewed by Date

Laboratory Job Number 220657

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-002-GW-10Q2	Batch#:	164161
Lab ID:	220657-001	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	V1
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-002-GW-10Q2	Batch#:	164161
Lab ID:	220657-001	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	V9
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	111	77-120	
1,2-Dichloroethane-d4	116	70-127	
Toluene-d8	93	83-125	
Bromofluorobenzene	101	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-109A-GW-10Q2	Batch#:	164161
Lab ID:	220657-002	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	V1
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-109A-GW-10Q2	Batch#:	164161
Lab ID:	220657-002	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	V9
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	114	77-120	
1,2-Dichloroethane-d4	117	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	104	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-123A-GW-10Q2	Batch#:	164161
Lab ID:	220657-003	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	V1
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-123A-GW-10Q2	Batch#:	164161
Lab ID:	220657-003	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	V9
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	112	77-120	
1,2-Dichloroethane-d4	112	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	99	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-124A-GW-10Q2	Batch#:	164161
Lab ID:	220657-004	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	V1
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-124A-GW-10Q2	Batch#:	164161
Lab ID:	220657-004	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	V9
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	114	77-120	
1,2-Dichloroethane-d4	121	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	102	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-106A-GW-10Q2	Batch#:	164161
Lab ID:	220657-005	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	V1
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-106A-GW-10Q2	Batch#:	164161
Lab ID:	220657-005	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	V9
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	114	77-120	
1,2-Dichloroethane-d4	116	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	98	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-002-GW-10Q2	Batch#:	164167
Lab ID:	220657-006	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	12	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-002-GW-10Q2	Batch#:	164167
Lab ID:	220657-006	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	111	77-120	
1,2-Dichloroethane-d4	106	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	115	78-120	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-122A-GW-10Q2	Batch#:	164167
Lab ID:	220657-007	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-122A-GW-10Q2	Batch#:	164167
Lab ID:	220657-007	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	111	77-120	
1,2-Dichloroethane-d4	110	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	114	78-120	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-007	Batch#:	164167
Lab ID:	220657-008	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-007	Batch#:	164167
Lab ID:	220657-008	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	112	77-120	
1,2-Dichloroethane-d4	110	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	115	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	BC-7A-GW-10Q2	Batch#:	164198
Lab ID:	220657-009	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	BC-7A-GW-10Q2	Batch#:	164198
Lab ID:	220657-009	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	116	77-120	
1,2-Dichloroethane-d4	109	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	103	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-127A-GW-10Q2	Batch#:	164198
Lab ID:	220657-010	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-127A-GW-10Q2	Batch#:	164198
Lab ID:	220657-010	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	112	77-120	
1,2-Dichloroethane-d4	112	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	102	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-006-GW-10Q2	Batch#:	164198
Lab ID:	220657-011	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-006-GW-10Q2	Batch#:	164198
Lab ID:	220657-011	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	111	77-120	
1,2-Dichloroethane-d4	109	70-127	
Toluene-d8	94	83-125	
Bromofluorobenzene	100	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-65A-GW-10Q2	Batch#:	164198
Lab ID:	220657-012	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	0.9	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	3.3	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	1.7	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	2.2	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-65A-GW-10Q2	Batch#:	164198
Lab ID:	220657-012	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	111	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	97	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-68A-GW-10Q2	Batch#:	164198
Lab ID:	220657-013	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	2.5	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	65	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	13	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	0.8	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	29	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-68A-GW-10Q2	Batch#:	164198
Lab ID:	220657-013	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	1.8	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	1.2	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	1.3	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	0.6	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	2.1	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	114	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	93	83-125	
Bromofluorobenzene	100	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	PL-201A-GW-10Q2	Batch#:	164228
Lab ID:	220657-014	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	6.4	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	22	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	35	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	67	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	1.2	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	L1
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	11	0.5	
Trichloroethene	0.7	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	PL-201A-GW-10Q2	Batch#:	164228
Lab ID:	220657-014	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	4.2	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	2.2	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	112	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	94	83-125	
Bromofluorobenzene	106	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-005	Diln Fac:	1.000
Lab ID:	220657-015	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
Freon 12	ND	1.0	164198	06/20/10	V1
Chloromethane	ND	1.0	164198	06/20/10	
Vinyl Chloride	6.6	0.5	164198	06/20/10	
Bromomethane	ND	1.0	164198	06/20/10	
Chloroethane	22	1.0	164228	06/21/10	
Trichlorofluoromethane	ND	1.0	164198	06/20/10	V1
Iodomethane	ND	10	164198	06/20/10	V1
Acetone	ND	10	164198	06/20/10	
1,1-Dichloroethene	ND	0.5	164198	06/20/10	
Methylene Chloride	ND	10	164198	06/20/10	
Carbon Disulfide	ND	0.5	164198	06/20/10	
MTBE	29	0.5	164198	06/20/10	
trans-1,2-Dichloroethene	ND	0.5	164198	06/20/10	
Vinyl Acetate	ND	10	164198	06/20/10	
1,1-Dichloroethane	54	0.5	164198	06/20/10	
2-Butanone	ND	10	164198	06/20/10	
cis-1,2-Dichloroethene	1.0	0.5	164198	06/20/10	
2,2-Dichloropropane	ND	0.5	164198	06/20/10	
Chloroform	ND	0.5	164198	06/20/10	
Bromochloromethane	ND	0.5	164198	06/20/10	
1,1,1-Trichloroethane	ND	0.5	164198	06/20/10	
1,1-Dichloropropene	ND	0.5	164198	06/20/10	
Carbon Tetrachloride	ND	0.5	164198	06/20/10	
1,2-Dichloroethane	ND	0.5	164198	06/20/10	
Benzene	9.9	0.5	164198	06/20/10	
Trichloroethene	0.6	0.5	164198	06/20/10	
1,2-Dichloropropane	ND	0.5	164198	06/20/10	
Bromodichloromethane	ND	0.5	164198	06/20/10	
Dibromomethane	ND	0.5	164198	06/20/10	
4-Methyl-2-Pentanone	ND	10	164198	06/20/10	
cis-1,3-Dichloropropene	ND	0.5	164198	06/20/10	
Toluene	ND	0.5	164198	06/20/10	
trans-1,3-Dichloropropene	ND	0.5	164198	06/20/10	
1,1,2-Trichloroethane	ND	0.5	164198	06/20/10	
2-Hexanone	ND	10	164198	06/20/10	
1,3-Dichloropropane	ND	0.5	164198	06/20/10	
Tetrachloroethene	ND	0.5	164198	06/20/10	
Dibromochloromethane	ND	0.5	164198	06/20/10	
1,2-Dibromoethane	ND	0.5	164198	06/20/10	
Chlorobenzene	ND	0.5	164198	06/20/10	
1,1,1,2-Tetrachloroethane	ND	0.5	164198	06/20/10	
Ethylbenzene	ND	0.5	164198	06/20/10	
m,p-Xylenes	ND	0.5	164198	06/20/10	
o-Xylene	ND	0.5	164198	06/20/10	
Styrene	ND	0.5	164198	06/20/10	
Bromoform	ND	1.0	164198	06/20/10	
Isopropylbenzene	4.1	0.5	164198	06/20/10	
1,1,2,2-Tetrachloroethane	ND	0.5	164198	06/20/10	
1,2,3-Trichloropropane	ND	0.5	164198	06/20/10	
Propylbenzene	ND	0.5	164198	06/20/10	
Bromobenzene	ND	0.5	164198	06/20/10	
1,3,5-Trimethylbenzene	ND	0.5	164198	06/20/10	
2-Chlorotoluene	ND	0.5	164198	06/20/10	
4-Chlorotoluene	ND	0.5	164198	06/20/10	
tert-Butylbenzene	ND	0.5	164198	06/20/10	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-005	Diln Fac:	1.000
Lab ID:	220657-015	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	ND	0.5	164198	06/20/10	
sec-Butylbenzene	2.2	0.5	164198	06/20/10	
para-Isopropyl Toluene	ND	0.5	164198	06/20/10	
1,3-Dichlorobenzene	ND	0.5	164198	06/20/10	
1,4-Dichlorobenzene	ND	0.5	164198	06/20/10	
n-Butylbenzene	ND	0.5	164198	06/20/10	
1,2-Dichlorobenzene	ND	0.5	164198	06/20/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	164198	06/20/10	
1,2,4-Trichlorobenzene	ND	0.5	164198	06/20/10	
Hexachlorobutadiene	ND	2.0	164198	06/20/10	
Naphthalene	ND	2.0	164198	06/20/10	
1,2,3-Trichlorobenzene	ND	0.5	164198	06/20/10	
Xylene (total)	ND	0.5	164198	06/20/10	

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	111	77-120	164198	06/20/10	
Dibromofluoromethane	110	77-120	164228	06/21/10	
1,2-Dichloroethane-d4	109	70-127	164198	06/20/10	
1,2-Dichloroethane-d4	102	70-127	164228	06/21/10	
Toluene-d8	93	83-125	164198	06/20/10	
Toluene-d8	94	83-125	164228	06/21/10	
Bromofluorobenzene	102	78-120	164198	06/20/10	
Bromofluorobenzene	108	78-120	164228	06/21/10	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-58A-GW-10Q2	Batch#:	164202
Lab ID:	220657-016	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	2.9	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	L1 V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	12	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1
1,1-Dichloroethane	13	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	1.7	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	5.2	0.5	
Trichloroethene	2.1	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	L1
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	L1
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-58A-GW-10Q2	Batch#:	164202
Lab ID:	220657-016	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	0.7	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	0.7	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	114	77-120	
1,2-Dichloroethane-d4	109	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	114	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-52A-GW-10Q2	Batch#:	164202
Lab ID:	220657-017	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	2.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	2.0	D2
Chloromethane	ND	2.0	D2
Vinyl Chloride	1.5	1.0	D2
Bromomethane	ND	2.0	D2
Chloroethane	8.9	2.0	D2
Trichlorofluoromethane	ND	2.0	D2
Iodomethane	ND	20	D2
Acetone	ND	20	D2 L1 V1
1,1-Dichloroethene	1.2	1.0	D2
Methylene Chloride	ND	20	D2
Carbon Disulfide	ND	1.0	D2
MTBE	100	1.0	D2
trans-1,2-Dichloroethene	ND	1.0	D2
Vinyl Acetate	ND	20	D2 L1
1,1-Dichloroethane	60	1.0	D2
2-Butanone	ND	20	D2 L1 V1
cis-1,2-Dichloroethene	3.4	1.0	D2
2,2-Dichloropropane	ND	1.0	D2 L1 V1
Chloroform	ND	1.0	D2
Bromochloromethane	ND	1.0	D2
1,1,1-Trichloroethane	ND	1.0	D2
1,1-Dichloropropene	ND	1.0	D2
Carbon Tetrachloride	ND	1.0	D2
1,2-Dichloroethane	ND	1.0	D2
Benzene	75	1.0	D2
Trichloroethene	5.2	1.0	D2
1,2-Dichloropropane	ND	1.0	D2
Bromodichloromethane	ND	1.0	D2
Dibromomethane	ND	1.0	D2
4-Methyl-2-Pentanone	ND	20	D2 L1
cis-1,3-Dichloropropene	ND	1.0	D2
Toluene	ND	1.0	D2
trans-1,3-Dichloropropene	ND	1.0	D2
1,1,2-Trichloroethane	ND	1.0	D2
2-Hexanone	ND	20	D2 L1
1,3-Dichloropropane	ND	1.0	D2
Tetrachloroethene	ND	1.0	D2

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-52A-GW-10Q2	Batch#:	164202
Lab ID:	220657-017	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	2.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	1.0	D2
1,2-Dibromoethane	ND	1.0	D2
Chlorobenzene	ND	1.0	D2
1,1,1,2-Tetrachloroethane	ND	1.0	D2
Ethylbenzene	5.4	1.0	D2
m,p-Xylenes	5.1	1.0	D2
o-Xylene	ND	1.0	D2
Styrene	ND	1.0	D2
Bromoform	ND	2.0	D2
Isopropylbenzene	1.4	1.0	D2
1,1,2,2-Tetrachloroethane	ND	1.0	D2
1,2,3-Trichloropropane	ND	1.0	D2
Propylbenzene	1.4	1.0	D2
Bromobenzene	ND	1.0	D2
1,3,5-Trimethylbenzene	13	1.0	D2
2-Chlorotoluene	ND	1.0	D2
4-Chlorotoluene	ND	1.0	D2
tert-Butylbenzene	ND	1.0	D2
1,2,4-Trimethylbenzene	48	1.0	D2
sec-Butylbenzene	ND	1.0	D2
para-Isopropyl Toluene	1.6	1.0	D2
1,3-Dichlorobenzene	ND	1.0	D2
1,4-Dichlorobenzene	ND	1.0	D2
n-Butylbenzene	ND	1.0	D2
1,2-Dichlorobenzene	ND	1.0	D2
1,2-Dibromo-3-Chloropropane	ND	4.0	D2
1,2,4-Trichlorobenzene	ND	1.0	D2
Hexachlorobutadiene	ND	4.0	D2
Naphthalene	44	4.0	D2
1,2,3-Trichlorobenzene	ND	1.0	D2
Xylene (total)	5.1	1.0	D2

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	114	77-120	
1,2-Dichloroethane-d4	111	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	101	78-120	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-006-GW-10Q2	Batch#:	164202
Lab ID:	220657-018	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	L1 V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	11	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	L1
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	L1
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-006-GW-10Q2	Batch#:	164202
Lab ID:	220657-018	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	113	77-120	
1,2-Dichloroethane-d4	106	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	114	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-116A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ	Flags
Freon 12	ND	1.0	164228	06/21/10		
Chloromethane	ND	1.0	164228	06/21/10		
Vinyl Chloride	ND	0.5	164228	06/21/10		
Bromomethane	ND	1.0	164260	06/22/10		V9
Chloroethane	ND	1.0	164228	06/21/10		M1
Trichlorofluoromethane	ND	1.0	164228	06/21/10		
Iodomethane	ND	10	164260	06/22/10		L2 V9
Acetone	ND	10	164228	06/21/10		M1 R2 V1
1,1-Dichloroethene	ND	0.5	164228	06/21/10		
Methylene Chloride	ND	10	164228	06/21/10		M1
Carbon Disulfide	ND	0.5	164228	06/21/10		
MTBE	4.3	0.5	164228	06/21/10		
trans-1,2-Dichloroethene	ND	0.5	164228	06/21/10		M1
Vinyl Acetate	ND	10	164228	06/21/10		L1 M1 V1
1,1-Dichloroethane	ND	0.5	164228	06/21/10		M1
2-Butanone	ND	10	164228	06/21/10		L1 M1 V1
cis-1,2-Dichloroethene	ND	0.5	164228	06/21/10		M1
2,2-Dichloropropane	ND	0.5	164228	06/21/10		L1 V1
Chloroform	ND	0.5	164228	06/21/10		M1
Bromochloromethane	ND	0.5	164228	06/21/10		L1 M1
1,1,1-Trichloroethane	ND	0.5	164228	06/21/10		M1
1,1-Dichloropropene	ND	0.5	164228	06/21/10		
Carbon Tetrachloride	ND	0.5	164228	06/21/10		
1,2-Dichloroethane	ND	0.5	164228	06/21/10		
Benzene	8.5	0.5	164228	06/21/10		
Trichloroethene	1.9	0.5	164228	06/21/10		
1,2-Dichloropropane	ND	0.5	164228	06/21/10		
Bromodichloromethane	ND	0.5	164228	06/21/10		
Dibromomethane	ND	0.5	164228	06/21/10		
4-Methyl-2-Pentanone	ND	10	164228	06/21/10		
cis-1,3-Dichloropropene	ND	0.5	164228	06/21/10		
Toluene	ND	0.5	164228	06/21/10		
trans-1,3-Dichloropropene	ND	0.5	164228	06/21/10		
1,1,2-Trichloroethane	ND	0.5	164228	06/21/10		
2-Hexanone	ND	10	164228	06/21/10		
1,3-Dichloropropane	ND	0.5	164228	06/21/10		
Tetrachloroethene	0.7	0.5	164228	06/21/10		
Dibromochloromethane	ND	0.5	164228	06/21/10		
1,2-Dibromoethane	ND	0.5	164228	06/21/10		
Chlorobenzene	ND	0.5	164228	06/21/10		
1,1,1,2-Tetrachloroethane	ND	0.5	164228	06/21/10		
Ethylbenzene	ND	0.5	164228	06/21/10		
m,p-Xylenes	ND	0.5	164228	06/21/10		
o-Xylene	ND	0.5	164228	06/21/10		
Styrene	ND	0.5	164228	06/21/10		
Bromoform	ND	1.0	164228	06/21/10		
Isopropylbenzene	3.8	0.5	164228	06/21/10		
1,1,2,2-Tetrachloroethane	ND	0.5	164228	06/21/10		
1,2,3-Trichloropropane	ND	0.5	164228	06/21/10		
Propylbenzene	2.7	0.5	164228	06/21/10		
Bromobenzene	ND	0.5	164228	06/21/10		
1,3,5-Trimethylbenzene	ND	0.5	164228	06/21/10		
2-Chlorotoluene	ND	0.5	164228	06/21/10		
4-Chlorotoluene	ND	0.5	164228	06/21/10		
tert-Butylbenzene	ND	0.5	164228	06/21/10		

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-116A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	0.7	0.5	164228	06/21/10	
sec-Butylbenzene	0.7	0.5	164228	06/21/10	
para-Isopropyl Toluene	ND	0.5	164228	06/21/10	
1,3-Dichlorobenzene	ND	0.5	164228	06/21/10	
1,4-Dichlorobenzene	ND	0.5	164228	06/21/10	
n-Butylbenzene	ND	0.5	164228	06/21/10	
1,2-Dichlorobenzene	ND	0.5	164228	06/21/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	164228	06/21/10	
1,2,4-Trichlorobenzene	ND	0.5	164228	06/21/10	
Hexachlorobutadiene	ND	2.0	164228	06/21/10	
Naphthalene	3.1	2.0	164228	06/21/10	
1,2,3-Trichlorobenzene	ND	0.5	164228	06/21/10	
Xylene (total)	ND	0.5	164228	06/21/10	

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	112	77-120	164228	06/21/10	
Dibromofluoromethane	99	77-120	164260	06/22/10	
1,2-Dichloroethane-d4	102	70-127	164228	06/21/10	
1,2-Dichloroethane-d4	120	70-127	164260	06/22/10	
Toluene-d8	94	83-125	164228	06/21/10	
Toluene-d8	99	83-125	164260	06/22/10	
Bromofluorobenzene	112	78-120	164228	06/21/10	
Bromofluorobenzene	100	78-120	164260	06/22/10	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-37A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220657-020	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
Freon 12	ND	1.0	164228	06/21/10	
Chloromethane	ND	1.0	164228	06/21/10	
Vinyl Chloride	ND	0.5	164228	06/21/10	
Bromomethane	ND	1.0	164260	06/22/10	V9
Chloroethane	ND	1.0	164228	06/21/10	
Trichlorofluoromethane	ND	1.0	164228	06/21/10	
Iodomethane	ND	10	164260	06/22/10	L2 V9
Acetone	ND	10	164228	06/21/10	V1
1,1-Dichloroethene	ND	0.5	164228	06/21/10	
Methylene Chloride	ND	10	164228	06/21/10	
Carbon Disulfide	ND	0.5	164228	06/21/10	
MTBE	4.1	0.5	164228	06/21/10	
trans-1,2-Dichloroethene	ND	0.5	164228	06/21/10	
Vinyl Acetate	ND	10	164228	06/21/10	L1 V1
1,1-Dichloroethane	ND	0.5	164228	06/21/10	
2-Butanone	ND	10	164228	06/21/10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	164228	06/21/10	
2,2-Dichloropropane	ND	0.5	164228	06/21/10	L1 V1
Chloroform	ND	0.5	164228	06/21/10	
Bromochloromethane	ND	0.5	164228	06/21/10	L1
1,1,1-Trichloroethane	ND	0.5	164228	06/21/10	
1,1-Dichloropropene	ND	0.5	164228	06/21/10	
Carbon Tetrachloride	ND	0.5	164228	06/21/10	
1,2-Dichloroethane	ND	0.5	164228	06/21/10	
Benzene	65	0.5	164228	06/21/10	
Trichloroethene	0.8	0.5	164228	06/21/10	
1,2-Dichloropropane	ND	0.5	164228	06/21/10	
Bromodichloromethane	ND	0.5	164228	06/21/10	
Dibromomethane	ND	0.5	164228	06/21/10	
4-Methyl-2-Pentanone	ND	10	164228	06/21/10	
cis-1,3-Dichloropropene	ND	0.5	164228	06/21/10	
Toluene	ND	0.5	164228	06/21/10	
trans-1,3-Dichloropropene	ND	0.5	164228	06/21/10	
1,1,2-Trichloroethane	ND	0.5	164228	06/21/10	
2-Hexanone	ND	10	164228	06/21/10	
1,3-Dichloropropane	ND	0.5	164228	06/21/10	
Tetrachloroethene	ND	0.5	164228	06/21/10	
Dibromochloromethane	ND	0.5	164228	06/21/10	
1,2-Dibromoethane	ND	0.5	164228	06/21/10	
Chlorobenzene	ND	0.5	164228	06/21/10	
1,1,1,2-Tetrachloroethane	ND	0.5	164228	06/21/10	
Ethylbenzene	ND	0.5	164228	06/21/10	
m,p-Xylenes	ND	0.5	164228	06/21/10	
o-Xylene	ND	0.5	164228	06/21/10	
Styrene	ND	0.5	164228	06/21/10	
Bromoform	ND	1.0	164228	06/21/10	
Isopropylbenzene	6.4	0.5	164228	06/21/10	
1,1,2,2-Tetrachloroethane	ND	0.5	164228	06/21/10	
1,2,3-Trichloropropane	ND	0.5	164228	06/21/10	
Propylbenzene	4.1	0.5	164228	06/21/10	
Bromobenzene	ND	0.5	164228	06/21/10	
1,3,5-Trimethylbenzene	ND	0.5	164228	06/21/10	
2-Chlorotoluene	ND	0.5	164228	06/21/10	
4-Chlorotoluene	ND	0.5	164228	06/21/10	
tert-Butylbenzene	ND	0.5	164228	06/21/10	

ND= Not Detected
 RL= Reporting Limit
 Page 1 of 2

Purgeable Organics by GC/MS

Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-37A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220657-020	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	1.4	0.5	164228	06/21/10	
sec-Butylbenzene	1.6	0.5	164228	06/21/10	
para-Isopropyl Toluene	ND	0.5	164228	06/21/10	
1,3-Dichlorobenzene	ND	0.5	164228	06/21/10	
1,4-Dichlorobenzene	ND	0.5	164228	06/21/10	
n-Butylbenzene	0.8	0.5	164228	06/21/10	
1,2-Dichlorobenzene	ND	0.5	164228	06/21/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	164228	06/21/10	
1,2,4-Trichlorobenzene	ND	0.5	164228	06/21/10	
Hexachlorobutadiene	ND	2.0	164228	06/21/10	
Naphthalene	5.3	2.0	164228	06/21/10	
1,2,3-Trichlorobenzene	ND	0.5	164228	06/21/10	
Xylene (total)	ND	0.5	164228	06/21/10	

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	112	77-120	164228	06/21/10	
Dibromofluoromethane	99	77-120	164260	06/22/10	
1,2-Dichloroethane-d4	106	70-127	164228	06/21/10	
1,2-Dichloroethane-d4	121	70-127	164260	06/22/10	
Toluene-d8	94	83-125	164228	06/21/10	
Toluene-d8	100	83-125	164260	06/22/10	
Bromofluorobenzene	109	78-120	164228	06/21/10	
Bromofluorobenzene	101	78-120	164260	06/22/10	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164161
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549121

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	20.00	28.02 b	140	56-140	V3	
Chloromethane	20.00	24.67 b	123	46-142	V3	
Vinyl Chloride	20.00	23.98	120	49-136		
Bromomethane	20.00	27.47 b	137	42-154	V3	
Chloroethane	20.00	25.77 b	129	51-133	V3	
Trichlorofluoromethane	20.00	26.01 b	130	63-135	V3	
Iodomethane	20.00	24.68 b	123	70-130	V3	
Acetone	20.00	22.71	114	48-130		
1,1-Dichloroethene	20.00	21.02	105	68-133		
Methylene Chloride	20.00	22.06	110	71-120		
Carbon Disulfide	20.00	19.15	96	56-120		
MTBE	20.00	18.83	94	58-120		
trans-1,2-Dichloroethene	20.00	22.61	113	80-120		
Vinyl Acetate	20.00	20.39	102	63-124		
1,1-Dichloroethane	20.00	21.92	110	77-120		
2-Butanone	20.00	20.12	101	57-120		
cis-1,2-Dichloroethene	20.00	21.83	109	75-120		
2,2-Dichloropropane	20.00	23.71	119	72-128		
Chloroform	20.00	23.20	116	78-120		
Bromochloromethane	20.00	21.22	106	78-120		
1,1,1-Trichloroethane	20.00	22.78	114	78-120		
1,1-Dichloropropene	20.00	20.32	102	75-120		
Carbon Tetrachloride	20.00	21.40	107	80-120		
1,2-Dichloroethane	20.00	18.96	95	74-120		
Benzene	20.00	21.30	107	77-120		
Trichloroethene	20.00	21.16	106	78-122		
1,2-Dichloropropane	20.00	18.83	94	76-120		
Bromodichloromethane	20.00	20.53	103	78-120		
Dibromomethane	20.00	19.30	97	77-120		
4-Methyl-2-Pentanone	20.00	17.24	86	65-120		
cis-1,3-Dichloropropene	20.00	19.09	95	76-120		
Toluene	20.00	20.28	101	73-120		
trans-1,3-Dichloropropene	20.00	22.24	111	72-120		
1,1,2-Trichloroethane	20.00	19.67	98	76-120		
2-Hexanone	20.00	18.16	91	57-121		
1,3-Dichloropropane	20.00	18.74	94	75-120		
Tetrachloroethene	20.00	21.24	106	77-120		
Dibromochloromethane	20.00	19.07	95	76-120		
1,2-Dibromoethane	20.00	18.44	92	77-120		
Chlorobenzene	20.00	20.70	104	78-120		
1,1,1,2-Tetrachloroethane	20.00	19.92	100	77-120		
Ethylbenzene	20.00	21.79	109	78-120		
m,p-Xylenes	40.00	42.26	106	77-120		
o-Xylene	20.00	21.68	108	77-120		
Styrene	20.00	21.49	107	77-120		
Bromoform	20.00	19.83	99	74-121		
Isopropylbenzene	20.00	17.97	90	71-120		
1,1,2,2-Tetrachloroethane	20.00	17.19	86	73-120		
1,2,3-Trichloropropane	20.00	17.48	87	72-120		
Propylbenzene	20.00	21.29	106	76-120		
Bromobenzene	20.00	19.56	98	75-120		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164161
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
1,3,5-Trimethylbenzene	20.00	20.68	103	77-120	
2-Chlorotoluene	20.00	20.48	102	76-120	
4-Chlorotoluene	20.00	19.71	99	78-120	
tert-Butylbenzene	20.00	20.66	103	76-120	
1,2,4-Trimethylbenzene	20.00	20.50	102	77-120	
sec-Butylbenzene	20.00	21.61	108	80-120	
para-Isopropyl Toluene	20.00	20.18	101	76-120	
1,3-Dichlorobenzene	20.00	19.71	99	75-120	
1,4-Dichlorobenzene	20.00	19.44	97	77-120	
n-Butylbenzene	20.00	22.04	110	76-120	
1,2-Dichlorobenzene	20.00	19.33	97	76-120	
1,2-Dibromo-3-Chloropropane	20.00	15.63 b	78	65-120	V9
1,2,4-Trichlorobenzene	20.00	19.15	96	73-121	
Hexachlorobutadiene	20.00	19.65	98	73-123	
Naphthalene	20.00	19.05	95	62-121	
1,2,3-Trichlorobenzene	20.00	19.73	99	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	104	70-127	
Toluene-d8	100	83-125	
Bromofluorobenzene	95	78-120	

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164161
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549122

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	20.00	25.27 b	126	56-140	10	24	V3	
Chloromethane	20.00	23.44 b	117	46-142	5	24	V3	
Vinyl Chloride	20.00	22.42	112	49-136	7	24		
Bromomethane	20.00	25.94 b	130	42-154	6	24	V3	
Chloroethane	20.00	25.02 b	125	51-133	3	25	V3	
Trichlorofluoromethane	20.00	23.69 b	118	63-135	9	20	V3	
Iodomethane	20.00	24.63 b	123	70-130	0	20	V3	
Acetone	20.00	22.32	112	48-130	2	41		
1,1-Dichloroethene	20.00	19.76	99	68-133	6	20		
Methylene Chloride	20.00	21.67	108	71-120	2	20		
Carbon Disulfide	20.00	18.34	92	56-120	4	20		
MTBE	20.00	19.67	98	58-120	4	21		
trans-1,2-Dichloroethene	20.00	21.92	110	80-120	3	24		
Vinyl Acetate	20.00	19.95	100	63-124	2	24		
1,1-Dichloroethane	20.00	21.59	108	77-120	1	20		
2-Butanone	20.00	20.30	101	57-120	1	32		
cis-1,2-Dichloroethene	20.00	21.42	107	75-120	2	20		
2,2-Dichloropropane	20.00	22.30	111	72-128	6	24		
Chloroform	20.00	22.14	111	78-120	5	20		
Bromochloromethane	20.00	20.80	104	78-120	2	20		
1,1,1-Trichloroethane	20.00	21.92	110	78-120	4	20		
1,1-Dichloropropene	20.00	18.59	93	75-120	9	21		
Carbon Tetrachloride	20.00	19.18	96	80-120	11	21		
1,2-Dichloroethane	20.00	18.49	92	74-120	3	20		
Benzene	20.00	19.64	98	77-120	8	20		
Trichloroethene	20.00	19.36	97	78-122	9	20		
1,2-Dichloropropane	20.00	18.03	90	76-120	4	20		
Bromodichloromethane	20.00	19.82	99	78-120	3	20		
Dibromomethane	20.00	19.92	100	77-120	3	20		
4-Methyl-2-Pentanone	20.00	17.18	86	65-120	0	22		
cis-1,3-Dichloropropene	20.00	19.03	95	76-120	0	20		
Toluene	20.00	18.68	93	73-120	8	20		
trans-1,3-Dichloropropene	20.00	22.05	110	72-120	1	20		
1,1,2-Trichloroethane	20.00	19.09	95	76-120	3	20		
2-Hexanone	20.00	18.95	95	57-121	4	25		
1,3-Dichloropropane	20.00	18.90	95	75-120	1	20		
Tetrachloroethene	20.00	19.56	98	77-120	8	20		
Dibromochloromethane	20.00	18.31	92	76-120	4	20		
1,2-Dibromoethane	20.00	18.45	92	77-120	0	20		
Chlorobenzene	20.00	19.11	96	78-120	8	20		
1,1,1,2-Tetrachloroethane	20.00	19.04	95	77-120	5	20		
Ethylbenzene	20.00	20.19	101	78-120	8	26		
m,p-Xylenes	40.00	38.98	97	77-120	8	20		
o-Xylene	20.00	20.22	101	77-120	7	20		
Styrene	20.00	19.65	98	77-120	9	20		
Bromoform	20.00	19.70	99	74-121	1	21		
Isopropylbenzene	20.00	17.63	88	71-120	2	20		
1,1,2,2-Tetrachloroethane	20.00	18.19	91	73-120	6	20		
1,2,3-Trichloropropane	20.00	17.43	87	72-120	0	20		
Propylbenzene	20.00	19.49	97	76-120	9	20		
Bromobenzene	20.00	18.60	93	75-120	5	20		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164161
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,3,5-Trimethylbenzene	20.00	20.32	102	77-120	2	20		
2-Chlorotoluene	20.00	20.36	102	76-120	1	20		
4-Chlorotoluene	20.00	19.43	97	78-120	1	20		
tert-Butylbenzene	20.00	19.64	98	76-120	5	21		
1,2,4-Trimethylbenzene	20.00	19.51	98	77-120	5	20		
sec-Butylbenzene	20.00	20.79	104	80-120	4	21		
para-Isopropyl Toluene	20.00	18.91	95	76-120	7	20		
1,3-Dichlorobenzene	20.00	19.58	98	75-120	1	20		
1,4-Dichlorobenzene	20.00	18.89	94	77-120	3	23		
n-Butylbenzene	20.00	20.51	103	76-120	7	21		
1,2-Dichlorobenzene	20.00	19.06	95	76-120	1	20		
1,2-Dibromo-3-Chloropropane	20.00	15.68 b	78	65-120	0	22	V9	
1,2,4-Trichlorobenzene	20.00	18.56	93	73-121	3	20		
Hexachlorobutadiene	20.00	18.54	93	73-123	6	25		
Naphthalene	20.00	19.35	97	62-121	2	32		
1,2,3-Trichlorobenzene	20.00	19.45	97	66-123	1	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	107	77-120		
1,2-Dichloroethane-d4	100	70-127		
Toluene-d8	100	83-125		
Bromofluorobenzene	100	78-120		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549123	Batch#:	164161
Matrix:	Water	Analyzed:	06/18/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	V1
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549123	Batch#:	164161
Matrix:	Water	Analyzed:	06/18/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	V9
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	108	77-120	
1,2-Dichloroethane-d4	112	70-127	
Toluene-d8	96	83-125	
Bromofluorobenzene	99	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549146	Batch#:	164167
Matrix:	Water	Analyzed:	06/18/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549146	Batch#:	164167
Matrix:	Water	Analyzed:	06/18/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	115	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164167
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549147

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	28.65	115	56-140		
Chloromethane	25.00	28.62	114	46-142		
Vinyl Chloride	25.00	26.63	107	49-136		
Bromomethane	25.00	30.26	b 121	42-154	V3	
Chloroethane	25.00	30.07	120	51-133		
Trichlorofluoromethane	25.00	27.84	111	63-135		
Iodomethane	25.00	30.96	b 124	70-130	V3	
Acetone	25.00	30.86	b 123	48-130	V3	
1,1-Dichloroethene	25.00	26.19	105	68-133		
Methylene Chloride	25.00	28.26	113	71-120		
Carbon Disulfide	25.00	22.25	89	56-120		
MTBE	25.00	26.76	107	58-120		
trans-1,2-Dichloroethene	25.00	27.74	111	80-120		
Vinyl Acetate	25.00	36.09	b 144 *	63-124	L1 V3	
1,1-Dichloroethane	25.00	28.75	115	77-120		
2-Butanone	25.00	31.72	b 127 *	57-120	L1 V3	
cis-1,2-Dichloroethene	25.00	28.49	114	75-120		
2,2-Dichloropropane	25.00	33.73	b 135 *	72-128	L1 V3	
Chloroform	25.00	28.84	115	78-120		
Bromochloromethane	25.00	29.39	118	78-120		
1,1,1-Trichloroethane	25.00	27.99	112	78-120		
1,1-Dichloropropene	25.00	26.11	104	75-120		
Carbon Tetrachloride	25.00	27.08	108	80-120		
1,2-Dichloroethane	25.00	27.05	108	74-120		
Benzene	25.00	27.03	108	77-120		
Trichloroethene	25.00	26.01	104	78-122		
1,2-Dichloropropane	25.00	25.77	103	76-120		
Bromodichloromethane	25.00	27.24	109	78-120		
Dibromomethane	25.00	27.93	112	77-120		
4-Methyl-2-Pentanone	25.00	28.36	113	65-120		
cis-1,3-Dichloropropene	25.00	27.82	111	76-120		
Toluene	25.00	25.45	102	73-120		
trans-1,3-Dichloropropene	25.00	24.40	98	72-120		
1,1,2-Trichloroethane	25.00	25.51	102	76-120		
2-Hexanone	25.00	27.96	112	57-121		
1,3-Dichloropropane	25.00	25.80	103	75-120		
Tetrachloroethene	25.00	24.14	97	77-120		
Dibromochloromethane	25.00	25.42	102	76-120		
1,2-Dibromoethane	25.00	25.40	102	77-120		
Chlorobenzene	25.00	25.37	101	78-120		
1,1,1,2-Tetrachloroethane	25.00	24.85	99	77-120		
Ethylbenzene	25.00	25.55	102	78-120		
m,p-Xylenes	50.00	51.41	103	77-120		
o-Xylene	25.00	25.81	103	77-120		
Styrene	25.00	26.09	104	77-120		
Bromoform	25.00	25.92	104	74-121		
Isopropylbenzene	25.00	21.82	87	71-120		
1,1,2,2-Tetrachloroethane	25.00	25.53	102	73-120		
1,2,3-Trichloropropane	25.00	24.93	100	72-120		
Propylbenzene	25.00	24.98	100	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164167
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	24.68	99	75-120	
1,3,5-Trimethylbenzene	25.00	25.24	101	77-120	
2-Chlorotoluene	25.00	25.58	102	76-120	
4-Chlorotoluene	25.00	25.17	101	78-120	
tert-Butylbenzene	25.00	25.02	100	76-120	
1,2,4-Trimethylbenzene	25.00	25.94	104	77-120	
sec-Butylbenzene	25.00	25.39	102	80-120	
para-Isopropyl Toluene	25.00	24.51	98	76-120	
1,3-Dichlorobenzene	25.00	24.80	99	75-120	
1,4-Dichlorobenzene	25.00	24.67	99	77-120	
n-Butylbenzene	25.00	25.99	104	76-120	
1,2-Dichlorobenzene	25.00	25.19	101	76-120	
1,2-Dibromo-3-Chloropropane	25.00	24.69	99	65-120	
1,2,4-Trichlorobenzene	25.00	24.13	97	73-121	
Hexachlorobutadiene	25.00	23.52	94	73-123	
Naphthalene	25.00	25.16	101	62-121	
1,2,3-Trichlorobenzene	25.00	25.14	101	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	108	77-120	
1,2-Dichloroethane-d4	101	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	99	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164167
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549148

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	28.91	116	56-140	1	24		
Chloromethane	25.00	29.83	119	46-142	4	24		
Vinyl Chloride	25.00	27.23	109	49-136	2	24		
Bromomethane	25.00	32.38 b	130	42-154	7	24	V3	
Chloroethane	25.00	30.38	122	51-133	1	25		
Trichlorofluoromethane	25.00	28.19	113	63-135	1	20		
Iodomethane	25.00	34.11 b	136	* 70-130	10	20	L1	V3
Acetone	25.00	30.97 b	124	48-130	0	41	V3	
1,1-Dichloroethene	25.00	26.35	105	68-133	1	20		
Methylene Chloride	25.00	28.71	115	71-120	2	20		
Carbon Disulfide	25.00	22.57	90	56-120	1	20		
MTBE	25.00	26.37	105	58-120	1	21		
trans-1,2-Dichloroethene	25.00	27.72	111	80-120	0	24		
Vinyl Acetate	25.00	33.25 b	133	* 63-124	8	24	L1	V3
1,1-Dichloroethane	25.00	28.92	116	77-120	1	20		
2-Butanone	25.00	30.19 b	121	* 57-120	5	32	L1	V3
cis-1,2-Dichloroethene	25.00	28.77	115	75-120	1	20		
2,2-Dichloropropane	25.00	33.74 b	135	* 72-128	0	24	L1	V3
Chloroform	25.00	28.78	115	78-120	0	20		
Bromochloromethane	25.00	29.18	117	78-120	1	20		
1,1,1-Trichloroethane	25.00	27.93	112	78-120	0	20		
1,1-Dichloropropene	25.00	26.28	105	75-120	1	21		
Carbon Tetrachloride	25.00	26.99	108	80-120	0	21		
1,2-Dichloroethane	25.00	27.12	108	74-120	0	20		
Benzene	25.00	27.26	109	77-120	1	20		
Trichloroethene	25.00	26.35	105	78-122	1	20		
1,2-Dichloropropane	25.00	26.06	104	76-120	1	20		
Bromodichloromethane	25.00	27.18	109	78-120	0	20		
Dibromomethane	25.00	27.23	109	77-120	3	20		
4-Methyl-2-Pentanone	25.00	27.21	109	65-120	4	22		
cis-1,3-Dichloropropene	25.00	27.60	110	76-120	1	20		
Toluene	25.00	25.81	103	73-120	1	20		
trans-1,3-Dichloropropene	25.00	24.58	98	72-120	1	20		
1,1,2-Trichloroethane	25.00	25.56	102	76-120	0	20		
2-Hexanone	25.00	28.32	113	57-121	1	25		
1,3-Dichloropropane	25.00	25.97	104	75-120	1	20		
Tetrachloroethene	25.00	24.57	98	77-120	2	20		
Dibromochloromethane	25.00	25.28	101	76-120	1	20		
1,2-Dibromoethane	25.00	25.26	101	77-120	1	20		
Chlorobenzene	25.00	25.60	102	78-120	1	20		
1,1,1,2-Tetrachloroethane	25.00	25.06	100	77-120	1	20		
Ethylbenzene	25.00	26.11	104	78-120	2	26		
m,p-Xylenes	50.00	52.70	105	77-120	2	20		
o-Xylene	25.00	26.51	106	77-120	3	20		
Styrene	25.00	26.51	106	77-120	2	20		
Bromoform	25.00	25.72	103	74-121	1	21		
Isopropylbenzene	25.00	22.31	89	71-120	2	20		
1,1,2,2-Tetrachloroethane	25.00	24.96	100	73-120	2	20		
1,2,3-Trichloropropane	25.00	24.98	100	72-120	0	20		
Propylbenzene	25.00	25.43	102	76-120	2	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164167
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	25.11	100	75-120	2	20		
1,3,5-Trimethylbenzene	25.00	25.93	104	77-120	3	20		
2-Chlorotoluene	25.00	25.86	103	76-120	1	20		
4-Chlorotoluene	25.00	25.73	103	78-120	2	20		
tert-Butylbenzene	25.00	25.77	103	76-120	3	21		
1,2,4-Trimethylbenzene	25.00	26.26	105	77-120	1	20		
sec-Butylbenzene	25.00	26.08	104	80-120	3	21		
para-Isopropyl Toluene	25.00	25.20	101	76-120	3	20		
1,3-Dichlorobenzene	25.00	25.33	101	75-120	2	20		
1,4-Dichlorobenzene	25.00	25.16	101	77-120	2	23		
n-Butylbenzene	25.00	26.70	107	76-120	3	21		
1,2-Dichlorobenzene	25.00	25.50	102	76-120	1	20		
1,2-Dibromo-3-Chloropropane	25.00	24.79	99	65-120	0	22		
1,2,4-Trichlorobenzene	25.00	24.45	98	73-121	1	20		
Hexachlorobutadiene	25.00	24.47	98	73-123	4	25		
Naphthalene	25.00	25.43	102	62-121	1	32		
1,2,3-Trichlorobenzene	25.00	25.75	103	66-123	2	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	106	77-120		
1,2-Dichloroethane-d4	101	70-127		
Toluene-d8	98	83-125		
Bromofluorobenzene	99	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
MSS Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549173

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1104	25.00	29.21	117	56-140		
Chloromethane	<0.1000	25.00	28.54	114	46-142		
Vinyl Chloride	<0.1000	25.00	27.77	111	49-136		
Bromomethane	<0.1671	25.00	26.60	b 106	42-154	V3	
Chloroethane	<0.1012	25.00	31.57	126	51-133		
Trichlorofluoromethane	<0.1000	25.00	28.95	116	63-135		
Iodomethane	<0.1554	25.00	23.77	b 95	60-140	V3	
Acetone	<0.5288	25.00	27.15	b 109	48-130	V3	
1,1-Dichloroethene	<0.1268	25.00	26.63	107	68-133		
Methylene Chloride	<0.1261	25.00	29.89	120	71-120		
Carbon Disulfide	<0.1000	25.00	23.72	95	56-120		
MTBE	0.1081	25.00	27.41	109	58-120		
trans-1,2-Dichloroethene	<0.1000	25.00	28.51	114	80-120		
Vinyl Acetate	<0.1904	25.00	31.99	b 128	* 63-124	M1	V3
1,1-Dichloroethane	<0.1000	25.00	31.05	124	* 77-120	M1	
2-Butanone	<0.2122	25.00	31.22	b 125	* 57-120	M1	V3
cis-1,2-Dichloroethene	<0.1000	25.00	29.92	120	75-120		
2,2-Dichloropropane	<0.1208	25.00	30.70	b 123	72-128	V3	
Chloroform	<0.1000	25.00	31.10	124	* 78-120	M1	
Bromochloromethane	<0.1603	25.00	31.09	124	* 78-120	M1	
1,1,1-Trichloroethane	<0.1471	25.00	29.44	118	78-120		
1,1-Dichloropropene	<0.1000	25.00	26.77	107	75-120		
Carbon Tetrachloride	<0.1000	25.00	27.25	109	80-120		
1,2-Dichloroethane	<0.1000	25.00	27.82	111	74-120		
Benzene	<0.1000	25.00	27.81	111	77-120		
Trichloroethene	<0.1000	25.00	26.45	106	78-122		
1,2-Dichloropropane	<0.1000	25.00	26.91	108	76-120		
Bromodichloromethane	<0.1000	25.00	27.96	112	78-120		
Dibromomethane	<0.1456	25.00	27.94	112	77-120		
4-Methyl-2-Pentanone	<0.1556	25.00	29.14	117	65-120		
cis-1,3-Dichloropropene	<0.1126	25.00	27.54	110	76-120		
Toluene	<0.1000	25.00	25.40	102	73-120		
trans-1,3-Dichloropropene	<0.1000	25.00	23.87	95	72-120		
1,1,2-Trichloroethane	<0.1000	25.00	25.80	103	76-120		
2-Hexanone	<0.1698	25.00	27.20	109	57-121		
1,3-Dichloropropane	<0.1000	25.00	26.07	104	75-120		
Tetrachloroethene	<0.1081	25.00	23.25	93	77-120		
Dibromochloromethane	<0.1000	25.00	25.15	101	76-120		
1,2-Dibromoethane	<0.1252	25.00	25.13	101	77-120		
Chlorobenzene	<0.1000	25.00	24.97	100	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	25.00	24.41	98	77-120		
Ethylbenzene	<0.1000	25.00	25.55	102	78-120		
m,p-Xylenes	<0.1309	50.00	50.39	101	77-120		
o-Xylene	<0.1000	25.00	25.25	101	77-120		
Styrene	<0.1578	25.00	22.42	90	77-120		
Bromoform	<0.1000	25.00	25.23	101	74-121		
Isopropylbenzene	<0.1000	25.00	21.83	87	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	25.00	26.86	107	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
MSS Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ Flags
1,2,3-Trichloropropane	<0.1043	25.00	26.30	105	72-120	
Propylbenzene	<0.1000	25.00	24.72	99	76-120	
Bromobenzene	<0.1000	25.00	24.96	100	75-120	
1,3,5-Trimethylbenzene	<0.1000	25.00	25.26	101	77-120	
2-Chlorotoluene	<0.1000	25.00	25.68	103	76-120	
4-Chlorotoluene	<0.1000	25.00	25.31	101	78-120	
tert-Butylbenzene	<0.1000	25.00	24.96	100	76-120	
1,2,4-Trimethylbenzene	<0.1000	25.00	25.44	102	77-120	
sec-Butylbenzene	<0.1000	25.00	25.21	101	80-120	
para-Isopropyl Toluene	<0.1000	25.00	23.90	96	76-120	
1,3-Dichlorobenzene	<0.1018	25.00	24.29	97	75-120	
1,4-Dichlorobenzene	<0.1000	25.00	24.10	96	77-120	
n-Butylbenzene	<0.1000	25.00	24.99	100	76-120	
1,2-Dichlorobenzene	<0.1000	25.00	25.07	100	76-120	
1,2-Dibromo-3-Chloropropane	<0.1766	25.00	25.83	103	65-120	
1,2,4-Trichlorobenzene	<0.1000	25.00	22.74	91	73-121	
Hexachlorobutadiene	<0.2383	25.00	22.25	89	73-123	
Naphthalene	<0.1825	25.00	23.68	95	62-121	
1,2,3-Trichlorobenzene	<0.1000	25.00	23.70	95	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	111	77-120	
1,2-Dichloroethane-d4	108	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	102	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
MSS Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549174

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	29.70	119	56-140	2	24		
Chloromethane	25.00	30.46	122	46-142	7	24		
Vinyl Chloride	25.00	28.10	112	49-136	1	24		
Bromomethane	25.00	30.46 b	122	42-154	14	24	V3	
Chloroethane	25.00	31.40	126	51-133	1	25		
Trichlorofluoromethane	25.00	29.27	117	63-135	1	20		
Iodomethane	25.00	27.82 b	111	60-140	16	30	V3	
Acetone	25.00	26.97 b	108	48-130	1	41	V3	
1,1-Dichloroethene	25.00	27.91	112	68-133	5	20		
Methylene Chloride	25.00	29.66	119	71-120	1	20		
Carbon Disulfide	25.00	23.68	95	56-120	0	20		
MTBE	25.00	27.37	109	58-120	0	21		
trans-1,2-Dichloroethene	25.00	29.29	117	80-120	3	24		
Vinyl Acetate	25.00	30.90 b	124	63-124	3	24	V3	
1,1-Dichloroethane	25.00	30.93	124	* 77-120	0	20	M1	
2-Butanone	25.00	30.66 b	123	* 57-120	2	32	M1	V3
cis-1,2-Dichloroethene	25.00	30.21	121	* 75-120	1	20	M1	
2,2-Dichloropropane	25.00	29.81 b	119	72-128	3	24	V3	
Chloroform	25.00	30.51	122	* 78-120	2	20	M1	
Bromochloromethane	25.00	30.79	123	* 78-120	1	20	M1	
1,1,1-Trichloroethane	25.00	29.44	118	78-120	0	20		
1,1-Dichloropropene	25.00	26.40	106	75-120	1	21		
Carbon Tetrachloride	25.00	27.49	110	80-120	1	21		
1,2-Dichloroethane	25.00	27.63	111	74-120	1	20		
Benzene	25.00	27.74	111	77-120	0	20		
Trichloroethene	25.00	26.34	105	78-122	0	20		
1,2-Dichloropropane	25.00	27.05	108	76-120	1	20		
Bromodichloromethane	25.00	27.76	111	78-120	1	20		
Dibromomethane	25.00	27.71	111	77-120	1	20		
4-Methyl-2-Pentanone	25.00	28.57	114	65-120	2	22		
cis-1,3-Dichloropropene	25.00	27.33	109	76-120	1	20		
Toluene	25.00	25.74	103	73-120	1	20		
trans-1,3-Dichloropropene	25.00	24.06	96	72-120	1	20		
1,1,2-Trichloroethane	25.00	25.62	102	76-120	1	20		
2-Hexanone	25.00	26.90	108	57-121	1	25		
1,3-Dichloropropane	25.00	25.98	104	75-120	0	20		
Tetrachloroethene	25.00	23.69	95	77-120	2	20		
Dibromochloromethane	25.00	24.95	100	76-120	1	20		
1,2-Dibromoethane	25.00	25.03	100	77-120	0	20		
Chlorobenzene	25.00	25.22	101	78-120	1	20		
1,1,1,2-Tetrachloroethane	25.00	24.88	100	77-120	2	20		
Ethylbenzene	25.00	25.60	102	78-120	0	26		
m,p-Xylenes	50.00	51.37	103	77-120	2	20		
o-Xylene	25.00	25.65	103	77-120	2	20		
Styrene	25.00	22.76	91	77-120	2	20		
Bromoform	25.00	25.53	102	74-121	1	21		
Isopropylbenzene	25.00	22.28	89	71-120	2	20		
1,1,2,2-Tetrachloroethane	25.00	26.74	107	73-120	0	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-100A-GW-10Q2	Batch#:	164167
MSS Lab ID:	220633-010	Sampled:	06/08/10
Matrix:	Water	Received:	06/09/10
Units:	ug/L	Analyzed:	06/18/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	25.00	26.03	104	72-120	1	20		
Propylbenzene	25.00	25.05	100	76-120	1	20		
Bromobenzene	25.00	25.20	101	75-120	1	20		
1,3,5-Trimethylbenzene	25.00	25.33	101	77-120	0	20		
2-Chlorotoluene	25.00	26.00	104	76-120	1	20		
4-Chlorotoluene	25.00	25.41	102	78-120	0	20		
tert-Butylbenzene	25.00	25.38	102	76-120	2	21		
1,2,4-Trimethylbenzene	25.00	25.72	103	77-120	1	20		
sec-Butylbenzene	25.00	25.55	102	80-120	1	21		
para-Isopropyl Toluene	25.00	24.24	97	76-120	1	20		
1,3-Dichlorobenzene	25.00	24.86	99	75-120	2	20		
1,4-Dichlorobenzene	25.00	24.39	98	77-120	1	23		
n-Butylbenzene	25.00	25.38	102	76-120	2	21		
1,2-Dichlorobenzene	25.00	25.16	101	76-120	0	20		
1,2-Dibromo-3-Chloropropane	25.00	25.70	103	65-120	1	22		
1,2,4-Trichlorobenzene	25.00	23.12	92	73-121	2	20		
Hexachlorobutadiene	25.00	23.10	92	73-123	4	25		
Naphthalene	25.00	24.31	97	62-121	3	32		
1,2,3-Trichlorobenzene	25.00	24.21	97	66-123	2	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	110	77-120		
1,2-Dichloroethane-d4	105	70-127		
Toluene-d8	98	83-125		
Bromofluorobenzene	102	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549262	Batch#:	164198
Matrix:	Water	Analyzed:	06/20/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	V1
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549262	Batch#:	164198
Matrix:	Water	Analyzed:	06/20/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	114	77-120	
1,2-Dichloroethane-d4	114	70-127	
Toluene-d8	96	83-125	
Bromofluorobenzene	97	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164198
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549263

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	22.50	29.50	b	131	56-140	V3
Chloromethane	22.50	26.93		120	46-142	
Vinyl Chloride	22.50	25.15		112	49-136	
Bromomethane	22.50	26.74		119	42-154	
Chloroethane	22.50	27.69	b	123	51-133	V3
Trichlorofluoromethane	22.50	27.68	b	123	63-135	V3
Iodomethane	22.50	27.62	b	123	70-130	V3
Acetone	22.50	22.79		101	48-130	
1,1-Dichloroethene	22.50	23.10		103	68-133	
Methylene Chloride	22.50	24.41		109	71-120	
Carbon Disulfide	22.50	20.69		92	56-120	
MTBE	22.50	21.54		96	58-120	
trans-1,2-Dichloroethene	22.50	24.19		108	80-120	
Vinyl Acetate	22.50	24.72		110	63-124	
1,1-Dichloroethane	22.50	24.15		107	77-120	
2-Butanone	22.50	24.00		107	57-120	
cis-1,2-Dichloroethene	22.50	24.28		108	75-120	
2,2-Dichloropropane	22.50	26.26		117	72-128	
Chloroform	22.50	24.50		109	78-120	
Bromochloromethane	22.50	23.52		105	78-120	
1,1,1-Trichloroethane	22.50	24.33		108	78-120	
1,1-Dichloropropene	22.50	21.94		98	75-120	
Carbon Tetrachloride	22.50	23.13		103	80-120	
1,2-Dichloroethane	22.50	21.34		95	74-120	
Benzene	22.50	22.95		102	77-120	
Trichloroethene	22.50	22.88		102	78-122	
1,2-Dichloropropane	22.50	21.10		94	76-120	
Bromodichloromethane	22.50	23.33		104	78-120	
Dibromomethane	22.50	23.41		104	77-120	
4-Methyl-2-Pentanone	22.50	21.38		95	65-120	
cis-1,3-Dichloropropene	22.50	22.59		100	76-120	
Toluene	22.50	20.17		90	73-120	
trans-1,3-Dichloropropene	22.50	24.41		108	72-120	
1,1,2-Trichloroethane	22.50	21.48		95	76-120	
2-Hexanone	22.50	19.34		86	57-121	
1,3-Dichloropropane	22.50	19.87		88	75-120	
Tetrachloroethene	22.50	21.63		96	77-120	
Dibromochloromethane	22.50	20.23		90	76-120	
1,2-Dibromoethane	22.50	20.34		90	77-120	
Chlorobenzene	22.50	21.35		95	78-120	
1,1,1,2-Tetrachloroethane	22.50	20.50		91	77-120	
Ethylbenzene	22.50	21.45		95	78-120	
m,p-Xylenes	45.00	43.31		96	77-120	
o-Xylene	22.50	21.99		98	77-120	
Styrene	22.50	21.76		97	77-120	
Bromoform	22.50	21.58		96	74-121	
Isopropylbenzene	22.50	19.73		88	71-120	
1,1,2,2-Tetrachloroethane	22.50	20.72		92	73-120	
1,2,3-Trichloropropane	22.50	19.45		86	72-120	
Propylbenzene	22.50	22.76		101	76-120	
Bromobenzene	22.50	21.17		94	75-120	

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164198
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
1,3,5-Trimethylbenzene	22.50	21.19	94	77-120	
2-Chlorotoluene	22.50	21.25	94	76-120	
4-Chlorotoluene	22.50	21.11	94	78-120	
tert-Butylbenzene	22.50	21.95	98	76-120	
1,2,4-Trimethylbenzene	22.50	21.92	97	77-120	
sec-Butylbenzene	22.50	23.41	104	80-120	
para-Isopropyl Toluene	22.50	21.38	95	76-120	
1,3-Dichlorobenzene	22.50	21.59	96	75-120	
1,4-Dichlorobenzene	22.50	20.84	93	77-120	
n-Butylbenzene	22.50	23.24	103	76-120	
1,2-Dichlorobenzene	22.50	21.25	94	76-120	
1,2-Dibromo-3-Chloropropane	22.50	18.48	82	65-120	
1,2,4-Trichlorobenzene	22.50	21.11	94	73-121	
Hexachlorobutadiene	22.50	21.45	95	73-123	
Naphthalene	22.50	22.43	100	62-121	
1,2,3-Trichlorobenzene	22.50	22.37	99	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	108	77-120	
1,2-Dichloroethane-d4	106	70-127	
Toluene-d8	96	83-125	
Bromofluorobenzene	98	78-120	

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164198
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549264

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	22.50	27.76 b	123	56-140	6	24	V3	
Chloromethane	22.50	25.11	112	46-142	7	24		
Vinyl Chloride	22.50	22.60	100	49-136	11	24		
Bromomethane	22.50	25.26	112	42-154	6	24		
Chloroethane	22.50	26.06 b	116	51-133	6	25	V3	
Trichlorofluoromethane	22.50	25.36 b	113	63-135	9	20	V3	
Iodomethane	22.50	25.91 b	115	70-130	6	20	V3	
Acetone	22.50	23.16	103	48-130	2	41		
1,1-Dichloroethene	22.50	20.71	92	68-133	11	20		
Methylene Chloride	22.50	22.79	101	71-120	7	20		
Carbon Disulfide	22.50	19.12	85	56-120	8	20		
MTBE	22.50	20.80	92	58-120	3	21		
trans-1,2-Dichloroethene	22.50	22.94	102	80-120	5	24		
Vinyl Acetate	22.50	23.02	102	63-124	7	24		
1,1-Dichloroethane	22.50	22.32	99	77-120	8	20		
2-Butanone	22.50	23.93	106	57-120	0	32		
cis-1,2-Dichloroethene	22.50	23.18	103	75-120	5	20		
2,2-Dichloropropane	22.50	23.62	105	72-128	11	24		
Chloroform	22.50	23.44	104	78-120	4	20		
Bromochloromethane	22.50	23.28	103	78-120	1	20		
1,1,1-Trichloroethane	22.50	22.95	102	78-120	6	20		
1,1-Dichloropropene	22.50	20.40	91	75-120	7	21		
Carbon Tetrachloride	22.50	21.12	94	80-120	9	21		
1,2-Dichloroethane	22.50	20.42	91	74-120	4	20		
Benzene	22.50	21.85	97	77-120	5	20		
Trichloroethene	22.50	21.43	95	78-122	7	20		
1,2-Dichloropropane	22.50	19.69	88	76-120	7	20		
Bromodichloromethane	22.50	21.38	95	78-120	9	20		
Dibromomethane	22.50	22.14	98	77-120	6	20		
4-Methyl-2-Pentanone	22.50	20.07	89	65-120	6	22		
cis-1,3-Dichloropropene	22.50	20.90	93	76-120	8	20		
Toluene	22.50	20.06	89	73-120	1	20		
trans-1,3-Dichloropropene	22.50	23.52	105	72-120	4	20		
1,1,2-Trichloroethane	22.50	20.86	93	76-120	3	20		
2-Hexanone	22.50	19.70	88	57-121	2	25		
1,3-Dichloropropane	22.50	19.51	87	75-120	2	20		
Tetrachloroethene	22.50	21.18	94	77-120	2	20		
Dibromochloromethane	22.50	20.20	90	76-120	0	20		
1,2-Dibromoethane	22.50	20.99	93	77-120	3	20		
Chlorobenzene	22.50	21.25	94	78-120	0	20		
1,1,1,2-Tetrachloroethane	22.50	20.70	92	77-120	1	20		
Ethylbenzene	22.50	21.77	97	78-120	1	26		
m,p-Xylenes	45.00	42.91	95	77-120	1	20		
o-Xylene	22.50	21.40	95	77-120	3	20		
Styrene	22.50	21.45	95	77-120	1	20		
Bromoform	22.50	21.99	98	74-121	2	21		
Isopropylbenzene	22.50	18.68	83	71-120	5	20		
1,1,2,2-Tetrachloroethane	22.50	20.69	92	73-120	0	20		
1,2,3-Trichloropropane	22.50	20.36	90	72-120	5	20		
Propylbenzene	22.50	21.20	94	76-120	7	20		
Bromobenzene	22.50	20.82	93	75-120	2	20		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164198
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,3,5-Trimethylbenzene	22.50	20.94	93	77-120	1	20		
2-Chlorotoluene	22.50	20.80	92	76-120	2	20		
4-Chlorotoluene	22.50	20.52	91	78-120	3	20		
tert-Butylbenzene	22.50	21.76	97	76-120	1	21		
1,2,4-Trimethylbenzene	22.50	20.94	93	77-120	5	20		
sec-Butylbenzene	22.50	21.79	97	80-120	7	21		
para-Isopropyl Toluene	22.50	20.83	93	76-120	3	20		
1,3-Dichlorobenzene	22.50	21.36	95	75-120	1	20		
1,4-Dichlorobenzene	22.50	20.16	90	77-120	3	23		
n-Butylbenzene	22.50	22.58	100	76-120	3	21		
1,2-Dichlorobenzene	22.50	21.60	96	76-120	2	20		
1,2-Dibromo-3-Chloropropane	22.50	18.62	83	65-120	1	22		
1,2,4-Trichlorobenzene	22.50	21.48	95	73-121	2	20		
Hexachlorobutadiene	22.50	20.37	91	73-123	5	25		
Naphthalene	22.50	23.38	104	62-121	4	32		
1,2,3-Trichlorobenzene	22.50	22.75	101	66-123	2	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	108	77-120		
1,2-Dichloroethane-d4	103	70-127		
Toluene-d8	97	83-125		
Bromofluorobenzene	101	78-120		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549274	Batch#:	164202
Matrix:	Water	Analyzed:	06/20/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	L1 V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	L1
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	L1
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549274	Batch#:	164202
Matrix:	Water	Analyzed:	06/20/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	111	77-120	
1,2-Dichloroethane-d4	108	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	112	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164202
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549275

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	29.11	116	56-140		
Chloromethane	25.00	30.25	121	46-142		
Vinyl Chloride	25.00	27.74	111	49-136		
Bromomethane	25.00	30.58	122	42-154		
Chloroethane	25.00	31.08	124	51-133		
Trichlorofluoromethane	25.00	28.31	113	63-135		
Iodomethane	25.00	27.09	b	108	70-130	
Acetone	25.00	34.67	b	139 *	48-130	L1 V3
1,1-Dichloroethene	25.00	26.74	107	68-133		
Methylene Chloride	25.00	29.18	117	71-120		
Carbon Disulfide	25.00	23.19	93	56-120		
MTBE	25.00	28.40	114	58-120		
trans-1,2-Dichloroethene	25.00	28.82	115	80-120		
Vinyl Acetate	25.00	39.68	159 *	63-124	L1	
1,1-Dichloroethane	25.00	29.84	119	77-120		
2-Butanone	25.00	35.80	b	143 *	57-120	L1 V3
cis-1,2-Dichloroethene	25.00	29.53	118	75-120		
2,2-Dichloropropane	25.00	35.67	b	143 *	72-128	L1 V3
Chloroform	25.00	30.07	120	78-120		
Bromochloromethane	25.00	29.86	119	78-120		
1,1,1-Trichloroethane	25.00	29.13	117	78-120		
1,1-Dichloropropene	25.00	27.27	109	75-120		
Carbon Tetrachloride	25.00	27.66	111	80-120		
1,2-Dichloroethane	25.00	27.57	110	74-120		
Benzene	25.00	27.80	111	77-120		
Trichloroethene	25.00	26.47	106	78-122		
1,2-Dichloropropane	25.00	26.53	106	76-120		
Bromodichloromethane	25.00	27.72	111	78-120		
Dibromomethane	25.00	28.17	113	77-120		
4-Methyl-2-Pentanone	25.00	31.19	125 *	65-120	L1	
cis-1,3-Dichloropropene	25.00	28.21	113	76-120		
Toluene	25.00	25.72	103	73-120		
trans-1,3-Dichloropropene	25.00	24.86	99	72-120		
1,1,2-Trichloroethane	25.00	25.98	104	76-120		
2-Hexanone	25.00	31.24	125 *	57-121	L1	
1,3-Dichloropropane	25.00	26.16	105	75-120		
Tetrachloroethene	25.00	24.43	98	77-120		
Dibromochloromethane	25.00	25.46	102	76-120		
1,2-Dibromoethane	25.00	25.93	104	77-120		
Chlorobenzene	25.00	25.51	102	78-120		
1,1,1,2-Tetrachloroethane	25.00	25.07	100	77-120		
Ethylbenzene	25.00	25.76	103	78-120		
m,p-Xylenes	50.00	51.70	103	77-120		
o-Xylene	25.00	25.78	103	77-120		
Styrene	25.00	25.88	104	77-120		
Bromoform	25.00	26.76	107	74-121		
Isopropylbenzene	25.00	22.28	89	71-120		
1,1,2,2-Tetrachloroethane	25.00	27.46	110	73-120		
1,2,3-Trichloropropane	25.00	26.92	108	72-120		
Propylbenzene	25.00	25.61	102	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164202
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	25.07	100	75-120	
1,3,5-Trimethylbenzene	25.00	25.98	104	77-120	
2-Chlorotoluene	25.00	26.00	104	76-120	
4-Chlorotoluene	25.00	25.54	102	78-120	
tert-Butylbenzene	25.00	25.74	103	76-120	
1,2,4-Trimethylbenzene	25.00	26.68	107	77-120	
sec-Butylbenzene	25.00	26.32	105	80-120	
para-Isopropyl Toluene	25.00	25.31	101	76-120	
1,3-Dichlorobenzene	25.00	25.05	100	75-120	
1,4-Dichlorobenzene	25.00	25.10	100	77-120	
n-Butylbenzene	25.00	27.39	110	76-120	
1,2-Dichlorobenzene	25.00	25.39	102	76-120	
1,2-Dibromo-3-Chloropropane	25.00	27.77	111	65-120	
1,2,4-Trichlorobenzene	25.00	25.28	101	73-121	
Hexachlorobutadiene	25.00	25.21	101	73-123	
Naphthalene	25.00	27.12	108	62-121	
1,2,3-Trichlorobenzene	25.00	26.35	105	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	108	77-120	
1,2-Dichloroethane-d4	105	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	100	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164202
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549276

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	27.31	109	56-140	6	24		
Chloromethane	25.00	28.65	115	46-142	5	24		
Vinyl Chloride	25.00	25.83	103	49-136	7	24		
Bromomethane	25.00	30.31	121	42-154	1	24		
Chloroethane	25.00	29.21	117	51-133	6	25		
Trichlorofluoromethane	25.00	27.03	108	63-135	5	20		
Iodomethane	25.00	27.42	b	110	70-130	1	20	
Acetone	25.00	32.23	b	129	48-130	7	41	V3
1,1-Dichloroethene	25.00	25.90	104	68-133	3	20		
Methylene Chloride	25.00	28.47	114	71-120	2	20		
Carbon Disulfide	25.00	22.07	88	56-120	5	20		
MTBE	25.00	26.96	108	58-120	5	21		
trans-1,2-Dichloroethene	25.00	27.26	109	80-120	6	24		
Vinyl Acetate	25.00	36.22	145	* 63-124	9	24	L1	
1,1-Dichloroethane	25.00	28.70	115	77-120	4	20		
2-Butanone	25.00	32.20	b	* 57-120	11	32	L1	V3
cis-1,2-Dichloroethene	25.00	28.38	114	75-120	4	20		
2,2-Dichloropropane	25.00	33.14	b	* 72-128	7	24	L1	V3
Chloroform	25.00	28.56	114	78-120	5	20		
Bromochloromethane	25.00	29.37	117	78-120	2	20		
1,1,1-Trichloroethane	25.00	27.93	112	78-120	4	20		
1,1-Dichloropropene	25.00	25.56	102	75-120	6	21		
Carbon Tetrachloride	25.00	26.33	105	80-120	5	21		
1,2-Dichloroethane	25.00	26.94	108	74-120	2	20		
Benzene	25.00	26.26	105	77-120	6	20		
Trichloroethene	25.00	25.31	101	78-122	4	20		
1,2-Dichloropropane	25.00	25.62	102	76-120	4	20		
Bromodichloromethane	25.00	26.61	106	78-120	4	20		
Dibromomethane	25.00	27.26	109	77-120	3	20		
4-Methyl-2-Pentanone	25.00	28.16	113	65-120	10	22		
cis-1,3-Dichloropropene	25.00	27.13	109	76-120	4	20		
Toluene	25.00	24.44	98	73-120	5	20		
trans-1,3-Dichloropropene	25.00	23.84	95	72-120	4	20		
1,1,2-Trichloroethane	25.00	24.86	99	76-120	4	20		
2-Hexanone	25.00	28.51	114	57-121	9	25		
1,3-Dichloropropane	25.00	25.25	101	75-120	4	20		
Tetrachloroethene	25.00	23.40	94	77-120	4	20		
Dibromochloromethane	25.00	24.93	100	76-120	2	20		
1,2-Dibromoethane	25.00	24.98	100	77-120	4	20		
Chlorobenzene	25.00	24.46	98	78-120	4	20		
1,1,1,2-Tetrachloroethane	25.00	24.00	96	77-120	4	20		
Ethylbenzene	25.00	24.53	98	78-120	5	26		
m,p-Xylenes	50.00	49.63	99	77-120	4	20		
o-Xylene	25.00	24.92	100	77-120	3	20		
Styrene	25.00	25.00	100	77-120	3	20		
Bromoform	25.00	25.68	103	74-121	4	21		
Isopropylbenzene	25.00	20.95	84	71-120	6	20		
1,1,2,2-Tetrachloroethane	25.00	25.23	101	73-120	8	20		
1,2,3-Trichloropropane	25.00	24.97	100	72-120	8	20		
Propylbenzene	25.00	24.04	96	76-120	6	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164202
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	23.97	96	75-120	4	20		
1,3,5-Trimethylbenzene	25.00	24.96	100	77-120	4	20		
2-Chlorotoluene	25.00	24.72	99	76-120	5	20		
4-Chlorotoluene	25.00	24.35	97	78-120	5	20		
tert-Butylbenzene	25.00	24.37	97	76-120	5	21		
1,2,4-Trimethylbenzene	25.00	25.41	102	77-120	5	20		
sec-Butylbenzene	25.00	24.90	100	80-120	6	21		
para-Isopropyl Toluene	25.00	24.03	96	76-120	5	20		
1,3-Dichlorobenzene	25.00	23.98	96	75-120	4	20		
1,4-Dichlorobenzene	25.00	23.81	95	77-120	5	23		
n-Butylbenzene	25.00	25.51	102	76-120	7	21		
1,2-Dichlorobenzene	25.00	24.42	98	76-120	4	20		
1,2-Dibromo-3-Chloropropane	25.00	25.83	103	65-120	7	22		
1,2,4-Trichlorobenzene	25.00	24.17	97	73-121	5	20		
Hexachlorobutadiene	25.00	23.43	94	73-123	7	25		
Naphthalene	25.00	25.63	103	62-121	6	32		
1,2,3-Trichlorobenzene	25.00	25.36	101	66-123	4	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	108	77-120		
1,2-Dichloroethane-d4	103	70-127		
Toluene-d8	97	83-125		
Bromofluorobenzene	98	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-65A-GW-10Q2	Batch#:	164198
MSS Lab ID:	220657-012	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549277

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1733	25.00	34.18	b 137	56-140	V3	
Chloromethane	<0.2133	25.00	29.53	118	46-142		
Vinyl Chloride	<0.1202	25.00	28.18	113	49-136		
Bromomethane	<0.1692	25.00	26.06	104	42-154		
Chloroethane	<0.1670	25.00	32.13	b 129	51-133	V3	
Trichlorofluoromethane	<0.1840	25.00	32.18	b 129	63-135	V3	
Iodomethane	<0.1570	25.00	32.06	b 128	60-140	V3	
Acetone	0.5716	25.00	22.04	86	48-130		
1,1-Dichloroethene	0.1620	25.00	25.19	100	68-133		
Methylene Chloride	0.2587	25.00	27.57	109	71-120		
Carbon Disulfide	<0.1000	25.00	23.49	94	56-120		
MTBE	0.8865	25.00	24.70	95	58-120		
trans-1,2-Dichloroethene	<0.1000	25.00	27.45	110	80-120		
Vinyl Acetate	<0.5118	25.00	22.57	90	63-124		
1,1-Dichloroethane	3.269	25.00	30.77	110	77-120		
2-Butanone	<0.2956	25.00	25.61	102	57-120		
cis-1,2-Dichloroethene	0.3460	25.00	27.94	110	75-120		
2,2-Dichloropropane	<0.1000	25.00	26.12	104	72-128		
Chloroform	1.714	25.00	30.53	115	78-120		
Bromochloromethane	<0.1508	25.00	26.68	107	78-120		
1,1,1-Trichloroethane	<0.1000	25.00	28.62	114	78-120		
1,1-Dichloropropene	<0.1000	25.00	24.11	96	75-120		
Carbon Tetrachloride	<0.1000	25.00	26.67	107	80-120		
1,2-Dichloroethane	<0.1000	25.00	24.08	96	74-120		
Benzene	<0.1000	25.00	25.03	100	77-120		
Trichloroethene	2.217	25.00	27.09	99	78-122		
1,2-Dichloropropane	<0.1501	25.00	22.10	88	76-120		
Bromodichloromethane	0.2627	25.00	25.53	101	78-120		
Dibromomethane	<0.1000	25.00	25.48	102	77-120		
4-Methyl-2-Pentanone	<0.1884	25.00	22.14	89	65-120		
cis-1,3-Dichloropropene	<0.1000	25.00	22.70	91	76-120		
Toluene	0.1339	25.00	23.00	91	73-120		
trans-1,3-Dichloropropene	<0.1000	25.00	24.25	97	72-120		
1,1,2-Trichloroethane	<0.1596	25.00	23.08	92	76-120		
2-Hexanone	<0.1592	25.00	20.13	81	57-121		
1,3-Dichloropropane	<0.1000	25.00	22.94	92	75-120		
Tetrachloroethene	0.3169	25.00	24.01	95	77-120		
Dibromochloromethane	0.2074	25.00	22.85	91	76-120		
1,2-Dibromoethane	<0.1000	25.00	22.91	92	77-120		
Chlorobenzene	<0.1136	25.00	24.34	97	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	25.00	23.24	93	77-120		
Ethylbenzene	<0.1561	25.00	25.77	103	78-120		
m,p-Xylenes	<0.1000	50.00	48.21	96	77-120		
o-Xylene	<0.09974	25.00	24.69	99	77-120		
Styrene	<0.1000	25.00	20.92	84	77-120		
Bromoform	<0.1000	25.00	24.51	98	74-121		
Isopropylbenzene	<0.1000	25.00	20.27	81	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	25.00	22.96	92	73-120		
1,2,3-Trichloropropane	<0.1388	25.00	21.82	87	72-120		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-65A-GW-10Q2	Batch#:	164198
MSS Lab ID:	220657-012	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ Flags
Propylbenzene	<0.1074	25.00	23.91	96	76-120	
Bromobenzene	<0.1000	25.00	23.12	92	75-120	
1,3,5-Trimethylbenzene	<0.1017	25.00	23.40	94	77-120	
2-Chlorotoluene	<0.1027	25.00	23.44	94	76-120	
4-Chlorotoluene	<0.1554	25.00	22.98	92	78-120	
tert-Butylbenzene	<0.1000	25.00	23.80	95	76-120	
1,2,4-Trimethylbenzene	<0.1598	25.00	23.41	94	77-120	
sec-Butylbenzene	<0.1102	25.00	24.04	96	80-120	
para-Isopropyl Toluene	<0.1014	25.00	22.61	90	76-120	
1,3-Dichlorobenzene	<0.1000	25.00	23.35	93	75-120	
1,4-Dichlorobenzene	<0.1000	25.00	22.62	90	77-120	
n-Butylbenzene	<0.1011	25.00	24.67	99	76-120	
1,2-Dichlorobenzene	<0.1000	25.00	23.89	96	76-120	
1,2-Dibromo-3-Chloropropane	<0.1880	25.00	19.18	77	65-120	
1,2,4-Trichlorobenzene	<0.1138	25.00	24.01	96	73-121	
Hexachlorobutadiene	<0.1492	25.00	21.63	87	73-123	
Naphthalene	<0.1000	25.00	24.61	98	62-121	
1,2,3-Trichlorobenzene	<0.1000	25.00	25.14	101	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	112	77-120	
1,2-Dichloroethane-d4	106	70-127	
Toluene-d8	91	83-125	
Bromofluorobenzene	99	78-120	

b= See narrative
 RPD= Relative Percent Difference
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Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-65A-GW-10Q2	Batch#:	164198
MSS Lab ID:	220657-012	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549278

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	31.45 b	126	56-140	8	24	V3	
Chloromethane	25.00	27.84	111	46-142	6	24		
Vinyl Chloride	25.00	27.62	110	49-136	2	24		
Bromomethane	25.00	28.21	113	42-154	8	24		
Chloroethane	25.00	30.59 b	122	51-133	5	25	V3	
Trichlorofluoromethane	25.00	31.51 b	126	63-135	2	20	V3	
Iodomethane	25.00	34.95 b	140	60-140	9	30	V3	
Acetone	25.00	21.70	85	48-130	2	41		
1,1-Dichloroethene	25.00	24.68	98	68-133	2	20		
Methylene Chloride	25.00	26.78	106	71-120	3	20		
Carbon Disulfide	25.00	21.89	88	56-120	7	20		
MTBE	25.00	24.44	94	58-120	1	21		
trans-1,2-Dichloroethene	25.00	26.39	106	80-120	4	24		
Vinyl Acetate	25.00	21.01	84	63-124	7	24		
1,1-Dichloroethane	25.00	28.82	102	77-120	7	20		
2-Butanone	25.00	23.68	95	57-120	8	32		
cis-1,2-Dichloroethene	25.00	26.45	104	75-120	5	20		
2,2-Dichloropropane	25.00	24.27	97	72-128	7	24		
Chloroform	25.00	28.85	109	78-120	6	20		
Bromochloromethane	25.00	26.44	106	78-120	1	20		
1,1,1-Trichloroethane	25.00	27.60	110	78-120	4	20		
1,1-Dichloropropene	25.00	22.83	91	75-120	5	21		
Carbon Tetrachloride	25.00	24.90	100	80-120	7	21		
1,2-Dichloroethane	25.00	23.89	96	74-120	1	20		
Benzene	25.00	24.91	100	77-120	0	20		
Trichloroethene	25.00	26.73	98	78-122	1	20		
1,2-Dichloropropane	25.00	22.22	89	76-120	1	20		
Bromodichloromethane	25.00	24.75	98	78-120	3	20		
Dibromomethane	25.00	25.82	103	77-120	1	20		
4-Methyl-2-Pentanone	25.00	21.81	87	65-120	2	22		
cis-1,3-Dichloropropene	25.00	22.84	91	76-120	1	20		
Toluene	25.00	22.14	88	73-120	4	20		
trans-1,3-Dichloropropene	25.00	24.25	97	72-120	0	20		
1,1,2-Trichloroethane	25.00	23.14	93	76-120	0	20		
2-Hexanone	25.00	20.19	81	57-121	0	25		
1,3-Dichloropropane	25.00	21.45	86	75-120	7	20		
Tetrachloroethene	25.00	23.90	94	77-120	0	20		
Dibromochloromethane	25.00	22.92	91	76-120	0	20		
1,2-Dibromoethane	25.00	22.71	91	77-120	1	20		
Chlorobenzene	25.00	23.76	95	78-120	2	20		
1,1,1,2-Tetrachloroethane	25.00	23.48	94	77-120	1	20		
Ethylbenzene	25.00	23.51	94	78-120	9	26		
m,p-Xylenes	50.00	45.91	92	77-120	5	20		
o-Xylene	25.00	24.24	97	77-120	2	20		
Styrene	25.00	20.35	81	77-120	3	20		
Bromoform	25.00	25.07	100	74-121	2	21		
Isopropylbenzene	25.00	19.66	79	71-120	3	20		
1,1,2,2-Tetrachloroethane	25.00	22.15	89	73-120	4	20		
1,2,3-Trichloropropane	25.00	21.67	87	72-120	1	20		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-65A-GW-10Q2	Batch#:	164198
MSS Lab ID:	220657-012	Sampled:	06/08/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Propylbenzene	25.00	22.86	91	76-120	4	20		
Bromobenzene	25.00	22.73	91	75-120	2	20		
1,3,5-Trimethylbenzene	25.00	22.10	88	77-120	6	20		
2-Chlorotoluene	25.00	21.60	86	76-120	8	20		
4-Chlorotoluene	25.00	21.46	86	78-120	7	20		
tert-Butylbenzene	25.00	22.34	89	76-120	6	21		
1,2,4-Trimethylbenzene	25.00	23.19	93	77-120	1	20		
sec-Butylbenzene	25.00	22.77	91	80-120	5	21		
para-Isopropyl Toluene	25.00	22.36	89	76-120	1	20		
1,3-Dichlorobenzene	25.00	22.53	90	75-120	4	20		
1,4-Dichlorobenzene	25.00	22.33	89	77-120	1	23		
n-Butylbenzene	25.00	23.99	96	76-120	3	21		
1,2-Dichlorobenzene	25.00	21.90	88	76-120	9	20		
1,2-Dibromo-3-Chloropropane	25.00	19.64	79	65-120	2	22		
1,2,4-Trichlorobenzene	25.00	22.90	92	73-121	5	20		
Hexachlorobutadiene	25.00	21.32	85	73-123	1	25		
Naphthalene	25.00	24.90	100	62-121	1	32		
1,2,3-Trichlorobenzene	25.00	24.38	98	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	111	77-120		
1,2-Dichloroethane-d4	106	70-127		
Toluene-d8	93	83-125		
Bromofluorobenzene	94	78-120		

b= See narrative
 RPD= Relative Percent Difference
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Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164202
MSS Lab ID:	220669-002	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549284

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1104	25.00	30.00	120	56-140		
Chloromethane	<0.1000	25.00	29.93	120	46-142		
Vinyl Chloride	<0.1000	25.00	28.96	116	49-136		
Bromomethane	<0.1671	25.00	28.86	115	42-154		
Chloroethane	<0.1012	25.00	32.23	129	51-133		
Trichlorofluoromethane	<0.1000	25.00	29.45	118	63-135		
Iodomethane	<0.1554	25.00	28.46	b 114	60-140		
Acetone	<0.5288	25.00	26.97	b 108	48-130	V3	
1,1-Dichloroethene	<0.1268	25.00	28.59	114	68-133		
Methylene Chloride	<0.1261	25.00	30.61	122 *	71-120	M1	
Carbon Disulfide	<0.1000	25.00	24.42	98	56-120		
MTBE	35.07	25.00	62.20	109	58-120		
trans-1,2-Dichloroethene	<0.1000	25.00	30.93	124 *	80-120	M1	
Vinyl Acetate	<0.1904	25.00	36.00	144 *	63-124	M1	
1,1-Dichloroethane	<0.1000	25.00	32.14	129 *	77-120	M1	
2-Butanone	<0.2122	25.00	32.16	b 129 *	57-120	M1	V3
cis-1,2-Dichloroethene	<0.1000	25.00	32.24	129 *	75-120	M1	
2,2-Dichloropropane	<0.1208	25.00	34.71	b 139 *	72-128	M1	V3
Chloroform	<0.1000	25.00	32.18	129 *	78-120	M1	
Bromochloromethane	<0.1603	25.00	31.75	127 *	78-120	M1	
1,1,1-Trichloroethane	<0.1471	25.00	31.05	124 *	78-120	M1	
1,1-Dichloropropene	<0.1000	25.00	27.75	111	75-120		
Carbon Tetrachloride	<0.1000	25.00	28.02	112	80-120		
1,2-Dichloroethane	<0.1000	25.00	28.89	116	74-120		
Benzene	6.652	25.00	34.20	110	77-120		
Trichloroethene	<0.1000	25.00	27.60	110	78-122		
1,2-Dichloropropane	<0.1000	25.00	27.76	111	76-120		
Bromodichloromethane	<0.1000	25.00	28.59	114	78-120		
Dibromomethane	<0.1456	25.00	28.68	115	77-120		
4-Methyl-2-Pentanone	<0.1556	25.00	28.97	116	65-120		
cis-1,3-Dichloropropene	<0.1126	25.00	28.25	113	76-120		
Toluene	<0.1000	25.00	25.31	101	73-120		
trans-1,3-Dichloropropene	<0.1000	25.00	23.75	95	72-120		
1,1,2-Trichloroethane	<0.1000	25.00	25.04	100	76-120		
2-Hexanone	<0.1698	25.00	26.18	105	57-121		
1,3-Dichloropropane	<0.1000	25.00	25.65	103	75-120		
Tetrachloroethene	<0.1081	25.00	23.46	94	77-120		
Dibromochloromethane	<0.1000	25.00	24.51	98	76-120		
1,2-Dibromoethane	<0.1252	25.00	24.22	97	77-120		
Chlorobenzene	<0.1000	25.00	24.89	100	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	25.00	24.18	97	77-120		
Ethylbenzene	<0.1000	25.00	25.45	102	78-120		
m,p-Xylenes	<0.1309	50.00	50.51	101	77-120		
o-Xylene	<0.1000	25.00	25.44	102	77-120		
Styrene	<0.1578	25.00	25.28	101	77-120		
Bromoform	<0.1000	25.00	24.80	99	74-121		
Isopropylbenzene	<0.1000	25.00	21.55	86	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	25.00	25.78	103	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164202
MSS Lab ID:	220669-002	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ Flags
1,2,3-Trichloropropane	<0.1043	25.00	25.38	102	72-120	
Propylbenzene	<0.1000	25.00	24.41	98	76-120	
Bromobenzene	<0.1000	25.00	24.01	96	75-120	
1,3,5-Trimethylbenzene	0.2648	25.00	24.66	98	77-120	
2-Chlorotoluene	<0.1000	25.00	25.23	101	76-120	
4-Chlorotoluene	<0.1000	25.00	24.70	99	78-120	
tert-Butylbenzene	0.1057	25.00	24.59	98	76-120	
1,2,4-Trimethylbenzene	0.4228	25.00	24.97	98	77-120	
sec-Butylbenzene	<0.1000	25.00	24.88	100	80-120	
para-Isopropyl Toluene	<0.1000	25.00	23.45	94	76-120	
1,3-Dichlorobenzene	<0.1018	25.00	23.86	95	75-120	
1,4-Dichlorobenzene	<0.1000	25.00	23.59	94	77-120	
n-Butylbenzene	0.1368	25.00	24.87	99	76-120	
1,2-Dichlorobenzene	<0.1000	25.00	24.28	97	76-120	
1,2-Dibromo-3-Chloropropane	<0.1766	25.00	24.35	97	65-120	
1,2,4-Trichlorobenzene	<0.1000	25.00	21.05	84	73-121	
Hexachlorobutadiene	<0.2383	25.00	21.87	87	73-123	
Naphthalene	0.3520	25.00	21.51	85	62-121	
1,2,3-Trichlorobenzene	<0.1000	25.00	21.94	88	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	114	77-120	
1,2-Dichloroethane-d4	108	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	101	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164202
MSS Lab ID:	220669-002	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549285

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	29.17	117	56-140	3	24		
Chloromethane	25.00	30.71	123	46-142	3	24		
Vinyl Chloride	25.00	28.21	113	49-136	3	24		
Bromomethane	25.00	32.18	129	42-154	11	24		
Chloroethane	25.00	32.02	128	51-133	1	25		
Trichlorofluoromethane	25.00	29.07	116	63-135	1	20		
Iodomethane	25.00	30.68	b 123	60-140	8	30		
Acetone	25.00	27.60	b 110	48-130	2	41	V3	
1,1-Dichloroethene	25.00	27.80	111	68-133	3	20		
Methylene Chloride	25.00	30.51	122 *	71-120	0	20	M1	
Carbon Disulfide	25.00	23.60	94	56-120	3	20		
MTBE	25.00	62.02	108	58-120	0	21		
trans-1,2-Dichloroethene	25.00	29.97	120	80-120	3	24		
Vinyl Acetate	25.00	35.65	143 *	63-124	1	24	M1	
1,1-Dichloroethane	25.00	31.25	125 *	77-120	3	20	M1	
2-Butanone	25.00	31.91	b 128 *	57-120	1	32	M1	V3
cis-1,2-Dichloroethene	25.00	31.65	127 *	75-120	2	20	M1	
2,2-Dichloropropane	25.00	32.80	b 131 *	72-128	6	24	M1	V3
Chloroform	25.00	31.40	126 *	78-120	2	20	M1	
Bromochloromethane	25.00	31.70	127 *	78-120	0	20	M1	
1,1,1-Trichloroethane	25.00	29.87	119	78-120	4	20		
1,1-Dichloropropene	25.00	26.64	107	75-120	4	21		
Carbon Tetrachloride	25.00	27.54	110	80-120	2	21		
1,2-Dichloroethane	25.00	28.34	113	74-120	2	20		
Benzene	25.00	33.01	105	77-120	4	20		
Trichloroethene	25.00	26.73	107	78-122	3	20		
1,2-Dichloropropane	25.00	26.78	107	76-120	4	20		
Bromodichloromethane	25.00	28.01	112	78-120	2	20		
Dibromomethane	25.00	27.97	112	77-120	3	20		
4-Methyl-2-Pentanone	25.00	29.43	118	65-120	2	22		
cis-1,3-Dichloropropene	25.00	27.90	112	76-120	1	20		
Toluene	25.00	24.58	98	73-120	3	20		
trans-1,3-Dichloropropene	25.00	23.36	93	72-120	2	20		
1,1,2-Trichloroethane	25.00	24.87	99	76-120	1	20		
2-Hexanone	25.00	25.96	104	57-121	1	25		
1,3-Dichloropropane	25.00	25.28	101	75-120	1	20		
Tetrachloroethene	25.00	22.54	90	77-120	4	20		
Dibromochloromethane	25.00	24.29	97	76-120	1	20		
1,2-Dibromoethane	25.00	24.33	97	77-120	0	20		
Chlorobenzene	25.00	24.26	97	78-120	3	20		
1,1,1,2-Tetrachloroethane	25.00	23.98	96	77-120	1	20		
Ethylbenzene	25.00	24.71	99	78-120	3	26		
m,p-Xylenes	50.00	49.26	99	77-120	2	20		
o-Xylene	25.00	24.61	98	77-120	3	20		
Styrene	25.00	24.78	99	77-120	2	20		
Bromoform	25.00	24.58	98	74-121	1	21		
Isopropylbenzene	25.00	20.76	83	71-120	4	20		
1,1,2,2-Tetrachloroethane	25.00	25.47	102	73-120	1	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164202
MSS Lab ID:	220669-002	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/20/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	25.00	24.90	100	72-120	2	20		
Propylbenzene	25.00	23.63	95	76-120	3	20		
Bromobenzene	25.00	23.56	94	75-120	2	20		
1,3,5-Trimethylbenzene	25.00	24.49	97	77-120	1	20		
2-Chlorotoluene	25.00	24.54	98	76-120	3	20		
4-Chlorotoluene	25.00	24.15	97	78-120	2	20		
tert-Butylbenzene	25.00	24.23	96	76-120	1	21		
1,2,4-Trimethylbenzene	25.00	25.09	99	77-120	0	20		
sec-Butylbenzene	25.00	24.28	97	80-120	2	21		
para-Isopropyl Toluene	25.00	23.37	93	76-120	0	20		
1,3-Dichlorobenzene	25.00	23.27	93	75-120	3	20		
1,4-Dichlorobenzene	25.00	23.32	93	77-120	1	23		
n-Butylbenzene	25.00	24.30	97	76-120	2	21		
1,2-Dichlorobenzene	25.00	24.16	97	76-120	0	20		
1,2-Dibromo-3-Chloropropane	25.00	24.33	97	65-120	0	22		
1,2,4-Trichlorobenzene	25.00	21.60	86	73-121	3	20		
Hexachlorobutadiene	25.00	21.51	86	73-123	2	25		
Naphthalene	25.00	23.04	91	62-121	7	32		
1,2,3-Trichlorobenzene	25.00	22.61	90	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	114	77-120		
1,2-Dichloroethane-d4	106	70-127		
Toluene-d8	94	83-125		
Bromofluorobenzene	100	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549402	Batch#:	164228
Matrix:	Water	Analyzed:	06/21/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	L1
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549402	Batch#:	164228
Matrix:	Water	Analyzed:	06/21/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	112	77-120	
1,2-Dichloroethane-d4	103	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	111	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164228
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549403

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	27.29	109	56-140		
Chloromethane	25.00	28.00	112	46-142		
Vinyl Chloride	25.00	25.73	103	49-136		
Bromomethane	25.00	31.30	b 125	42-154	V3	
Chloroethane	25.00	29.67	119	51-133		
Trichlorofluoromethane	25.00	27.61	110	63-135		
Iodomethane	25.00	27.32	b 109	70-130		
Acetone	25.00	30.97	b 124	48-130	V3	
1,1-Dichloroethene	25.00	26.13	105	68-133		
Methylene Chloride	25.00	28.67	115	71-120		
Carbon Disulfide	25.00	21.94	88	56-120		
MTBE	25.00	27.27	109	58-120		
trans-1,2-Dichloroethene	25.00	28.29	113	80-120		
Vinyl Acetate	25.00	34.38	b 138 *	63-124	L1 V3	
1,1-Dichloroethane	25.00	28.74	115	77-120		
2-Butanone	25.00	31.09	b 124 *	57-120	L1 V3	
cis-1,2-Dichloroethene	25.00	29.42	118	75-120		
2,2-Dichloropropane	25.00	33.16	b 133 *	72-128	L1 V3	
Chloroform	25.00	29.00	116	78-120		
Bromochloromethane	25.00	29.91	120	78-120		
1,1,1-Trichloroethane	25.00	28.13	113	78-120		
1,1-Dichloropropene	25.00	25.48	102	75-120		
Carbon Tetrachloride	25.00	26.33	105	80-120		
1,2-Dichloroethane	25.00	26.68	107	74-120		
Benzene	25.00	26.24	105	77-120		
Trichloroethene	25.00	25.81	103	78-122		
1,2-Dichloropropane	25.00	25.06	100	76-120		
Bromodichloromethane	25.00	26.92	108	78-120		
Dibromomethane	25.00	26.92	108	77-120		
4-Methyl-2-Pentanone	25.00	27.56	110	65-120		
cis-1,3-Dichloropropene	25.00	27.30	109	76-120		
Toluene	25.00	23.91	96	73-120		
trans-1,3-Dichloropropene	25.00	23.02	92	72-120		
1,1,2-Trichloroethane	25.00	23.97	96	76-120		
2-Hexanone	25.00	26.37	105	57-121		
1,3-Dichloropropane	25.00	24.11	96	75-120		
Tetrachloroethene	25.00	23.32	93	77-120		
Dibromochloromethane	25.00	24.37	97	76-120		
1,2-Dibromoethane	25.00	24.10	96	77-120		
Chlorobenzene	25.00	24.04	96	78-120		
1,1,1,2-Tetrachloroethane	25.00	23.65	95	77-120		
Ethylbenzene	25.00	23.97	96	78-120		
m,p-Xylenes	50.00	48.19	96	77-120		
o-Xylene	25.00	24.39	98	77-120		
Styrene	25.00	24.35	97	77-120		
Bromoform	25.00	25.40	102	74-121		
Isopropylbenzene	25.00	20.54	82	71-120		
1,1,2,2-Tetrachloroethane	25.00	23.55	94	73-120		
1,2,3-Trichloropropane	25.00	23.27	93	72-120		
Propylbenzene	25.00	23.03	92	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164228
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	23.63	95	75-120	
1,3,5-Trimethylbenzene	25.00	23.11	92	77-120	
2-Chlorotoluene	25.00	23.75	95	76-120	
4-Chlorotoluene	25.00	23.26	93	78-120	
tert-Butylbenzene	25.00	23.74	95	76-120	
1,2,4-Trimethylbenzene	25.00	23.35	93	77-120	
sec-Butylbenzene	25.00	23.92	96	80-120	
para-Isopropyl Toluene	25.00	22.74	91	76-120	
1,3-Dichlorobenzene	25.00	23.30	93	75-120	
1,4-Dichlorobenzene	25.00	23.21	93	77-120	
n-Butylbenzene	25.00	23.63	95	76-120	
1,2-Dichlorobenzene	25.00	23.73	95	76-120	
1,2-Dibromo-3-Chloropropane	25.00	23.21	93	65-120	
1,2,4-Trichlorobenzene	25.00	23.50	94	73-121	
Hexachlorobutadiene	25.00	23.26	93	73-123	
Naphthalene	25.00	24.95	100	62-121	
1,2,3-Trichlorobenzene	25.00	24.59	98	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	101	70-127	
Toluene-d8	93	83-125	
Bromofluorobenzene	98	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164228
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549404

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	28.09	112	56-140	3	24		
Chloromethane	25.00	29.40	118	46-142	5	24		
Vinyl Chloride	25.00	26.80	107	49-136	4	24		
Bromomethane	25.00	31.24	b 125	42-154	0	24	V3	
Chloroethane	25.00	29.94	120	51-133	1	25		
Trichlorofluoromethane	25.00	28.38	114	63-135	3	20		
Iodomethane	25.00	29.50	b 118	70-130	8	20		
Acetone	25.00	30.16	b 121	48-130	3	41	V3	
1,1-Dichloroethene	25.00	26.93	108	68-133	3	20		
Methylene Chloride	25.00	28.77	115	71-120	0	20		
Carbon Disulfide	25.00	22.54	90	56-120	3	20		
MTBE	25.00	27.69	111	58-120	2	21		
trans-1,2-Dichloroethene	25.00	28.65	115	80-120	1	24		
Vinyl Acetate	25.00	33.16	b 133	* 63-124	4	24	L1	V3
1,1-Dichloroethane	25.00	29.82	119	77-120	4	20		
2-Butanone	25.00	31.77	b 127	* 57-120	2	32	L1	V3
cis-1,2-Dichloroethene	25.00	29.69	119	75-120	1	20		
2,2-Dichloropropane	25.00	33.64	b 135	* 72-128	1	24	L1	V3
Chloroform	25.00	29.88	120	78-120	3	20		
Bromochloromethane	25.00	31.01	124	* 78-120	4	20	L1	
1,1,1-Trichloroethane	25.00	28.89	116	78-120	3	20		
1,1-Dichloropropene	25.00	26.14	105	75-120	3	21		
Carbon Tetrachloride	25.00	27.46	110	80-120	4	21		
1,2-Dichloroethane	25.00	26.77	107	74-120	0	20		
Benzene	25.00	27.05	108	77-120	3	20		
Trichloroethene	25.00	26.82	107	78-122	4	20		
1,2-Dichloropropane	25.00	25.96	104	76-120	4	20		
Bromodichloromethane	25.00	27.14	109	78-120	1	20		
Dibromomethane	25.00	27.12	108	77-120	1	20		
4-Methyl-2-Pentanone	25.00	28.18	113	65-120	2	22		
cis-1,3-Dichloropropene	25.00	27.17	109	76-120	0	20		
Toluene	25.00	24.48	98	73-120	2	20		
trans-1,3-Dichloropropene	25.00	23.08	92	72-120	0	20		
1,1,2-Trichloroethane	25.00	24.21	97	76-120	1	20		
2-Hexanone	25.00	26.85	107	57-121	2	25		
1,3-Dichloropropane	25.00	24.73	99	75-120	3	20		
Tetrachloroethene	25.00	24.28	97	77-120	4	20		
Dibromochloromethane	25.00	24.51	98	76-120	1	20		
1,2-Dibromoethane	25.00	24.53	98	77-120	2	20		
Chlorobenzene	25.00	24.67	99	78-120	3	20		
1,1,1,2-Tetrachloroethane	25.00	23.94	96	77-120	1	20		
Ethylbenzene	25.00	24.59	98	78-120	3	26		
m,p-Xylenes	50.00	49.55	99	77-120	3	20		
o-Xylene	25.00	24.86	99	77-120	2	20		
Styrene	25.00	24.91	100	77-120	2	20		
Bromoform	25.00	25.69	103	74-121	1	21		
Isopropylbenzene	25.00	20.83	83	71-120	1	20		
1,1,2,2-Tetrachloroethane	25.00	23.58	94	73-120	0	20		
1,2,3-Trichloropropane	25.00	23.63	95	72-120	2	20		
Propylbenzene	25.00	23.33	93	76-120	1	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164228
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	24.17	97	75-120	2	20		
1,3,5-Trimethylbenzene	25.00	24.06	96	77-120	4	20		
2-Chlorotoluene	25.00	24.11	96	76-120	2	20		
4-Chlorotoluene	25.00	23.81	95	78-120	2	20		
tert-Butylbenzene	25.00	23.78	95	76-120	0	21		
1,2,4-Trimethylbenzene	25.00	24.16	97	77-120	3	20		
sec-Butylbenzene	25.00	24.08	96	80-120	1	21		
para-Isopropyl Toluene	25.00	23.23	93	76-120	2	20		
1,3-Dichlorobenzene	25.00	23.79	95	75-120	2	20		
1,4-Dichlorobenzene	25.00	23.59	94	77-120	2	23		
n-Butylbenzene	25.00	24.16	97	76-120	2	21		
1,2-Dichlorobenzene	25.00	24.19	97	76-120	2	20		
1,2-Dibromo-3-Chloropropane	25.00	23.19	93	65-120	0	22		
1,2,4-Trichlorobenzene	25.00	23.05	92	73-121	2	20		
Hexachlorobutadiene	25.00	23.02	92	73-123	1	25		
Naphthalene	25.00	22.92	92	62-121	8	32		
1,2,3-Trichlorobenzene	25.00	23.79	95	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	110	77-120		
1,2-Dichloroethane-d4	101	70-127		
Toluene-d8	93	83-125		
Bromofluorobenzene	97	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-116A-GW-10Q2	Batch#:	164228
MSS Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549456

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1104	25.00	31.00	124	56-140		
Chloromethane	0.1122	25.00	28.43	113	46-142		
Vinyl Chloride	<0.1000	25.00	27.33	109	49-136		
Bromomethane	2.476	25.00	13.88 b	46	42-154	V3	
Chloroethane	<0.1012	25.00	33.38	134 *	51-133	M1	
Trichlorofluoromethane	<0.1000	25.00	31.01	124	63-135		
Iodomethane	4.856	25.00	9.228 b	17 *	60-140	M2	
Acetone	<0.5288	25.00	62.15 b	249 *	48-130	M1	V3
1,1-Dichloroethene	0.3878	25.00	30.27	120	68-133		
Methylene Chloride	<0.1261	25.00	31.55	126 *	71-120	M1	
Carbon Disulfide	<0.1000	25.00	25.01	100	56-120		
MTBE	4.291	25.00	33.93	119	58-120		
trans-1,2-Dichloroethene	<0.1000	25.00	31.36	125 *	80-120	M1	
Vinyl Acetate	<0.1904	25.00	33.01 b	132 *	63-124	M1	V3
1,1-Dichloroethane	0.3013	25.00	32.48	129 *	77-120	M1	
2-Butanone	<0.2122	25.00	30.99 b	124 *	57-120	M1	V3
cis-1,2-Dichloroethene	0.1105	25.00	32.19	128 *	75-120	M1	
2,2-Dichloropropane	<0.1208	25.00	31.51 b	126	72-128	V3	
Chloroform	0.2398	25.00	32.54	129 *	78-120	M1	
Bromochloromethane	<0.1603	25.00	33.42	134 *	78-120	M1	
1,1,1-Trichloroethane	<0.1471	25.00	31.52	126 *	78-120	M1	
1,1-Dichloropropene	<0.1000	25.00	27.94	112	75-120		
Carbon Tetrachloride	<0.1000	25.00	29.22	117	80-120		
1,2-Dichloroethane	<0.1000	25.00	28.46	114	74-120		
Benzene	8.478	25.00	37.78	117	77-120		
Trichloroethene	1.910	25.00	29.05	109	78-122		
1,2-Dichloropropane	<0.1000	25.00	27.21	109	76-120		
Bromodichloromethane	<0.1000	25.00	28.63	115	78-120		
Dibromomethane	<0.1456	25.00	28.71	115	77-120		
4-Methyl-2-Pentanone	<0.1556	25.00	28.87	115	65-120		
cis-1,3-Dichloropropene	<0.1126	25.00	27.49	110	76-120		
Toluene	<0.1000	25.00	25.12	100	73-120		
trans-1,3-Dichloropropene	<0.1000	25.00	22.38	90	72-120		
1,1,2-Trichloroethane	<0.1000	25.00	24.56	98	76-120		
2-Hexanone	<0.1698	25.00	24.91	100	57-121		
1,3-Dichloropropane	<0.1000	25.00	24.80	99	75-120		
Tetrachloroethene	0.6543	25.00	24.11	94	77-120		
Dibromochloromethane	<0.1000	25.00	24.31	97	76-120		
1,2-Dibromoethane	<0.1252	25.00	24.13	97	77-120		
Chlorobenzene	<0.1000	25.00	24.88	100	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	25.00	24.31	97	77-120		
Ethylbenzene	0.1427	25.00	24.97	99	78-120		
m,p-Xylenes	<0.1309	50.00	49.89	100	77-120		
o-Xylene	<0.1000	25.00	25.10	100	77-120		
Styrene	<0.1578	25.00	24.51	98	77-120		
Bromoform	<0.1000	25.00	24.80	99	74-121		
Isopropylbenzene	3.827	25.00	25.10	85	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	25.00	24.61	98	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-116A-GW-10Q2	Batch#:	164228
MSS Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
1,2,3-Trichloropropane	<0.1043	25.00	24.37	97	72-120		
Propylbenzene	2.665	25.00	26.24	94	76-120		
Bromobenzene	<0.1000	25.00	24.24	97	75-120		
1,3,5-Trimethylbenzene	0.2086	25.00	23.92	95	77-120		
2-Chlorotoluene	<0.1000	25.00	24.39	98	76-120		
4-Chlorotoluene	<0.1000	25.00	23.80	95	78-120		
tert-Butylbenzene	<0.1000	25.00	24.53	98	76-120		
1,2,4-Trimethylbenzene	0.6696	25.00	24.34	95	77-120		
sec-Butylbenzene	0.7419	25.00	24.98	97	80-120		
para-Isopropyl Toluene	<0.1000	25.00	22.74	91	76-120		
1,3-Dichlorobenzene	<0.1018	25.00	23.43	94	75-120		
1,4-Dichlorobenzene	<0.1000	25.00	23.20	93	77-120		
n-Butylbenzene	0.3661	25.00	23.25	92	76-120		
1,2-Dichlorobenzene	<0.1000	25.00	24.13	97	76-120		
1,2-Dibromo-3-Chloropropane	<0.1766	25.00	23.42	94	65-120		
1,2,4-Trichlorobenzene	<0.1000	25.00	20.41	82	73-121		
Hexachlorobutadiene	<0.2383	25.00	21.89	88	73-123		
Naphthalene	3.139	25.00	22.70	78	62-121		
1,2,3-Trichlorobenzene	<0.1000	25.00	21.31	85	66-123		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	114	77-120		
1,2-Dichloroethane-d4	103	70-127		
Toluene-d8	92	83-125		
Bromofluorobenzene	100	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-116A-GW-10Q2	Batch#:	164228
MSS Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549457

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	29.61	118	56-140	5	24		
Chloromethane	25.00	27.36	109	46-142	4	24		
Vinyl Chloride	25.00	26.53	106	49-136	3	24		
Bromomethane	25.00	18.99 b	66	42-154	31 *	24	R5	V3
Chloroethane	25.00	31.56	126	51-133	6	25		
Trichlorofluoromethane	25.00	29.96	120	63-135	3	20		
Iodomethane	25.00	23.29 b	74	60-140	86 *	30	R2	
Acetone	25.00	33.63 b	135 *	48-130	60 *	41	M1	R2 V3
1,1-Dichloroethene	25.00	28.49	112	68-133	6	20		
Methylene Chloride	25.00	30.98	124 *	71-120	2	20	M1	
Carbon Disulfide	25.00	23.43	94	56-120	7	20		
MTBE	25.00	33.91	118	58-120	0	21		
trans-1,2-Dichloroethene	25.00	29.82	119	80-120	5	24		
Vinyl Acetate	25.00	32.68 b	131 *	63-124	1	24	M1	V3
1,1-Dichloroethane	25.00	31.49	125 *	77-120	3	20	M1	
2-Butanone	25.00	31.50 b	126 *	57-120	2	32	M1	V3
cis-1,2-Dichloroethene	25.00	31.47	125 *	75-120	2	20	M1	
2,2-Dichloropropane	25.00	29.15 b	117	72-128	8	24	V3	
Chloroform	25.00	31.65	126 *	78-120	3	20	M1	
Bromochloromethane	25.00	33.12	132 *	78-120	1	20	M1	
1,1,1-Trichloroethane	25.00	30.26	121 *	78-120	4	20	M1	
1,1-Dichloropropene	25.00	26.48	106	75-120	5	21		
Carbon Tetrachloride	25.00	27.89	112	80-120	5	21		
1,2-Dichloroethane	25.00	27.79	111	74-120	2	20		
Benzene	25.00	36.57	112	77-120	3	20		
Trichloroethene	25.00	27.88	104	78-122	4	20		
1,2-Dichloropropane	25.00	27.01	108	76-120	1	20		
Bromodichloromethane	25.00	28.25	113	78-120	1	20		
Dibromomethane	25.00	29.03	116	77-120	1	20		
4-Methyl-2-Pentanone	25.00	29.00	116	65-120	0	22		
cis-1,3-Dichloropropene	25.00	27.16	109	76-120	1	20		
Toluene	25.00	24.29	97	73-120	3	20		
trans-1,3-Dichloropropene	25.00	22.28	89	72-120	0	20		
1,1,2-Trichloroethane	25.00	24.47	98	76-120	0	20		
2-Hexanone	25.00	25.62	102	57-121	3	25		
1,3-Dichloropropane	25.00	24.90	100	75-120	0	20		
Tetrachloroethene	25.00	23.14	90	77-120	4	20		
Dibromochloromethane	25.00	24.61	98	76-120	1	20		
1,2-Dibromoethane	25.00	24.57	98	77-120	2	20		
Chlorobenzene	25.00	24.23	97	78-120	3	20		
1,1,1,2-Tetrachloroethane	25.00	24.17	97	77-120	1	20		
Ethylbenzene	25.00	24.20	96	78-120	3	26		
m,p-Xylenes	50.00	47.93	96	77-120	4	20		
o-Xylene	25.00	24.14	97	77-120	4	20		
Styrene	25.00	23.80	95	77-120	3	20		
Bromoform	25.00	25.46	102	74-121	3	21		
Isopropylbenzene	25.00	24.37	82	71-120	3	20		
1,1,2,2-Tetrachloroethane	25.00	25.07	100	73-120	2	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-116A-GW-10Q2	Batch#:	164228
MSS Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	25.00	24.68	99	72-120	1	20		
Propylbenzene	25.00	25.27	90	76-120	4	20		
Bromobenzene	25.00	24.31	97	75-120	0	20		
1,3,5-Trimethylbenzene	25.00	22.77	90	77-120	5	20		
2-Chlorotoluene	25.00	23.59	94	76-120	3	20		
4-Chlorotoluene	25.00	23.25	93	78-120	2	20		
tert-Butylbenzene	25.00	23.58	94	76-120	4	21		
1,2,4-Trimethylbenzene	25.00	23.20	90	77-120	5	20		
sec-Butylbenzene	25.00	23.97	93	80-120	4	21		
para-Isopropyl Toluene	25.00	21.57	86	76-120	5	20		
1,3-Dichlorobenzene	25.00	23.41	94	75-120	0	20		
1,4-Dichlorobenzene	25.00	22.89	92	77-120	1	23		
n-Butylbenzene	25.00	22.22	87	76-120	5	21		
1,2-Dichlorobenzene	25.00	23.93	96	76-120	1	20		
1,2-Dibromo-3-Chloropropane	25.00	24.09	96	65-120	3	22		
1,2,4-Trichlorobenzene	25.00	20.09	80	73-121	2	20		
Hexachlorobutadiene	25.00	21.20	85	73-123	3	25		
Naphthalene	25.00	23.25	80	62-121	2	32		
1,2,3-Trichlorobenzene	25.00	21.01	84	66-123	1	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	114	77-120		
1,2-Dichloroethane-d4	103	70-127		
Toluene-d8	93	83-125		
Bromofluorobenzene	100	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164260
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549534

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	20.00	24.60 b	123	56-140	V3	
Chloromethane	20.00	22.43	112	46-142		
Vinyl Chloride	20.00	23.48	117	49-136		
Bromomethane	20.00	19.67	98	42-154		
Chloroethane	20.00	22.62	113	51-133		
Trichlorofluoromethane	20.00	24.27 b	121	63-135	V3	
Iodomethane	20.00	11.67 b	58 *	70-130	L2 V9	
Acetone	20.00	26.69 b	133 *	48-130	L1 V3	
1,1-Dichloroethene	20.00	17.85	89	68-133		
Methylene Chloride	20.00	18.68	93	71-120		
Carbon Disulfide	20.00	16.09	80	56-120		
MTBE	20.00	16.83	84	58-120		
trans-1,2-Dichloroethene	20.00	18.46	92	80-120		
Vinyl Acetate	20.00	17.00	85	63-124		
1,1-Dichloroethane	20.00	20.20	101	77-120		
2-Butanone	20.00	21.44	107	57-120		
cis-1,2-Dichloroethene	20.00	19.33	97	75-120		
2,2-Dichloropropane	20.00	23.82	119	72-128		
Chloroform	20.00	20.26	101	78-120		
Bromochloromethane	20.00	18.24	91	78-120		
1,1,1-Trichloroethane	20.00	22.26	111	78-120		
1,1-Dichloropropene	20.00	22.31	112	75-120		
Carbon Tetrachloride	20.00	24.68 b	123 *	80-120	L1 V3	
1,2-Dichloroethane	20.00	21.58	108	74-120		
Benzene	20.00	21.14	106	77-120		
Trichloroethene	20.00	21.23	106	78-122		
1,2-Dichloropropane	20.00	20.60	103	76-120		
Bromodichloromethane	20.00	20.57	103	78-120		
Dibromomethane	20.00	19.62	98	77-120		
4-Methyl-2-Pentanone	20.00	20.49	102	65-120		
cis-1,3-Dichloropropene	20.00	19.46	97	76-120		
Toluene	20.00	20.88	104	73-120		
trans-1,3-Dichloropropene	20.00	17.41	87	72-120		
1,1,2-Trichloroethane	20.00	19.38	97	76-120		
2-Hexanone	20.00	22.10	110	57-121		
1,3-Dichloropropane	20.00	19.53	98	75-120		
Tetrachloroethene	20.00	21.89	109	77-120		
Dibromochloromethane	20.00	19.18	96	76-120		
1,2-Dibromoethane	20.00	19.21	96	77-120		
Chlorobenzene	20.00	20.32	102	78-120		
1,1,1,2-Tetrachloroethane	20.00	20.78	104	77-120		
Ethylbenzene	20.00	21.55	108	78-120		
m,p-Xylenes	40.00	41.82	105	77-120		
o-Xylene	20.00	21.27	106	77-120		
Styrene	20.00	19.80	99	77-120		
Bromoform	20.00	19.45	97	74-121		
Isopropylbenzene	20.00	20.34	102	71-120		
1,1,2,2-Tetrachloroethane	20.00	19.43	97	73-120		
1,2,3-Trichloropropane	20.00	20.68	103	72-120		
Propylbenzene	20.00	23.51	118	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164260
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	20.00	21.84	109	75-120	
1,3,5-Trimethylbenzene	20.00	23.44	117	77-120	
2-Chlorotoluene	20.00	23.09	115	76-120	
4-Chlorotoluene	20.00	22.51	113	78-120	
tert-Butylbenzene	20.00	23.86	119	76-120	
1,2,4-Trimethylbenzene	20.00	22.00	110	77-120	
sec-Butylbenzene	20.00	24.35 b	122 *	80-120	L1 V3
para-Isopropyl Toluene	20.00	22.75	114	76-120	
1,3-Dichlorobenzene	20.00	20.93	105	75-120	
1,4-Dichlorobenzene	20.00	20.89	104	77-120	
n-Butylbenzene	20.00	23.53	118	76-120	
1,2-Dichlorobenzene	20.00	20.94	105	76-120	
1,2-Dibromo-3-Chloropropane	20.00	20.70	103	65-120	
1,2,4-Trichlorobenzene	20.00	19.87	99	73-121	
Hexachlorobutadiene	20.00	27.06 b	135 *	73-123	L1 V3
Naphthalene	20.00	15.34 b	77	62-121	V9
1,2,3-Trichlorobenzene	20.00	19.89	99	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	101	77-120	
1,2-Dichloroethane-d4	115	70-127	
Toluene-d8	100	83-125	
Bromofluorobenzene	105	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164260
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549535

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	20.00	22.85 b	114	56-140	7	24	V3	
Chloromethane	20.00	20.96	105	46-142	7	24		
Vinyl Chloride	20.00	20.77	104	49-136	12	24		
Bromomethane	20.00	20.66	103	42-154	5	24		
Chloroethane	20.00	21.02	105	51-133	7	25		
Trichlorofluoromethane	20.00	21.92 b	110	63-135	10	20	V3	
Iodomethane	20.00	12.46 b	62 *	70-130	7	20	L2	V9
Acetone	20.00	25.45 b	127	48-130	5	41	V3	
1,1-Dichloroethene	20.00	17.01	85	68-133	5	20		
Methylene Chloride	20.00	17.99	90	71-120	4	20		
Carbon Disulfide	20.00	15.28	76	56-120	5	20		
MTBE	20.00	16.74	84	58-120	1	21		
trans-1,2-Dichloroethene	20.00	17.57	88	80-120	5	24		
Vinyl Acetate	20.00	15.67	78	63-124	8	24		
1,1-Dichloroethane	20.00	18.86	94	77-120	7	20		
2-Butanone	20.00	21.25	106	57-120	1	32		
cis-1,2-Dichloroethene	20.00	18.50	93	75-120	4	20		
2,2-Dichloropropane	20.00	21.77	109	72-128	9	24		
Chloroform	20.00	19.36	97	78-120	5	20		
Bromochloromethane	20.00	17.98	90	78-120	1	20		
1,1,1-Trichloroethane	20.00	21.37	107	78-120	4	20		
1,1-Dichloropropene	20.00	21.30	107	75-120	5	21		
Carbon Tetrachloride	20.00	23.75 b	119	80-120	4	21	V3	
1,2-Dichloroethane	20.00	21.04	105	74-120	3	20		
Benzene	20.00	20.26	101	77-120	4	20		
Trichloroethene	20.00	20.21	101	78-122	5	20		
1,2-Dichloropropane	20.00	19.77	99	76-120	4	20		
Bromodichloromethane	20.00	20.35	102	78-120	1	20		
Dibromomethane	20.00	19.22	96	77-120	2	20		
4-Methyl-2-Pentanone	20.00	21.72	109	65-120	6	22		
cis-1,3-Dichloropropene	20.00	19.80	99	76-120	2	20		
Toluene	20.00	20.17	101	73-120	3	20		
trans-1,3-Dichloropropene	20.00	17.46	87	72-120	0	20		
1,1,2-Trichloroethane	20.00	19.85	99	76-120	2	20		
2-Hexanone	20.00	22.94	115	57-121	4	25		
1,3-Dichloropropane	20.00	19.47	97	75-120	0	20		
Tetrachloroethene	20.00	21.36	107	77-120	2	20		
Dibromochloromethane	20.00	19.40	97	76-120	1	20		
1,2-Dibromoethane	20.00	19.81	99	77-120	3	20		
Chlorobenzene	20.00	19.39	97	78-120	5	20		
1,1,1,2-Tetrachloroethane	20.00	20.72	104	77-120	0	20		
Ethylbenzene	20.00	20.94	105	78-120	3	26		
m,p-Xylenes	40.00	41.20	103	77-120	1	20		
o-Xylene	20.00	20.21	101	77-120	5	20		
Styrene	20.00	19.25	96	77-120	3	20		
Bromoform	20.00	19.33	97	74-121	1	21		
Isopropylbenzene	20.00	18.74	94	71-120	8	20		
1,1,2,2-Tetrachloroethane	20.00	18.88	94	73-120	3	20		
1,2,3-Trichloropropane	20.00	20.18	101	72-120	2	20		
Propylbenzene	20.00	22.06	110	76-120	6	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164260
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	20.00	20.39	102	75-120	7	20		
1,3,5-Trimethylbenzene	20.00	21.97	110	77-120	6	20		
2-Chlorotoluene	20.00	21.56	108	76-120	7	20		
4-Chlorotoluene	20.00	20.79	104	78-120	8	20		
tert-Butylbenzene	20.00	22.16	111	76-120	7	21		
1,2,4-Trimethylbenzene	20.00	21.18	106	77-120	4	20		
sec-Butylbenzene	20.00	23.17 b	116	80-120	5	21		V3
para-Isopropyl Toluene	20.00	21.65	108	76-120	5	20		
1,3-Dichlorobenzene	20.00	20.11	101	75-120	4	20		
1,4-Dichlorobenzene	20.00	19.81	99	77-120	5	23		
n-Butylbenzene	20.00	22.26	111	76-120	6	21		
1,2-Dichlorobenzene	20.00	20.42	102	76-120	3	20		
1,2-Dibromo-3-Chloropropane	20.00	19.37	97	65-120	7	22		
1,2,4-Trichlorobenzene	20.00	19.78	99	73-121	0	20		
Hexachlorobutadiene	20.00	25.99 b	130 *	73-123	4	25		L1 V3
Naphthalene	20.00	16.46 b	82	62-121	7	32		V9
1,2,3-Trichlorobenzene	20.00	20.72	104	66-123	4	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	99	77-120		
1,2-Dichloroethane-d4	116	70-127		
Toluene-d8	101	83-125		
Bromofluorobenzene	103	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549544	Batch#:	164260
Matrix:	Water	Analyzed:	06/22/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	L2 V9
Acetone	ND	10	L1 V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1 V1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549544	Batch#:	164260
Matrix:	Water	Analyzed:	06/22/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	L1 V1
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1 V1
Naphthalene	ND	2.0	V9
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	99	77-120	
1,2-Dichloroethane-d4	117	70-127	
Toluene-d8	100	83-125	
Bromofluorobenzene	100	78-120	

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549737	Batch#:	164260
Matrix:	Water	Analyzed:	06/22/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V9
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L2 V9
Acetone	ND	10	L1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220657	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549737	Batch#:	164260
Matrix:	Water	Analyzed:	06/22/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	L1
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1 V1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	98	77-120	
1,2-Dichloroethane-d4	120	70-127	
Toluene-d8	100	83-125	
Bromofluorobenzene	100	78-120	

ND= Not Detected

RL= Reporting Limit

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480169480002 File : idr02 Time : 27-APR-2010 17:23

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	39810	24.70	
75	30% - 60% of mass 95	78130	48.48	
95		161165	100.00	
96	5% - 9% of mass 95	11071	6.87	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	113690	70.54	
175	5% - 9% of mass 174	8443	7.43	
176	> 95% and < 101% of mass 174	110120	96.86	
177	5% - 9% of mass 176	7181	6.52	

Analyst: TDL Date: 05/03/10 Reviewer: LW Date: 05/03/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480171128002 File : ids02 Time : 28-APR-2010 20:37

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	40256	23.43	
75	30% - 60% of mass 95	80642	46.93	
95		171824	100.00	
96	5% - 9% of mass 95	11623	6.76	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	129637	75.45	
175	5% - 9% of mass 174	10014	7.72	
176	> 95% and < 101% of mass 174	126264	97.40	
177	5% - 9% of mass 176	8455	6.70	

Analyst: BJP Date: 05/03/10 Reviewer: LW Date: 05/03/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480243841002 File : ifi02 Time : 18-JUN-2010 08:31

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	26770	23.82	
75	30% - 60% of mass 95	53346	47.47	
95		112378	100.00	
96	5% - 9% of mass 95	7854	6.99	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	78752	70.08	
175	5% - 9% of mass 174	5812	7.38	
176	> 95% and < 101% of mass 174	76600	97.27	
177	5% - 9% of mass 176	4815	6.29	

Analyst: TDL Date: 06/18/10 Reviewer: LW Date: 06/18/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480246874002 File : ifk02 Time : 20-JUN-2010 11:05

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	35405	24.02	
75	30% - 60% of mass 95	68920	46.75	
95		147410	100.00	
96	5% - 9% of mass 95	10550	7.16	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	103437	70.17	
175	5% - 9% of mass 174	7640	7.39	
176	> 95% and < 101% of mass 174	98770	95.49	
177	5% - 9% of mass 176	6535	6.62	

Analyst: TDL Date: 06/21/10 Reviewer: BJP Date: 06/21/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : BFB IDF : 1.0
Seqnum : 490027869008 File : jaj08 Time : 19-JAN-2010 15:39

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	37570	17.43	
75	30% - 60% of mass 95	88520	41.07	
95		215530	100.00	
96	5% - 9% of mass 95	14801	6.87	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	166912	77.44	
175	5% - 9% of mass 174	12330	7.39	
176	> 95% and < 101% of mass 174	162773	97.52	
177	5% - 9% of mass 176	10436	6.41	

Analyst: BO Date: 01/20/10 Reviewer: LW Date: 01/22/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : BFB IDF : 1.0
Seqnum : 490249599002 File : jfm02 Time : 22-JUN-2010 08:26

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	50853	20.51	
75	30% - 60% of mass 95	110858	44.71	
95		247936	100.00	
96	5% - 9% of mass 95	16384	6.61	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	186048	75.04	
175	5% - 9% of mass 174	15093	8.11	
176	> 95% and < 101% of mass 174	182208	97.94	
177	5% - 9% of mass 176	12233	6.71	

Analyst: PDM Date: 06/22/10 Reviewer: LW Date: 06/23/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : BFB IDF : 1.0
Seqnum : 490249599013 File : jfm13 Time : 22-JUN-2010 14:46

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	50234	19.49	
75	30% - 60% of mass 95	112749	43.75	
95		257685	100.00	
96	5% - 9% of mass 95	16318	6.33	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	208746	81.01	
175	5% - 9% of mass 174	15636	7.49	
176	> 95% and < 101% of mass 174	203904	97.68	
177	5% - 9% of mass 176	13656	6.70	

Analyst: PDM Date: 06/23/10 Reviewer: LW Date: 06/23/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830238218008 File : kfe08 Time : 14-JUN-2010 19:19

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	7944	18.40	
75	30% - 60% of mass 95	22021	51.01	
95		43173	100.00	
96	5% - 9% of mass 95	2781	6.44	
173	< 2% of mass 174	563	1.66	
174	> 50% and < 100% of mass 95	33946	78.63	
175	5% - 9% of mass 174	2553	7.52	
176	> 95% and < 101% of mass 174	33037	97.32	
177	5% - 9% of mass 176	2304	6.97	

Analyst: BJP Date: 06/15/10 Reviewer: LW Date: 06/17/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830239803004 File : kff04 Time : 15-JUN-2010 16:17

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	8117	17.34	
75	30% - 60% of mass 95	22770	48.64	
95		46816	100.00	
96	5% - 9% of mass 95	3056	6.53	
173	< 2% of mass 174	347	0.95	
174	> 50% and < 100% of mass 95	36400	77.75	
175	5% - 9% of mass 174	2916	8.01	
176	> 95% and < 101% of mass 174	35149	96.56	
177	5% - 9% of mass 176	2298	6.54	

Analyst: BJP Date: 06/15/10 Reviewer: LW Date: 06/17/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830243964002 File : kfi02 Time : 18-JUN-2010 10:28

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	4467	18.20	
75	30% - 60% of mass 95	12142	49.46	
95		24549	100.00	
96	5% - 9% of mass 95	1473	6.00	
173	< 2% of mass 174	210	1.13	
174	> 50% and < 100% of mass 95	18634	75.91	
175	5% - 9% of mass 174	1573	8.44	
176	> 95% and < 101% of mass 174	17752	95.27	
177	5% - 9% of mass 176	1235	6.96	

Analyst: MCT Date: 06/18/10 Reviewer: BO Date: 06/21/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830246971002 File : kfk02 Time : 20-JUN-2010 12:34

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	5229	18.83	
75	30% - 60% of mass 95	14482	52.16	
95		27765	100.00	
96	5% - 9% of mass 95	1936	6.97	
173	< 2% of mass 174	193	0.93	
174	> 50% and < 100% of mass 95	20672	74.45	
175	5% - 9% of mass 174	1674	8.10	
176	> 95% and < 101% of mass 174	19890	96.22	
177	5% - 9% of mass 176	1189	5.98	

Analyst: MCT Date: 06/21/10 Reviewer: BJP Date: 06/21/10

CURTIS & TOMPKINS BFB TUNE FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830248287012 File : kfl112 Time : 21-JUN-2010 14:35

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	9538	17.65	
75	30% - 60% of mass 95	27530	50.94	
95		54040	100.00	
96	5% - 9% of mass 95	3823	7.07	
173	< 2% of mass 174	704	1.67	
174	> 50% and < 100% of mass 95	42178	78.05	
175	5% - 9% of mass 174	3301	7.83	
176	> 95% and < 101% of mass 174	41338	98.01	
177	5% - 9% of mass 176	2865	6.93	

Analyst: MCT Date: 06/22/10 Reviewer: LW Date: 06/22/10

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 MSVOA Water: EPA 8260B

Inst : MSVOA09
 Calnum : 480169480001
 Units : ug/L

Name : 826GOX9W
 Date : 27-APR-2010 19:48
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	idr06	480169480006	.25/.5PPB	27-APR-2010 19:48	S14416 (20000X), S14417 (20000X), S14419 (10000X), S14420 (20000X), S14481 (5000X)
L2	idr07	480169480007	.5/1PPB	27-APR-2010 20:21	S14416 (10000X), S14417 (10000X), S14419 (5000X), S14420 (10000X), S14481 (5000X)
L3	idr08	480169480008	2PPB	27-APR-2010 20:55	S14416 (25000X), S14417 (25000X), S14419 (25000X), S14420 (50000X), S14481 (5000X)
L4	idr09	480169480009	5PPB	27-APR-2010 21:28	S14416 (10000X), S14417 (10000X), S14419 (10000X), S14420 (20000X), S14481 (5000X)
L5	idr10	480169480010	10PPB	27-APR-2010 22:02	S14416 (5000X), S14417 (5000X), S14419 (5000X), S14420 (10000X), S14481 (5000X)
L6	idr11	480169480011	20PPB	27-APR-2010 22:36	S14415 (25000X), S14386 (25000X), S14050 (25000X), S14228 (50000X), S14481 (5000X)
L7	idr12	480169480012	50PPB	27-APR-2010 23:09	S14415 (10000X), S14386 (10000X), S14050 (10000X), S14228 (20000X), S14481 (5000X)
L8	idr13	480169480013	75PPB	27-APR-2010 23:44	S14415 (6667X), S14386 (6667X), S14050 (6667X), S14228 (13330X), S14481 (5000X)
L9	idr14	480169480014	100PPB	28-APR-2010 00:19	S14415 (5000X), S14386 (5000X), S14050 (5000X), S14228 (10000X), S14481 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r ² %RSD	Max %RSD	Min RF	Min r ²	Flg
Freon 12		0.4375	0.5066	0.4988	0.5257	0.6146	0.5617	0.5581	0.5625	AVRG		1.87551		0.5332	10	15	0.05	0.99	
Chloromethane		0.7916	0.7758	0.8835	0.7228	0.7854	0.7010	0.7147	0.7234	AVRG		1.31189		0.7623	8	15	0.10	0.99	
Vinyl Chloride	0.4016	0.5600	0.5625	0.6221	0.5872	0.6291	0.5817	0.5581	0.5507	AVRG		1.78113		0.5614	12	15	0.05	0.99	
Bromomethane		0.2971m	0.3196	0.3676	0.3211	0.3739	0.3592	0.3491	0.3652	AVRG		2.90603		0.3441	8	15	0.05	0.99	
Chloroethane		0.3651	0.3545	0.4003	0.3826	0.3848	0.3543	0.3672	0.3708	AVRG		2.68487		0.3725	4	15	0.05	0.99	
Trichlorofluoromethane		0.5445	0.6350	0.6278	0.6386	0.6924	0.6147	0.6082	0.5994	AVRG		1.61272		0.6201	7	15	0.05	0.99	
Acetone			0.1456	0.1281	0.1239	0.1054	0.1019	0.1059	0.0961	AVRG		8.67461		0.1153	15	15	0.05	0.99	
1,1-Dichloroethene		0.3811	0.3677	0.3884	0.3910	0.3823	0.3904	0.3908	0.3925	AVRG		2.59382		0.3855	2	15	0.05	0.99	
Iodomethane			0.1773	0.2772	0.3123	0.4229	0.4536	0.4917		QUAD	1.73528	2.32663	-0.00918	0.3558	1.000	15	0.05	0.99	
Methylene Chloride		0.4566	0.4476	0.5236	0.4642	0.4522	0.4535	0.4599	0.4561	AVRG		2.15428		0.4642	5	15	0.05	0.99	
Carbon Disulfide		1.5830	1.5499	1.7075	1.6648	1.6414	1.6252	1.5959	1.6084	AVRG		0.61653		1.6220	3	15	0.05	0.99	
MTBE		0.8117	0.9156	0.9409	0.9114	0.9105	0.8972	0.8880	0.8280	AVRG		1.12624		0.8879	5	15	0.05	0.99	
trans-1,2-Dichloroethene		0.4398	0.4184	0.4693	0.4385	0.4397	0.4267	0.4216	0.4288	AVRG		2.29701		0.4353	4	15	0.05	0.99	
Vinyl Acetate		0.7750	0.8225	0.8854	0.8923	0.8427	0.8668	0.8150	0.7143	AVRG		1.20954		0.8268	7	15	0.05	0.99	
1,1-Dichloroethane		0.8632	0.8954	1.0222	0.9322	0.9484	0.8670	0.8608	0.8326	AVRG		1.10775		0.9027	7	15	0.10	0.99	
2-Butanone			0.1764	0.1858	0.1835	0.1567	0.1558	0.1534	0.1353	AVRG		6.10382		0.1638	11	15	0.05	0.99	
2,2-Dichloropropane		0.6073	0.6034	0.6309	0.5908	0.5608	0.5375	0.5320	0.4958	AVRG		1.75498		0.5698	8	15	0.05	0.99	
cis-1,2-Dichloroethene		0.4610	0.4465	0.5310	0.4856	0.4837	0.4700	0.4596	0.4577	AVRG		2.10802		0.4744	6	15	0.05	0.99	
Chloroform		0.7708	0.7476	0.8722	0.7855	0.7786	0.7504	0.7428	0.7273	AVRG		1.29549		0.7719	6	15	0.05	0.99	
Bromochloromethane		0.2009	0.1912	0.2241	0.2010	0.1993	0.1996	0.2021	0.1991	AVRG		4.94650		0.2022	5	15	0.05	0.99	
1,1,1-Trichloroethane		0.5672	0.5415	0.6117	0.5832	0.5471	0.5593	0.5484	0.5355	AVRG		1.78021		0.5617	5	15	0.05	0.99	
1,1-Dichloropropene		0.4364	0.3906	0.4098	0.3938	0.3632	0.3912	0.3709	0.3592	AVRG		2.56815		0.3894	7	15	0.05	0.99	
Carbon Tetrachloride		0.3790	0.3085	0.3295	0.3191	0.2890	0.3073	0.2980	0.2908	AVRG		3.17294		0.3152	9	15	0.05	0.99	
1,2-Dichloroethane		0.3252	0.3145	0.3570	0.3340	0.3189	0.3241	0.3136	0.2883	AVRG		3.10612		0.3219	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.0862	1.0288	1.1893	1.0717	1.0474	1.0221	0.9679	0.9133	AVRG		0.96076		1.0408	8	15	0.05	0.99	
Trichloroethene		0.2887	0.2594	0.2931	0.2804	0.2658	0.2742	0.2715	0.2600	AVRG		3.64773		0.2741	5	15	0.05	0.99	
1,2-Dichloropropane		0.3625	0.3295	0.3757	0.3430	0.3438	0.3327	0.3265	0.3055	AVRG		2.94206		0.3399	6	15	0.05	0.99	
Bromodichloromethane		0.3275	0.3410	0.3846	0.3628	0.3480	0.3562	0.3567	0.3270	AVRG		2.85338		0.3505	5	15	0.05	0.99	
Dibromomethane		0.1470	0.1486	0.1635	0.1527	0.1485	0.1548	0.1532	0.1426	AVRG		6.60635		0.1514	4	15	0.05	0.99	
4-Methyl-2-Pentanone		0.2321	0.2442	0.2363	0.2585	0.2215	0.2391	0.2448	0.2134	AVRG		4.23314		0.2362	6	15	0.05	0.99	
cis-1,3-Dichloropropene		0.4067	0.4127	0.4727	0.4374	0.4148	0.4335	0.4211	0.3834	AVRG		2.36530		0.4228	6	15	0.05	0.99	
Toluene		0.8762	0.8094	0.9168	0.8556	0.8095	0.8290	0.7987	0.7626	AVRG		1.20161		0.8322	6	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4508	0.4528	0.5154	0.4850	0.4717	0.4790	0.4637	0.4304	AVRG		2.13396		0.4686	5	15	0.05	0.99	
1,1,2-Trichloroethane		0.1365	0.1365	0.1458	0.1455	0.1403	0.1424	0.1420	0.1339	AVRG		7.12360		0.1404	3	15	0.05	0.99	
2-Hexanone		0.2079	0.2135	0.2125	0.2335	0.2019	0.2211	0.2143	0.1874	AVRG		4.72733		0.2115	6	15	0.05	0.99	
1,3-Dichloropropane		0.4286	0.4585	0.4976	0.4831	0.4573	0.4713	0.4519	0.4219	AVRG		2.17970		0.4588	6	15	0.05	0.99	
Tetrachloroethene		0.3066	0.3027	0.3242	0.3127	0.2859	0.3214	0.3199	0.3191	AVRG		3.20955		0.3116	4	15	0.05	0.99	
Dibromochloromethane		0.2850	0.2737	0.3206	0.3125	0.3083	0.3155	0.3164	0.2983	AVRG		3.29187		0.3038	6	15	0.05	0.99	
1,2-Dibromoethane		0.2262	0.2463	0.2652	0.2637	0.2563	0.2713	0.2696	0.2486	AVRG		3.90780		0.2559	6	15	0.05	0.99	
Chlorobenzene		0.8142	0.8330	0.9469	0.8751	0.8590	0.8750	0.8484	0.8087	AVRG		1.16612		0.8575	5	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3053	0.2861	0.3278	0.3047	0.3003	0.3035	0.3125	0.2958	AVRG		3.28411		0.3045	4	15	0.05	0.99	
Ethylbenzene		1.5630	1.5004	1.6945	1.5908	1.4670	1.4531	1.3688	1.2197	AVRG		0.67469		1.4822	10	15	0.05	0.99	
m,p-Xylenes	0.5984	0.5460	0.5243	0.5962	0.5616	0.5325	0.5423	0.4840	0.4345	AVRG		1.86724		0.5355	10	15	0.05	0.99	
o-Xylene		0.5140	0.5113	0.5961	0.5656	0.5388	0.5604	0.5273	0.5061	AVRG		1.85202		0.5400	6	15	0.05	0.99	
Styrene		0.9078	0.9210	1.0645	0.9772	0.9775	0.9855	0.9166	0.8706	AVRG		1.04977		0.9526	6	15	0.05	0.99	
Bromoform		0.1395	0.1596	0.1742	0.1753	0.1732	0.1907	0.1923	0.1820	AVRG		5.76847		0.1734	10	15	0.10	0.99	
Isopropylbenzene		3.0305	2.8815	3.1900	3.0250	2.7480	2.8097	2.7103	2.4892	AVRG		0.34958		2.8605	8	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.5870	0.5995	0.6497	0.6383	0.6132	0.6405	0.6285	0.5744	AVRG		1.62235		0.6164	4	15	0.30	0.99	
1,2,3-Trichloropropane		0.1395	0.1508	0.1598	0.1515	0.1453	0.1515	0.1452	0.1381	AVRG		6.76984		0.1477	5	15	0.05	0.99	
Propylbenzene		3.8643	3.6217	3.9896	3.7128	3.4128	3.3992	3.0185	2.6641	AVRG		0.28899		3.4604	13	15	0.05	0.99	
Bromobenzene		0.7318	0.6998	0.7987	0.7402	0.7397	0.7615	0.7408	0.6736	AVRG		1.35911		0.7358	5	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.4206	2.2628	2.6233	2.3450	2.2256	2.1936	1.9925	1.8075	AVRG		0.44765		2.2339	11	15	0.05	0.99	
2-Chlorotoluene		2.5899	2.4509	2.8053	2.4785	2.3645	2.2023	1.9895	1.7838	AVRG		0.42862		2.3331	14	15	0.05	0.99	
4-Chlorotoluene		2.4331	2.2233	2.5697	2.3089	2.2271	2.1762	2.1123	1.9426	AVRG		0.44461		2.2491	9	15	0.05	0.99	
tert-Butylbenzene		1.9417	1.8155	2.0051	1.9426	1.7739	1.8532	1.8352	1.7653	AVRG		0.53575		1.8666	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.3920	2.2739	2.5670	2.3055	2.2659	2.2821	2.1895	2.0021	AVRG		0.43768		2.2848	7	15	0.05	0.99	
sec-Butylbenzene		2.9421	2.9728	3.2620	3.0792	2.7616	2.9170	2.8275	2.6453	AVRG		0.34177		2.9259	7	15	0.05	0.99	
para-Isopropyl Toluene		2.2299	2.1922	2.3790	2.3055	2.0855	2.2907	2.1701	2.0847	AVRG		0.45102		2.2172	5	15	0.05	0.99	
1,3-Dichlorobenzene		1.2599	1.2333	1.4128	1.2989	1.2878	1.3101	1.3404	1.2699	AVRG		0.76826		1.3016	4	15	0.05	0.99	
1,4-Dichlorobenzene		1.3633	1.2509	1.4724	1.3371	1.3050	1.3582	1.3582	1.2718	AVRG		0.74649		1.3396	5	15	0.05	0.99	
n-Butylbenzene		2.1569	2.1238	2.3069	2.1886	2.0121	2.1909	2.0726	1.9797	AVRG		0.46972		2.1289	5	15	0.05	0.99	
1,2-Dichlorobenzene		1.1375	1.1196	1.2908	1.2159	1.1892	1.2002	1.2177	1.1503	AVRG		0.84024		1.1901	5	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.1101	0.0991	0.1038	0.1097	0.0960	0.1032	0.1035	0.0917	AVRG		9.78933		0.1022	6	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.5980	0.6069	0.6824	0.6573	0.6592	0.7157	0.7450	0.7195	AVRG		1.48585		0.6730	8	15	0.05	0.99	
Hexachlorobutadiene		0.3610	0.3333	0.3640	0.3622	0.3164	0.3616	0.3686	0.3768	AVRG		2.81305		0.3555	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r ² %RSD	Max %RSD	Min RF	Min r ²	Flg
Naphthalene		0.9384	1.0490	1.1997	1.1816	1.1552	1.2732	1.2736	1.1982	AVRG		0.86311		1.1586	10	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.4785	0.5260	0.5921	0.5815	0.5932	0.6412	0.6611	0.6337	AVRG		1.69946		0.5884	10	15	0.05	0.99	
Dibromofluoromethane	0.5429	0.5465	0.5597	0.5580	0.5647	0.5516	0.5483	0.5457	0.5289	AVRG		1.81954		0.5496	2	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3196	0.3309	0.3386	0.3347	0.3378	0.3155	0.3053	0.2815	0.2609	AVRG		3.18586		0.3139	9	15	0.05	0.99	
Toluene-d8	1.4291	1.4829	1.4454	1.4459	1.4167	1.4831	1.4460	1.4489	1.4061	AVRG		0.69209		1.4449	2	15	0.05	0.99	
Bromofluorobenzene	1.0741	1.0717	1.0759	1.0842	1.0614	1.0834	1.0378	1.0381	0.9919	AVRG		0.94553		1.0576	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-18	2.000	-5	5.000	-6	10.00	-1	20.00	15	50.00	5	75.00	5	100.0	5
Chloromethane			1.000	4	2.000	2	5.000	16	10.00	-5	20.00	3	50.00	-8	75.00	-6	100.0	-5
Vinyl Chloride	0.500	-28	1.000	0	2.000	0	5.000	11	10.00	5	20.00	12	50.00	4	75.00	-1	100.0	-2
Bromomethane			1.000	-14	2.000	-7	5.000	7	10.00	-7	20.00	9	50.00	4	75.00	1	100.0	6
Chloroethane			1.000	-2	2.000	-5	5.000	7	10.00	3	20.00	3	50.00	-5	75.00	-1	100.0	0
Trichlorofluoromethane			1.000	-12	2.000	2	5.000	1	10.00	3	20.00	12	50.00	-1	75.00	-2	100.0	-3
Acetone					2.000	26	5.000	11	10.00	7	20.00	-9	50.00	-12	75.00	-8	100.0	-17
1,1-Dichloroethene			0.500	-1	2.000	-5	5.000	1	10.00	1	20.00	-1	50.00	1	75.00	1	100.0	2
Iodomethane					2.000	28	5.000	-1	10.00	-11	20.00	4	50.00	0	75.00	0		
Methylene Chloride			0.500	-2	2.000	-4	5.000	13	10.00	0	20.00	-3	50.00	-2	75.00	-1	100.0	-2
Carbon Disulfide			0.500	-2	2.000	-4	5.000	5	10.00	3	20.00	1	50.00	0	75.00	-2	100.0	-1
MTBE			0.500	-9	2.000	3	5.000	6	10.00	3	20.00	3	50.00	1	75.00	0	100.0	-7
trans-1,2-Dichloroethene			0.500	1	2.000	-4	5.000	8	10.00	1	20.00	1	50.00	-2	75.00	-3	100.0	-2
Vinyl Acetate			0.500	-6	2.000	-1	5.000	7	10.00	8	20.00	2	50.00	5	75.00	-1	100.0	-14
1,1-Dichloroethane			0.500	-4	2.000	-1	5.000	13	10.00	3	20.00	5	50.00	-4	75.00	-5	100.0	-8
2-Butanone					2.000	8	5.000	13	10.00	12	20.00	-4	50.00	-5	75.00	-6	100.0	-17
2,2-Dichloropropane			0.500	7	2.000	6	5.000	11	10.00	4	20.00	-2	50.00	-6	75.00	-7	100.0	-13
cis-1,2-Dichloroethene			0.500	-3	2.000	-6	5.000	12	10.00	2	20.00	2	50.00	-1	75.00	-3	100.0	-4
Chloroform			0.500	0	2.000	-3	5.000	13	10.00	2	20.00	1	50.00	-3	75.00	-4	100.0	-6
Bromochloromethane			0.500	-1	2.000	-5	5.000	11	10.00	-1	20.00	-1	50.00	-1	75.00	0	100.0	-2
1,1,1-Trichloroethane			0.500	1	2.000	-4	5.000	9	10.00	4	20.00	-3	50.00	0	75.00	-2	100.0	-5
1,1-Dichloropropene			0.500	12	2.000	0	5.000	5	10.00	1	20.00	-7	50.00	0	75.00	-5	100.0	-8
Carbon Tetrachloride			0.500	20	2.000	-2	5.000	5	10.00	1	20.00	-8	50.00	-2	75.00	-5	100.0	-8
1,2-Dichloroethane			0.500	1	2.000	-2	5.000	11	10.00	4	20.00	-1	50.00	1	75.00	-3	100.0	-10
Benzene			0.500	4	2.000	-1	5.000	14	10.00	3	20.00	1	50.00	-2	75.00	-7	100.0	-12
Trichloroethene			0.500	5	2.000	-5	5.000	7	10.00	2	20.00	-3	50.00	0	75.00	-1	100.0	-5
1,2-Dichloropropane			0.500	7	2.000	-3	5.000	11	10.00	1	20.00	1	50.00	-2	75.00	-4	100.0	-10
Bromodichloromethane			0.500	-7	2.000	-3	5.000	10	10.00	4	20.00	-1	50.00	2	75.00	2	100.0	-7
Dibromomethane			0.500	-3	2.000	-2	5.000	8	10.00	1	20.00	-2	50.00	2	75.00	1	100.0	-6
4-Methyl-2-Pentanone			0.500	-2	2.000	3	5.000	0	10.00	9	20.00	-6	50.00	1	75.00	4	100.0	-10
cis-1,3-Dichloropropene			0.500	-4	2.000	-2	5.000	12	10.00	3	20.00	-2	50.00	3	75.00	0	100.0	-9
Toluene			0.500	5	2.000	-3	5.000	10	10.00	3	20.00	-3	50.00	0	75.00	-4	100.0	-8
trans-1,3-Dichloropropene			0.500	-4	2.000	-3	5.000	10	10.00	3	20.00	1	50.00	2	75.00	-1	100.0	-8
1,1,2-Trichloroethane			0.500	-3	2.000	-3	5.000	4	10.00	4	20.00	0	50.00	1	75.00	1	100.0	-5
2-Hexanone			0.500	-2	2.000	1	5.000	0	10.00	10	20.00	-5	50.00	5	75.00	1	100.0	-11
1,3-Dichloropropane			0.500	-7	2.000	0	5.000	8	10.00	5	20.00	0	50.00	3	75.00	-2	100.0	-8
Tetrachloroethene			0.500	-2	2.000	-3	5.000	4	10.00	0	20.00	-8	50.00	3	75.00	3	100.0	2
Dibromochloromethane			0.500	-6	2.000	-10	5.000	6	10.00	3	20.00	1	50.00	4	75.00	4	100.0	-2
1,2-Dibromoethane			0.500	-12	2.000	-4	5.000	4	10.00	3	20.00	0	50.00	6	75.00	5	100.0	-3
Chlorobenzene			0.500	-5	2.000	-3	5.000	10	10.00	2	20.00	0	50.00	2	75.00	-1	100.0	-6
1,1,1,2-Tetrachloroethane			0.500	0	2.000	-6	5.000	8	10.00	0	20.00	-1	50.00	0	75.00	3	100.0	-3
Ethylbenzene			0.500	5	2.000	1	5.000	14	10.00	7	20.00	-1	50.00	-2	75.00	-8	100.0	-18

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	12	1.000	2	4.000	-2	10.00	11	20.00	5	40.00	-1	100.0	1	150.0	-10	200.0	-19
o-Xylene			0.500	-5	2.000	-5	5.000	10	10.00	5	20.00	0	50.00	4	75.00	-2	100.0	-6
Styrene			0.500	-5	2.000	-3	5.000	12	10.00	3	20.00	3	50.00	3	75.00	-4	100.0	-9
Bromoform			0.500	-20	2.000	-8	5.000	0	10.00	1	20.00	0	50.00	10	75.00	11	100.0	5
Isopropylbenzene			0.500	6	2.000	1	5.000	12	10.00	6	20.00	-4	50.00	-2	75.00	-5	100.0	-13
1,1,2,2-Tetrachloroethane			0.500	-5	2.000	-3	5.000	5	10.00	4	20.00	-1	50.00	4	75.00	2	100.0	-7
1,2,3-Trichloropropane			0.500	-6	2.000	2	5.000	8	10.00	3	20.00	-2	50.00	3	75.00	-2	100.0	-6
Propylbenzene			0.500	12	2.000	5	5.000	15	10.00	7	20.00	-1	50.00	-2	75.00	-13	100.0	-23
Bromobenzene			0.500	-1	2.000	-5	5.000	9	10.00	1	20.00	1	50.00	4	75.00	1	100.0	-8
1,3,5-Trimethylbenzene			0.500	8	2.000	1	5.000	17	10.00	5	20.00	0	50.00	-2	75.00	-11	100.0	-19
2-Chlorotoluene			0.500	11	2.000	5	5.000	20	10.00	6	20.00	1	50.00	-6	75.00	-15	100.0	-24
4-Chlorotoluene			0.500	8	2.000	-1	5.000	14	10.00	3	20.00	-1	50.00	-3	75.00	-6	100.0	-14
tert-Butylbenzene			0.500	4	2.000	-3	5.000	7	10.00	4	20.00	-5	50.00	-1	75.00	-2	100.0	-5
1,2,4-Trimethylbenzene			0.500	5	2.000	0	5.000	12	10.00	1	20.00	-1	50.00	0	75.00	-4	100.0	-12
sec-Butylbenzene			0.500	1	2.000	2	5.000	11	10.00	5	20.00	-6	50.00	0	75.00	-3	100.0	-10
para-Isopropyl Toluene			0.500	1	2.000	-1	5.000	7	10.00	4	20.00	-6	50.00	3	75.00	-2	100.0	-6
1,3-Dichlorobenzene			0.500	-3	2.000	-5	5.000	9	10.00	0	20.00	-1	50.00	1	75.00	3	100.0	-2
1,4-Dichlorobenzene			0.500	2	2.000	-7	5.000	10	10.00	0	20.00	-3	50.00	1	75.00	1	100.0	-5
n-Butylbenzene			0.500	1	2.000	0	5.000	8	10.00	3	20.00	-5	50.00	3	75.00	-3	100.0	-7
1,2-Dichlorobenzene			0.500	-4	2.000	-6	5.000	8	10.00	2	20.00	0	50.00	1	75.00	2	100.0	-3
1,2-Dibromo-3-Chloropropane			0.500	8	2.000	-3	5.000	2	10.00	7	20.00	-6	50.00	1	75.00	1	100.0	-10
1,2,4-Trichlorobenzene			0.500	-11	2.000	-10	5.000	1	10.00	-2	20.00	-2	50.00	6	75.00	11	100.0	7
Hexachlorobutadiene			0.500	2	2.000	-6	5.000	2	10.00	2	20.00	-11	50.00	2	75.00	4	100.0	6
Naphthalene			0.500	-19	2.000	-9	5.000	4	10.00	2	20.00	0	50.00	10	75.00	10	100.0	3
1,2,3-Trichlorobenzene			0.500	-19	2.000	-11	5.000	1	10.00	-1	20.00	1	50.00	9	75.00	12	100.0	8
Dibromofluoromethane	50.00	-1	50.00	-1	50.00	2	50.00	2	50.00	3	50.00	0	50.00	0	50.00	-1	50.00	-4
1,2-Dichloroethane-d4	50.00	2	50.00	5	50.00	8	50.00	7	50.00	8	50.00	1	50.00	-3	50.00	-10	50.00	-17
Toluene-d8	50.00	-1	50.00	3	50.00	0	50.00	0	50.00	-2	50.00	3	50.00	0	50.00	0	50.00	-3
Bromofluorobenzene	50.00	2	50.00	1	50.00	2	50.00	3	50.00	0	50.00	2	50.00	-2	50.00	-2	50.00	-6

TDL 05/03/10 [Bromomethane]: Combined split peak1PPB (idr07).

TDL 05/03/10 [Isopropanol]: Combined split peak1PPB (idr07).

LW 05/03/10 [Iodomethane]: Does not meet 8260C criteria (ICV)

LW 05/03/10 [2-Chloroethylvinylether]: Does not meet 8260C criteria (ICV)

LW 05/03/10 [Cyclohexanone]: Does not meet 8260C criteria

Analyst: TDL

Date: 05/03/10

Reviewer: LW

Date: 05/03/10

m=manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor; QUAD=Quadratic regression

Page 6 of 6

480169480001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA09
Calnum : 480169480001

Name : 826GOX9W
Cal Date : 27-APR-2010

Type : WATER

ICV 480169480016 (idr16 28-APR-2010) stds: S14323 (10000X), S14144 (10000X),
S14253 (10000X), S14481 (5000X)

ICV 480171128004 (ids04 28-APR-2010) stds: S14422 (10000X), S14481 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	480171128004	25.00	22.54	ug/L	-10	25	
Chloromethane	480171128004	25.00	23.58	ug/L	-6	25	
Vinyl Chloride	480171128004	25.00	23.81	ug/L	-5	25	
Bromomethane	480171128004	25.00	21.01	ug/L	-16	25	
Chloroethane	480171128004	25.00	26.24	ug/L	5	25	
Trichlorofluoromethane	480171128004	25.00	26.50	ug/L	6	25	
Acetone	480169480016	25.00	23.15	ug/L	-7	25	
1,1-Dichloroethene	480169480016	25.00	22.60	ug/L	-10	25	
Iodomethane	480169480016	25.00	10.89	ug/L	-56	25	v-
Methylene Chloride	480169480016	25.00	23.29	ug/L	-7	25	
Carbon Disulfide	480169480016	25.00	21.16	ug/L	-15	25	
MTBE	480169480016	25.00	22.62	ug/L	-10	25	
trans-1,2-Dichloroethene	480169480016	25.00	24.03	ug/L	-4	25	
Vinyl Acetate	480169480016	25.00	26.59	ug/L	6	25	
1,1-Dichloroethane	480169480016	25.00	23.62	ug/L	-6	25	
2-Butanone	480169480016	25.00	24.25	ug/L	-3	25	
2,2-Dichloropropane	480169480016	25.00	21.99	ug/L	-12	25	
cis-1,2-Dichloroethene	480169480016	25.00	24.38	ug/L	-2	25	
Chloroform	480169480016	25.00	23.65	ug/L	-5	25	
Bromochloromethane	480169480016	25.00	24.09	ug/L	-4	25	
1,1,1-Trichloroethane	480169480016	25.00	24.02	ug/L	-4	25	
1,1-Dichloropropene	480169480016	25.00	22.83	ug/L	-9	25	
Carbon Tetrachloride	480169480016	25.00	23.68	ug/L	-5	25	
1,2-Dichloroethane	480169480016	25.00	24.13	ug/L	-3	25	
Benzene	480169480016	25.00	24.40	ug/L	-2	25	
Trichloroethene	480169480016	25.00	23.90	ug/L	-4	25	
1,2-Dichloropropane	480169480016	25.00	23.16	ug/L	-7	25	
Bromodichloromethane	480169480016	25.00	24.52	ug/L	-2	25	
Dibromomethane	480169480016	25.00	25.65	ug/L	3	25	
4-Methyl-2-Pentanone	480169480016	25.00	25.08	ug/L	0	25	
cis-1,3-Dichloropropene	480169480016	25.00	25.07	ug/L	0	25	
Toluene	480169480016	25.00	24.94	ug/L	0	25	
trans-1,3-Dichloropropene	480169480016	25.00	22.39	ug/L	-10	25	
1,1,2-Trichloroethane	480169480016	25.00	25.35	ug/L	1	25	
2-Hexanone	480169480016	25.00	26.64	ug/L	7	25	
1,3-Dichloropropane	480169480016	25.00	25.41	ug/L	2	25	
Tetrachloroethene	480169480016	25.00	25.05	ug/L	0	25	
Dibromochloromethane	480169480016	25.00	25.46	ug/L	2	25	
1,2-Dibromoethane	480169480016	25.00	25.60	ug/L	2	25	
Chlorobenzene	480169480016	25.00	25.27	ug/L	1	25	
1,1,1,2-Tetrachloroethane	480169480016	25.00	24.86	ug/L	-1	25	
Ethylbenzene	480169480016	25.00	25.19	ug/L	1	25	
m,p-Xylenes	480169480016	50.00	52.09	ug/L	4	25	
o-Xylene	480169480016	25.00	25.90	ug/L	4	25	
Styrene	480169480016	25.00	25.99	ug/L	4	25	
Bromoform	480169480016	25.00	27.05	ug/L	8	25	
Isopropylbenzene	480169480016	25.00	23.03	ug/L	-8	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	480169480016	25.00	25.56	ug/L	2	25	
1,2,3-Trichloropropane	480169480016	25.00	25.44	ug/L	2	25	
Propylbenzene	480169480016	25.00	25.76	ug/L	3	25	
Bromobenzene	480169480016	25.00	26.14	ug/L	5	25	
1,3,5-Trimethylbenzene	480169480016	25.00	25.94	ug/L	4	25	
2-Chlorotoluene	480169480016	25.00	25.76	ug/L	3	25	
4-Chlorotoluene	480169480016	25.00	25.05	ug/L	0	25	
tert-Butylbenzene	480169480016	25.00	25.54	ug/L	2	25	
1,2,4-Trimethylbenzene	480169480016	25.00	25.99	ug/L	4	25	
sec-Butylbenzene	480169480016	25.00	26.44	ug/L	6	25	
para-Isopropyl Toluene	480169480016	25.00	24.78	ug/L	-1	25	
1,3-Dichlorobenzene	480169480016	25.00	25.32	ug/L	1	25	
1,4-Dichlorobenzene	480169480016	25.00	25.44	ug/L	2	25	
n-Butylbenzene	480169480016	25.00	26.09	ug/L	4	25	
1,2-Dichlorobenzene	480169480016	25.00	25.75	ug/L	3	25	
1,2-Dibromo-3-Chloropropane	480169480016	25.00	24.75	ug/L	-1	25	
1,2,4-Trichlorobenzene	480169480016	25.00	25.51	ug/L	2	25	
Hexachlorobutadiene	480169480016	25.00	24.57	ug/L	-2	25	
Naphthalene	480169480016	25.00	28.03	ug/L	12	25	
1,2,3-Trichlorobenzene	480169480016	25.00	27.14	ug/L	9	25	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 MSVOA Water: EPA 8260B

Inst : MSVOA10
 Calnum : 490027869001
 Units : ug/L

Name : 826GOX10
 Date : 19-JAN-2010 18:58
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	jaj12	490027869012	.25/.5PPB	19-JAN-2010 18:58	S13745 (20000X), S13746 (20000X), S13747 (20000X), S13748 (10000X), S13615 (2500X)
L2	jaj13	490027869013	0.5/1PPB	19-JAN-2010 19:32	S13745 (10000X), S13746 (10000X), S13747 (10000X), S13748 (50000X), S13615 (2500X)
L3	jaj14	490027869014	2PPB	19-JAN-2010 20:07	S13745 (25000X), S13746 (25000X), S13747 (50000X), S13748 (25000X), S13615 (2500X)
L4	jaj15	490027869015	5PPB	19-JAN-2010 20:42	S13745 (10000X), S13746 (10000X), S13747 (20000X), S13748 (10000X), S13615 (2500X)
L5	jaj16	490027869016	10PPB	19-JAN-2010 21:17	S13745 (5000X), S13746 (5000X), S13747 (10000X), S13748 (5000X), S13615 (2500X)
L6	jaj17	490027869017	20PPB	19-JAN-2010 21:51	S13680 (25000X), S13586 (25000X), S13625 (50000X), S13503 (25000X), S13615 (2500X)
L7	jaj18	490027869018	50PPB	19-JAN-2010 22:26	S13680 (10000X), S13586 (10000X), S13625 (20000X), S13503 (10000X), S13615 (2500X)
L8	jaj19	490027869019	75PPB	19-JAN-2010 23:01	S13680 (6667X), S13586 (6667X), S13625 (13330X), S13503 (6667X), S13615 (2500X)
L9	jaj20	490027869020	100PPB	19-JAN-2010 23:35	S13680 (5000X), S13586 (5000X), S13625 (10000X), S13503 (5000X), S13615 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.3918	0.6916	0.6069m	0.6327	0.6573	0.7062			QUAD	0.18210	1.56885	-0.00448	0.6144	1.000	15	0.05	0.99	
Chloromethane		0.9525	1.0916m	1.0509	1.0071	0.9526	0.9903	0.9559	0.9085	AVRG		1.01145		0.9887	6	15	0.10	0.99	
Vinyl Chloride	0.7254	0.6064	0.8278	0.8382	0.7852	0.8017	0.8279	0.7825	0.7655	AVRG		1.29299		0.7734	9	15	0.05	0.99	
Bromomethane		0.4138	0.4729m	0.4748	0.4397	0.4360	0.4925	0.4880	0.4634	AVRG		2.17319		0.4602	6	15	0.05	0.99	
Chloroethane		0.4443m	0.4834m	0.4592m	0.4676	0.4510	0.4609	0.4413	0.4233	AVRG		2.20328		0.4539	4	15	0.05	0.99	
Trichlorofluoromethane		0.3817	0.6879	0.6368	0.6590	0.6730	0.6968			QUAD	0.22115	1.49397	-0.00187	0.6225	1.000	15	0.05	0.99	
Acetone				0.1936	0.1630	0.1407	0.1841	0.1655	0.1600	AVRG		5.95858		0.1678	11	15	0.05	0.99	
1,1-Dichloroethene		0.4959m	0.5767	0.6106	0.5879	0.5852	0.5594	0.5802	0.5611	AVRG		1.75556		0.5696	6	15	0.05	0.99	
Iodomethane			0.5906	0.7037	0.7318	0.5257	0.5613	0.5475	0.5298	AVRG		1.67051		0.5986	14	15	0.05	0.99	
Methylene Chloride		0.8469	0.7815	0.7512	0.7187	0.7252	0.7686	0.7365	0.7067	AVRG		1.32554		0.7544	6	15	0.05	0.99	
Carbon Disulfide		1.9085	2.4192	2.5698	2.4448	2.4480	2.4513	2.4485	2.3702	AVRG		0.41972		2.3825	8	15	0.05	0.99	
MTBE		1.5356	1.6609	1.6438	1.6234	1.5890	1.7290	1.6509	1.5851	AVRG		0.61454		1.6272	4	15	0.05	0.99	
trans-1,2-Dichloroethene		0.6320	0.6779	0.6780	0.6807	0.6724	0.6798	0.6753	0.6531	AVRG		1.49555		0.6687	3	15	0.05	0.99	
Vinyl Acetate			1.4467	1.3662	1.3674	1.4708	1.6053	1.5563	1.4683	AVRG		0.68087		1.4687	6	15	0.05	0.99	
1,1-Dichloroethane		1.0643	1.1998	1.2389	1.2046	1.2031	1.2289	1.2004	1.1576	AVRG		0.84233		1.1872	5	15	0.10	0.99	
2-Butanone			0.2978	0.2763	0.2694	0.2323	0.2836	0.2590	0.2566	AVRG		3.73358		0.2678	8	15	0.05	0.99	
2,2-Dichloropropane		0.6757	0.7276	0.7403	0.6863	0.6873	0.6681	0.6749	0.6415	AVRG		1.45412		0.6877	5	15	0.05	0.99	
cis-1,2-Dichloroethene		0.7204	0.7106	0.6859	0.6917	0.6975	0.7284	0.7094	0.6857	AVRG		1.42107		0.7037	2	15	0.05	0.99	
Chloroform		0.9388	1.0291	1.0289	1.0217	1.0228	1.0628	1.0350	0.9708	AVRG		0.98644		1.0137	4	15	0.05	0.99	
Bromochloromethane		0.3080	0.3276	0.3319	0.3366	0.3337	0.3581	0.3440	0.3303	AVRG		2.99603		0.3338	4	15	0.05	0.99	
1,1,1-Trichloroethane		0.5394	0.6557	0.6833	0.6635	0.6956	0.6706	0.6901	0.6779	AVRG		1.51627		0.6595	8	15	0.05	0.99	
1,1-Dichloropropene		0.3343	0.4453	0.4718	0.4471	0.4583	0.4447	0.4569	0.4372	AVRG		2.28864		0.4369	10	15	0.05	0.99	
Carbon Tetrachloride		0.2165	0.2877	0.3180	0.3109	0.3127	0.2982	0.3095	0.3047	AVRG		3.39243		0.2948	11	15	0.05	0.99	
1,2-Dichloroethane		0.3478	0.3616	0.3803	0.3806	0.3856	0.4024	0.3796	0.3628	AVRG		2.66595		0.3751	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.2680	1.3599	1.4254	1.3984	1.3877	1.4206	1.3726	1.2892	AVRG		0.73248		1.3652	4	15	0.05	0.99	
Trichloroethene		0.2922	0.3180	0.3575	0.3518	0.3551	0.3569	0.3523	0.3438	AVRG		2.93293		0.3410	7	15	0.05	0.99	
1,2-Dichloropropane		0.4079	0.4008	0.4191	0.4248	0.4061	0.4466	0.4236	0.4076	AVRG		2.39776		0.4171	4	15	0.05	0.99	
Bromodichloromethane		0.4122	0.4221	0.4427	0.4372	0.4384	0.4684	0.4476	0.4261	AVRG		2.28903		0.4369	4	15	0.05	0.99	
Dibromomethane		0.2186	0.2282	0.2333	0.2258	0.2293	0.2476	0.2369	0.2248	AVRG		4.33774		0.2305	4	15	0.05	0.99	
4-Methyl-2-Pentanone			0.3340	0.3217	0.3214	0.2921	0.3566	0.3350	0.3224	AVRG		3.06596		0.3262	6	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5750	0.5610	0.5820	0.5819	0.5732	0.6180	0.5885	0.5523	AVRG		1.72722		0.5790	3	15	0.05	0.99	
Toluene		0.9530	0.9690	0.9911	0.9610	0.9673	0.9894	0.9666	0.9247	AVRG		1.03598		0.9653	2	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5178	0.5628	0.5849	0.5685	0.5694	0.6272	0.5955	0.5659	AVRG		1.74212		0.5740	5	15	0.05	0.99	
1,1,2-Trichloroethane		0.1892	0.1941	0.2061	0.1972	0.1971	0.2197	0.2037	0.1969	AVRG		4.98735		0.2005	5	15	0.05	0.99	
2-Hexanone			0.2843	0.2413	0.2451	0.2371	0.2836	0.2591	0.2540	AVRG		3.87915		0.2578	7	15	0.05	0.99	
1,3-Dichloropropane		0.5398	0.5934	0.5905	0.6052	0.5852	0.6412	0.6115	0.5872	AVRG		1.68276		0.5943	5	15	0.05	0.99	
Tetrachloroethene		0.3033	0.3598	0.3944	0.3774	0.3880	0.3800	0.3860	0.3774	AVRG		2.69689		0.3708	8	15	0.05	0.99	
Dibromochloromethane		0.3437	0.3530	0.3738	0.3709	0.3728	0.4166	0.3927	0.3774	AVRG		2.66591		0.3751	6	15	0.05	0.99	
1,2-Dibromoethane		0.3057	0.3362	0.3526	0.3513	0.3501	0.3915	0.3716	0.3532	AVRG		2.84479		0.3515	7	15	0.05	0.99	
Chlorobenzene		1.0531	1.0536	1.1044	1.0812	1.0923	1.1462	1.0966	1.0330	AVRG		0.92374		1.0826	3	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3096	0.3309	0.3385	0.3290	0.3369	0.3576	0.3471	0.3239	AVRG		2.99234		0.3342	4	15	0.05	0.99	
Ethylbenzene		1.6500	1.7827	1.8447	1.8008	1.8122	1.8127	1.7761	1.6781	AVRG		0.56508		1.7697	4	15	0.05	0.99	
m,p-Xylenes	0.7326	0.6241	0.6797	0.6930	0.6793	0.6793	0.6821	0.6607	0.6269	AVRG		1.48570		0.6731	5	15	0.05	0.99	
o-Xylene		0.6283	0.6409	0.6946	0.6643	0.6770	0.6972	0.6705	0.6373	AVRG		1.50652		0.6638	4	15	0.05	0.99	
Styrene		1.0406	1.1627	1.2311	1.2098	1.2251	1.2781	1.2105	1.1436	AVRG		0.84197		1.1877	6	15	0.05	0.99	
Bromoform		0.1964	0.2203	0.2317	0.2267	0.2276	0.2591	0.2451	0.2364	AVRG		4.33951		0.2304	8	15	0.10	0.99	
Isopropylbenzene		2.9948	3.3679	3.5241	3.4842	3.4035	3.3814	3.3183	3.1713	AVRG		0.30024		3.3307	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.8634	0.9388	0.9230	0.9478	0.9028	1.0130	0.9497	0.9175	AVRG		1.07298		0.9320	5	15	0.30	0.99	
1,2,3-Trichloropropane		0.8131	0.7442	0.7575	0.7291	0.7036	0.7780	0.7350	0.7021	AVRG		1.34168		0.7453	5	15	0.05	0.99	
Propylbenzene		3.8415	4.2083	4.4710	4.4582	4.3750	4.2436	4.1775	3.9757	AVRG		0.23703		4.2189	5	15	0.05	0.99	
Bromobenzene		0.9139	0.8760	0.8746	0.8897	0.8916	0.9348	0.8925	0.8432	AVRG		1.12420		0.8895	3	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.5580	2.7063	2.8266	2.7814	2.8072	2.7882	2.7232	2.5554	AVRG		0.36788		2.7183	4	15	0.05	0.99	
2-Chlorotoluene		2.7142	2.7171	2.8270	2.7395	2.7646	2.7823	2.6919	2.5142	AVRG		0.36780		2.7188	3	15	0.05	0.99	
4-Chlorotoluene		2.5567	2.4605	2.6264	2.6572	2.6019	2.7049	2.5911	2.4565	AVRG		0.38731		2.5819	3	15	0.05	0.99	
tert-Butylbenzene		1.9102	2.2307	2.3379	2.3503	2.3537	2.2889	2.2921	2.2090	AVRG		0.44512		2.2466	7	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.7826	2.7787	2.8993	2.9118	2.8776	2.9550	2.8359	2.7052	AVRG		0.35171		2.8433	3	15	0.05	0.99	
sec-Butylbenzene		2.9770	3.6151	3.7665	3.7770	3.6964	3.5787	3.6421	3.4951	AVRG		0.28023		3.5685	7	15	0.05	0.99	
para-Isopropyl Toluene		2.3366	2.7451	2.8866	2.9148	2.9033	2.8430	2.8287	2.7468	AVRG		0.36028		2.7756	7	15	0.05	0.99	
1,3-Dichlorobenzene		1.6381	1.6631	1.7085	1.7222	1.7035	1.7980	1.7299	1.6200	AVRG		0.58896		1.6979	3	15	0.05	0.99	
1,4-Dichlorobenzene		1.6778	1.7282	1.7702	1.7656	1.7528	1.8472	1.7667	1.6569	AVRG		0.57285		1.7457	3	15	0.05	0.99	
n-Butylbenzene		2.4792	2.7039	2.9085	2.8499	2.8497	2.7808	2.7966	2.7111	AVRG		0.36232		2.7600	5	15	0.05	0.99	
1,2-Dichlorobenzene		1.4027	1.5685	1.5678	1.5997	1.5870	1.7042	1.6245	1.5228	AVRG		0.63607		1.5721	6	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.0991	0.1225	0.1188	0.1064	0.1262	0.1187	0.1144	AVRG		8.68367		0.1152	8	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.8558	0.9018	0.9209	0.9250	0.9263	0.9824	0.9485	0.9113	AVRG		1.08517		0.9215	4	15	0.05	0.99	
Hexachlorobutadiene		0.1934	0.2667	0.2972	0.2876	0.3049	0.2844	0.3056	0.3025	AVRG		3.56770		0.2803	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.7939	1.9260	1.9940	1.9976	1.9369	2.1935	2.0997	2.0470	AVRG		0.50036		1.9986	6	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.7439	0.7428	0.7816	0.7984	0.7980	0.8729	0.8407	0.7902	AVRG		1.25619		0.7961	6	15	0.05	0.99	
Dibromofluoromethane	0.5743	0.5645	0.5823	0.5690	0.5749	0.5655	0.5729	0.5738	0.5767	AVRG		1.74622		0.5727	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.2823	0.2827	0.2826	0.2829	0.2793	0.2721	0.2732	0.2671	0.2658	AVRG		3.61733		0.2764	3	15	0.05	0.99	
Toluene-d8	1.3510	1.3456	1.3389	1.3520	1.3395	1.3495	1.3651	1.3481	1.3459	AVRG		0.74162		1.3484	1	15	0.05	0.99	
Bromofluorobenzene	0.9927	1.0105	0.9774	0.9906	1.0040	0.9879	0.9870	0.9890	0.9773	AVRG		1.00937		0.9907	1	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-20	2.000	17	5.000	-2	10.00	-1	20.00	0	50.00	0				
Chloromethane			1.000	-4	2.000	10	5.000	6	10.00	2	20.00	-4	50.00	0	75.00	-3	100.0	-8
Vinyl Chloride	0.500	-6	1.000	-22	2.000	7	5.000	8	10.00	2	20.00	4	50.00	7	75.00	1	100.0	-1
Bromomethane			1.000	-10	2.000	3	5.000	3	10.00	-4	20.00	-5	50.00	7	75.00	6	100.0	1
Chloroethane			1.000	-2	2.000	7	5.000	1	10.00	3	20.00	-1	50.00	2	75.00	-3	100.0	-7
Trichlorofluoromethane			1.000	-21	2.000	14	5.000	-1	10.00	0	20.00	0	50.00	0				
Acetone							5.000	15	10.00	-3	20.00	-16	50.00	10	75.00	-1	100.0	-5
1,1-Dichloroethene			0.500	-13	2.000	1	5.000	7	10.00	3	20.00	3	50.00	-2	75.00	2	100.0	-2
Iodomethane					2.000	-1	5.000	18	10.00	22	20.00	-12	50.00	-6	75.00	-9	100.0	-12
Methylene Chloride			0.500	12	2.000	4	5.000	0	10.00	-5	20.00	-4	50.00	2	75.00	-2	100.0	-6
Carbon Disulfide			0.500	-20	2.000	2	5.000	8	10.00	3	20.00	3	50.00	3	75.00	3	100.0	-1
MTBE			0.500	-6	2.000	2	5.000	1	10.00	0	20.00	-2	50.00	6	75.00	1	100.0	-3
trans-1,2-Dichloroethene			0.500	-5	2.000	1	5.000	1	10.00	2	20.00	1	50.00	2	75.00	1	100.0	-2
Vinyl Acetate					2.000	-1	5.000	-7	10.00	-7	20.00	0	50.00	9	75.00	6	100.0	0
1,1-Dichloroethane			0.500	-10	2.000	1	5.000	4	10.00	1	20.00	1	50.00	4	75.00	1	100.0	-2
2-Butanone					2.000	11	5.000	3	10.00	1	20.00	-13	50.00	6	75.00	-3	100.0	-4
2,2-Dichloropropane			0.500	-2	2.000	6	5.000	8	10.00	0	20.00	0	50.00	-3	75.00	-2	100.0	-7
cis-1,2-Dichloroethene			0.500	2	2.000	1	5.000	-3	10.00	-2	20.00	-1	50.00	4	75.00	1	100.0	-3
Chloroform			0.500	-7	2.000	2	5.000	1	10.00	1	20.00	1	50.00	5	75.00	2	100.0	-4
Bromochloromethane			0.500	-8	2.000	-2	5.000	-1	10.00	1	20.00	0	50.00	7	75.00	3	100.0	-1
1,1,1-Trichloroethane			0.500	-18	2.000	-1	5.000	4	10.00	1	20.00	5	50.00	2	75.00	5	100.0	3
1,1-Dichloropropene			0.500	-23	2.000	2	5.000	8	10.00	2	20.00	5	50.00	2	75.00	5	100.0	0
Carbon Tetrachloride			0.500	-27	2.000	-2	5.000	8	10.00	5	20.00	6	50.00	1	75.00	5	100.0	3
1,2-Dichloroethane			0.500	-7	2.000	-4	5.000	1	10.00	1	20.00	3	50.00	7	75.00	1	100.0	-3
Benzene			0.500	-7	2.000	0	5.000	4	10.00	2	20.00	2	50.00	4	75.00	1	100.0	-6
Trichloroethene			0.500	-14	2.000	-7	5.000	5	10.00	3	20.00	4	50.00	5	75.00	3	100.0	1
1,2-Dichloropropane			0.500	-2	2.000	-4	5.000	0	10.00	2	20.00	-3	50.00	7	75.00	2	100.0	-2
Bromodichloromethane			0.500	-6	2.000	-3	5.000	1	10.00	0	20.00	0	50.00	7	75.00	2	100.0	-2
Dibromomethane			0.500	-5	2.000	-1	5.000	1	10.00	-2	20.00	-1	50.00	7	75.00	3	100.0	-3
4-Methyl-2-Pentanone					2.000	2	5.000	-1	10.00	-1	20.00	-10	50.00	9	75.00	3	100.0	-1
cis-1,3-Dichloropropene			0.500	-1	2.000	-3	5.000	1	10.00	1	20.00	-1	50.00	7	75.00	2	100.0	-5
Toluene			0.500	-1	2.000	0	5.000	3	10.00	0	20.00	0	50.00	3	75.00	0	100.0	-4
trans-1,3-Dichloropropene			0.500	-10	2.000	-2	5.000	2	10.00	-1	20.00	-1	50.00	9	75.00	4	100.0	-1
1,1,2-Trichloroethane			0.500	-6	2.000	-3	5.000	3	10.00	-2	20.00	-2	50.00	10	75.00	2	100.0	-2
2-Hexanone					2.000	10	5.000	-6	10.00	-5	20.00	-8	50.00	10	75.00	1	100.0	-1
1,3-Dichloropropane			0.500	-9	2.000	0	5.000	-1	10.00	2	20.00	-2	50.00	8	75.00	3	100.0	-1
Tetrachloroethene			0.500	-18	2.000	-3	5.000	6	10.00	2	20.00	5	50.00	2	75.00	4	100.0	2
Dibromochloromethane			0.500	-8	2.000	-6	5.000	0	10.00	-1	20.00	-1	50.00	11	75.00	5	100.0	1
1,2-Dibromoethane			0.500	-13	2.000	-4	5.000	0	10.00	0	20.00	0	50.00	11	75.00	6	100.0	0
Chlorobenzene			0.500	-3	2.000	-3	5.000	2	10.00	0	20.00	1	50.00	6	75.00	1	100.0	-5
1,1,1,2-Tetrachloroethane			0.500	-7	2.000	-1	5.000	1	10.00	-2	20.00	1	50.00	7	75.00	4	100.0	-3
Ethylbenzene			0.500	-7	2.000	1	5.000	4	10.00	2	20.00	2	50.00	2	75.00	0	100.0	-5

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	9	1.000	-7	4.000	1	10.00	3	20.00	1	40.00	1	100.0	1	150.0	-2	200.0	-7
o-Xylene			0.500	-5	2.000	-3	5.000	5	10.00	0	20.00	2	50.00	5	75.00	1	100.0	-4
Styrene			0.500	-12	2.000	-2	5.000	4	10.00	2	20.00	3	50.00	8	75.00	2	100.0	-4
Bromoform			0.500	-15	2.000	-4	5.000	1	10.00	-2	20.00	-1	50.00	12	75.00	6	100.0	3
Isopropylbenzene			0.500	-10	2.000	1	5.000	6	10.00	5	20.00	2	50.00	2	75.00	0	100.0	-5
1,1,2,2-Tetrachloroethane			0.500	-7	2.000	1	5.000	-1	10.00	2	20.00	-3	50.00	9	75.00	2	100.0	-2
1,2,3-Trichloropropane			0.500	9	2.000	0	5.000	2	10.00	-2	20.00	-6	50.00	4	75.00	-1	100.0	-6
Propylbenzene			0.500	-9	2.000	0	5.000	6	10.00	6	20.00	4	50.00	1	75.00	-1	100.0	-6
Bromobenzene			0.500	3	2.000	-2	5.000	-2	10.00	0	20.00	0	50.00	5	75.00	0	100.0	-5
1,3,5-Trimethylbenzene			0.500	-6	2.000	0	5.000	4	10.00	2	20.00	3	50.00	3	75.00	0	100.0	-6
2-Chlorotoluene			0.500	0	2.000	0	5.000	4	10.00	1	20.00	2	50.00	2	75.00	-1	100.0	-8
4-Chlorotoluene			0.500	-1	2.000	-5	5.000	2	10.00	3	20.00	1	50.00	5	75.00	0	100.0	-5
tert-Butylbenzene			0.500	-15	2.000	-1	5.000	4	10.00	5	20.00	5	50.00	2	75.00	2	100.0	-2
1,2,4-Trimethylbenzene			0.500	-2	2.000	-2	5.000	2	10.00	2	20.00	1	50.00	4	75.00	0	100.0	-5
sec-Butylbenzene			0.500	-17	2.000	1	5.000	6	10.00	6	20.00	4	50.00	0	75.00	2	100.0	-2
para-Isopropyl Toluene			0.500	-16	2.000	-1	5.000	4	10.00	5	20.00	5	50.00	2	75.00	2	100.0	-1
1,3-Dichlorobenzene			0.500	-4	2.000	-2	5.000	1	10.00	1	20.00	0	50.00	6	75.00	2	100.0	-5
1,4-Dichlorobenzene			0.500	-4	2.000	-1	5.000	1	10.00	1	20.00	0	50.00	6	75.00	1	100.0	-5
n-Butylbenzene			0.500	-10	2.000	-2	5.000	5	10.00	3	20.00	3	50.00	1	75.00	1	100.0	-2
1,2-Dichlorobenzene			0.500	-11	2.000	0	5.000	0	10.00	2	20.00	1	50.00	8	75.00	3	100.0	-3
1,2-Dibromo-3-Chloropropane					2.000	-14	5.000	6	10.00	3	20.00	-8	50.00	10	75.00	3	100.0	-1
1,2,4-Trichlorobenzene			0.500	-7	2.000	-2	5.000	0	10.00	0	20.00	1	50.00	7	75.00	3	100.0	-1
Hexachlorobutadiene			0.500	-31	2.000	-5	5.000	6	10.00	3	20.00	9	50.00	1	75.00	9	100.0	8
Naphthalene			0.500	-10	2.000	-4	5.000	0	10.00	0	20.00	-3	50.00	10	75.00	5	100.0	2
1,2,3-Trichlorobenzene			0.500	-7	2.000	-7	5.000	-2	10.00	0	20.00	0	50.00	10	75.00	6	100.0	-1
Dibromofluoromethane	50.00	0	50.00	-1	50.00	2	50.00	-1	50.00	0	50.00	-1	50.00	0	50.00	0	50.00	1
1,2-Dichloroethane-d4	50.00	2	50.00	2	50.00	2	50.00	2	50.00	1	50.00	-2	50.00	-1	50.00	-3	50.00	-4
Toluene-d8	50.00	0	50.00	0	50.00	-1	50.00	0	50.00	-1	50.00	0	50.00	1	50.00	0	50.00	0
Bromofluorobenzene	50.00	0	50.00	2	50.00	-1	50.00	0	50.00	1	50.00	0	50.00	0	50.00	0	50.00	-1

BO 01/20/10 [Chloromethane]: Corrected fronting or tailing peak integration in 2PPB (jaj14).

BO 01/20/10 [Chloroethane]: Corrected baseline noise or negative peak in multiple levels.

BO 01/20/10 [1,1-Dichloroethene]: Corrected fronting or tailing peak integration1PPB (jaj13).

BO 01/20/10 [Isopropyl Ether (DIPE)]: Corrected fronting or tailing peak integration1PPB (jaj13).

BO 01/22/10 [n-Hexane]: DO NOT USE

Analyst: BO

Date: 01/22/10

Reviewer: LW

Date: 01/22/10

m=manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor; QUAD=Quadratic regression

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490027869001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA10
Calnum : 490027869001

Name : 826GOX10
Cal Date : 19-JAN-2010

Type : WATER

ICV 490027869021 (jaj21 20-JAN-2010) stds: S13817 (10000X), S13615 (2500X)
ICV 490027869022 (jaj22 20-JAN-2010) stds: S13559 (10000X), S13639 (10000X),
S13492 (10000X), S13615 (2500X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	490027869021	25.00	27.46	ug/L	10	25	
Chloromethane	490027869021	25.00	25.14	ug/L	1	25	
Vinyl Chloride	490027869021	25.00	24.91	ug/L	0	25	
Bromomethane	490027869021	25.00	25.54	ug/L	2	25	
Chloroethane	490027869021	25.00	26.12	ug/L	4	25	
Trichlorofluoromethane	490027869021	25.00	24.17	ug/L	-3	25	
Acetone	490027869022	25.00	25.77	ug/L	3	25	
1,1-Dichloroethene	490027869022	25.00	26.60	ug/L	6	25	
Iodomethane	490027869022	25.00	21.78	ug/L	-13	25	
Methylene Chloride	490027869022	25.00	25.48	ug/L	2	25	
Carbon Disulfide	490027869022	25.00	22.36	ug/L	-11	25	
MTBE	490027869022	25.00	23.83	ug/L	-5	25	
trans-1,2-Dichloroethene	490027869022	25.00	26.75	ug/L	7	25	
Vinyl Acetate	490027869022	25.00	25.72	ug/L	3	25	
1,1-Dichloroethane	490027869022	25.00	26.55	ug/L	6	25	
2-Butanone	490027869022	25.00	24.40	ug/L	-2	25	
2,2-Dichloropropane	490027869022	25.00	25.34	ug/L	1	25	
cis-1,2-Dichloroethene	490027869022	25.00	26.87	ug/L	7	25	
Chloroform	490027869022	25.00	26.37	ug/L	5	25	
Bromochloromethane	490027869022	25.00	26.60	ug/L	6	25	
1,1,1-Trichloroethane	490027869022	25.00	27.92	ug/L	12	25	
1,1-Dichloropropene	490027869022	25.00	28.30	ug/L	13	25	
Carbon Tetrachloride	490027869022	25.00	28.51	ug/L	14	25	
1,2-Dichloroethane	490027869022	25.00	25.99	ug/L	4	25	
Benzene	490027869022	25.00	27.78	ug/L	11	25	
Trichloroethene	490027869022	25.00	28.04	ug/L	12	25	
1,2-Dichloropropane	490027869022	25.00	26.34	ug/L	5	25	
Bromodichloromethane	490027869022	25.00	26.54	ug/L	6	25	
Dibromomethane	490027869022	25.00	26.27	ug/L	5	25	
4-Methyl-2-Pentanone	490027869022	25.00	24.92	ug/L	0	25	
cis-1,3-Dichloropropene	490027869022	25.00	26.68	ug/L	7	25	
Toluene	490027869022	25.00	27.42	ug/L	10	25	
trans-1,3-Dichloropropene	490027869022	25.00	24.15	ug/L	-3	25	
1,1,2-Trichloroethane	490027869022	25.00	26.11	ug/L	4	25	
2-Hexanone	490027869022	25.00	25.89	ug/L	4	25	
1,3-Dichloropropane	490027869022	25.00	26.99	ug/L	8	25	
Tetrachloroethene	490027869022	25.00	27.37	ug/L	9	25	
Dibromochloromethane	490027869022	25.00	26.43	ug/L	6	25	
1,2-Dibromoethane	490027869022	25.00	27.39	ug/L	10	25	
Chlorobenzene	490027869022	25.00	26.86	ug/L	7	25	
1,1,1,2-Tetrachloroethane	490027869022	25.00	27.37	ug/L	9	25	
Ethylbenzene	490027869022	25.00	27.80	ug/L	11	25	
m,p-Xylenes	490027869022	50.00	55.23	ug/L	10	25	
o-Xylene	490027869022	25.00	27.24	ug/L	9	25	
Styrene	490027869022	25.00	28.01	ug/L	12	25	
Bromoform	490027869022	25.00	26.32	ug/L	5	25	
Isopropylbenzene	490027869022	25.00	24.49	ug/L	-2	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	490027869022	25.00	25.59	ug/L	2	25	
1,2,3-Trichloropropane	490027869022	25.00	26.29	ug/L	5	25	
Propylbenzene	490027869022	25.00	27.54	ug/L	10	25	
Bromobenzene	490027869022	25.00	26.97	ug/L	8	25	
1,3,5-Trimethylbenzene	490027869022	25.00	27.50	ug/L	10	25	
2-Chlorotoluene	490027869022	25.00	27.75	ug/L	11	25	
4-Chlorotoluene	490027869022	25.00	26.75	ug/L	7	25	
tert-Butylbenzene	490027869022	25.00	27.62	ug/L	10	25	
1,2,4-Trimethylbenzene	490027869022	25.00	26.71	ug/L	7	25	
sec-Butylbenzene	490027869022	25.00	27.97	ug/L	12	25	
para-Isopropyl Toluene	490027869022	25.00	27.08	ug/L	8	25	
1,3-Dichlorobenzene	490027869022	25.00	26.62	ug/L	6	25	
1,4-Dichlorobenzene	490027869022	25.00	26.46	ug/L	6	25	
n-Butylbenzene	490027869022	25.00	27.91	ug/L	12	25	
1,2-Dichlorobenzene	490027869022	25.00	27.02	ug/L	8	25	
1,2-Dibromo-3-Chloropropane	490027869022	25.00	27.27	ug/L	9	25	
1,2,4-Trichlorobenzene	490027869022	25.00	26.94	ug/L	8	25	
Hexachlorobutadiene	490027869022	25.00	27.97	ug/L	12	25	
Naphthalene	490027869022	25.00	27.76	ug/L	11	25	
1,2,3-Trichlorobenzene	490027869022	25.00	27.97	ug/L	12	25	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220657 MSVOA Water: EPA 8260B

Inst : MSVOA11
 Calnum : 830238218001
 Units : ug/L

Name : 8260GX11
 Date : 14-JUN-2010 21:45
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	kfe13	830238218013	.25/.5PPB	14-JUN-2010 21:45	S14738 (20000X), S14834 (20000X), S14742 (20000X), S14739 (100000X), S14746 (2500X)
L2	kfe14	830238218014	0.5/1PPB	14-JUN-2010 22:13	S14738 (100000X), S14834 (100000X), S14742 (100000X), S14739 (50000X), S14746 (2500X)
L3	kfe15	830238218015	2PPB	14-JUN-2010 22:41	S14738 (25000X), S14834 (25000X), S14742 (50000X), S14739 (25000X), S14746 (2500X)
L4	kfe16	830238218016	5PPB	14-JUN-2010 23:09	S14738 (10000X), S14834 (10000X), S14742 (20000X), S14739 (10000X), S14746 (2500X)
L5	kfe17	830238218017	10PPB	14-JUN-2010 23:37	S14738 (5000X), S14834 (5000X), S14742 (10000X), S14739 (5000X), S14746 (2500X)
L6	kfe18	830238218018	20PPB	15-JUN-2010 00:05	S14722 (25000X), S14747 (25000X), S14228 (50000X), S14230 (25000X), S14746 (2500X)
L7	kfe19	830238218019	50PPB	15-JUN-2010 00:33	S14722 (10000X), S14747 (10000X), S14228 (20000X), S14230 (10000X), S14746 (2500X)
L8	kfe20	830238218020	75PPB	15-JUN-2010 01:01	S14722 (6667X), S14747 (6667X), S14228 (13330X), S14230 (6667X), S14746 (2500X)
L9	kfe21	830238218021	100PPB	15-JUN-2010 01:29	S14722 (5000X), S14747 (5000X), S14228 (10000X), S14230 (5000X), S14746 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.5452m	0.5279	0.5542	0.5206	0.7076	0.6956	0.6723	0.6909	AVRG		1.62793		0.6143	14	15	0.05	0.99	
Chloromethane		0.5342	0.6078	0.5788	0.5555	0.6202	0.5947	0.5850	0.6030	AVRG		1.70971		0.5849	5	15	0.10	0.99	
Vinyl Chloride	0.6475	0.6907	0.7073	0.7042	0.6779	0.7675	0.7590	0.7349	0.7595	AVRG		1.39567		0.7165	6	15	0.05	0.99	
Bromomethane		0.1929	0.2439	0.2202	0.2261	0.2697	0.3106			QUAD	0.46172	3.97896	-0.05094	0.2439	0.999	15	0.05	0.99	
Chloroethane		0.3074m	0.3629m	0.3461	0.3349	0.3718	0.3660	0.3564	0.3618	AVRG		2.84963		0.3509	6	15	0.05	0.99	
Trichlorofluoromethane		0.7925	0.7928	0.8530	0.8272	0.9196	0.9166	0.9079	0.9383	AVRG		1.15141		0.8685	7	15	0.05	0.99	
Acetone			0.1697	0.1400	0.1399	0.1339	0.1268	0.1281	0.1260	AVRG		7.25916		0.1378	11	15	0.05	0.99	
1,1-Dichloroethene		0.4868	0.4778	0.4624	0.4459	0.4544	0.4493	0.4494	0.4589	AVRG		2.17104		0.4606	3	15	0.05	0.99	
Iodomethane				0.1052	0.1425	0.2013	0.2744	0.2640	0.2833	QUAD	4.20930	3.62862	-0.00812	0.2118	0.998	15	0.05	0.99	
Methylene Chloride		0.5267	0.5794	0.5403	0.5352	0.5454	0.5345	0.5289	0.5288	AVRG		1.85216		0.5399	3	15	0.05	0.99	
Carbon Disulfide		1.6785	1.7711	1.7238	1.6997	1.7321	1.7093	1.7219	1.7142	AVRG		0.58179		1.7188	2	15	0.05	0.99	
MTBE		1.7387	1.6691	1.6791	1.6297	1.6973	1.7059	1.7079	1.7038	AVRG		0.59122		1.6914	2	15	0.05	0.99	
trans-1,2-Dichloroethene		0.6174	0.5646	0.5451	0.5228	0.5422	0.5384	0.5400	0.5436	AVRG		1.81235		0.5518	5	15	0.05	0.99	
Vinyl Acetate		0.6265	0.7496	0.6994	0.7121	0.7839	0.8200	0.8149	0.8300	AVRG		1.32529		0.7546	9	15	0.05	0.99	
1,1-Dichloroethane		0.8906	0.9352	0.9006	0.8999	0.9349	0.9161	0.9238	0.9104	AVRG		1.09419		0.9139	2	15	0.10	0.99	
2-Butanone			0.1822	0.1934	0.1900	0.1896	0.1868	0.1844	0.1840	AVRG		5.34144		0.1872	2	15	0.05	0.99	
2,2-Dichloropropane		0.7510	0.7404	0.7159	0.6999	0.7175	0.7091	0.7162	0.7118	AVRG		1.38846		0.7202	2	15	0.05	0.99	
cis-1,2-Dichloroethene		0.6853	0.6185	0.6200	0.5981	0.6234	0.6221	0.6282	0.6283	AVRG		1.59242		0.6280	4	15	0.05	0.99	
Chloroform		0.9752	0.9778	0.9507	0.9455	0.9822	0.9700	0.9763	0.9767	AVRG		1.03168		0.9693	1	15	0.05	0.99	
Bromochloromethane		0.2432	0.2832	0.2817	0.2824	0.2903	0.2965	0.2937	0.2830	AVRG		3.54928		0.2817	6	15	0.05	0.99	
1,1,1-Trichloroethane		0.9179	0.8925	0.8453	0.8518	0.8682	0.8636	0.8815	0.8854	AVRG		1.14186		0.8758	3	15	0.05	0.99	
1,1-Dichloropropene		0.4214	0.4342	0.4188	0.4167	0.4284	0.4278	0.4398	0.4456	AVRG		2.33053		0.4291	2	15	0.05	0.99	
Carbon Tetrachloride		0.3775	0.3952	0.3835	0.3854	0.4036	0.4178	0.4359	0.4486	AVRG		2.46347		0.4059	6	15	0.05	0.99	
1,2-Dichloroethane		0.3994	0.4055	0.4015	0.3924	0.4236	0.4128	0.4126	0.4147	AVRG		2.45204		0.4078	2	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.2844	1.2900	1.2364	1.2357	1.2814	1.2895	1.3148	1.3298	AVRG		0.77958		1.2827	3	15	0.05	0.99	
Trichloroethene		0.3407	0.3261	0.3176	0.3286	0.3350	0.3386	0.3453	0.3470	AVRG		2.98626		0.3349	3	15	0.05	0.99	
1,2-Dichloropropane		0.3049	0.3102	0.3003	0.3011	0.3166	0.3126	0.3179	0.3213	AVRG		3.21936		0.3106	3	15	0.05	0.99	
Bromodichloromethane		0.3755	0.4092	0.4048	0.3971	0.4243	0.4299	0.4332	0.4381	AVRG		2.41540		0.4140	5	15	0.05	0.99	
Dibromomethane		0.1891	0.1902	0.1854	0.1835	0.1989	0.1986	0.1995	0.2005	AVRG		5.17495		0.1932	4	15	0.05	0.99	
4-Methyl-2-Pentanone			0.2165	0.2130	0.2126	0.2210	0.2260	0.2240	0.2240	AVRG		4.55394		0.2196	3	15	0.05	0.99	
cis-1,3-Dichloropropene		0.4967	0.4870	0.4889	0.4742	0.5121	0.5198	0.5193	0.5254	AVRG		1.98831		0.5029	4	15	0.05	0.99	
Toluene		0.8688	0.8395	0.8204	0.8142	0.8264	0.8424	0.8482	0.8506	AVRG		1.19218		0.8388	2	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4710	0.4517	0.4475	0.4619	0.4729	0.4818	0.4811	0.4801	AVRG		2.13450		0.4685	3	15	0.05	0.99	
1,1,2-Trichloroethane		0.1643	0.1609	0.1570	0.1524	0.1550	0.1579	0.1588	0.1563	AVRG		6.33612		0.1578	2	15	0.05	0.99	
2-Hexanone			0.1417	0.1459	0.1454	0.1512	0.1552	0.1537	0.1524	AVRG		6.69607		0.1493	3	15	0.05	0.99	
1,3-Dichloropropane		0.4923	0.4982	0.4854	0.4847	0.4955	0.5077	0.5045	0.4990	AVRG		2.01652		0.4959	2	15	0.05	0.99	
Tetrachloroethene		0.3346	0.3556	0.3412	0.3332	0.3371	0.3458	0.3611	0.3634	AVRG		2.88600		0.3465	3	15	0.05	0.99	
Dibromochloromethane		0.2954	0.2988	0.3063	0.3096	0.3281	0.3460	0.3541	0.3563	AVRG		3.08341		0.3243	8	15	0.05	0.99	
1,2-Dibromoethane		0.3086	0.3025	0.2966	0.2939	0.3054	0.3101	0.3118	0.3108	AVRG		3.27910		0.3050	2	15	0.05	0.99	
Chlorobenzene		0.9935	0.9429	0.9288	0.9350	0.9466	0.9830	0.9933	0.9972	AVRG		1.03623		0.9650	3	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3163	0.3083	0.3140	0.3141	0.3283	0.3364	0.3453	0.3494	AVRG		3.06285		0.3265	5	15	0.05	0.99	
Ethylbenzene		1.6633	1.5249	1.5415	1.5321	1.5566	1.6234	1.6645	1.6712	AVRG		0.62610		1.5972	4	15	0.05	0.99	
m,p-Xylenes	0.5550	0.5385	0.5415	0.5457	0.5553	0.5786	0.6275	0.6505	0.6646	AVRG		1.71193		0.5841	9	15	0.05	0.99	
o-Xylene		0.5078	0.5163	0.5232	0.5336	0.5612	0.6036	0.6233	0.6306	AVRG		1.77793		0.5625	9	15	0.05	0.99	
Styrene		0.8037	0.8195	0.8339	0.8761	0.9443	1.0293	1.0634	1.0843	AVRG		1.07316		0.9318	12	15	0.05	0.99	
Bromoform		0.1742	0.1937	0.1983	0.2047	0.2202	0.2403	0.2452	0.2499	AVRG		4.63349		0.2158	13	15	0.10	0.99	
Isopropylbenzene		3.4413	3.4588	3.4324	3.3319	3.2734	3.2652	3.3343	3.3328	AVRG		0.29773		3.3588	2	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.9331	0.8696	0.8509	0.8030	0.7982	0.7602	0.7357	0.7224	AVRG		1.23588		0.8091	9	15	0.30	0.99	
1,2,3-Trichloropropane		0.9308	0.8484	0.8569	0.7938	0.7791	0.7491	0.7353	0.7210	AVRG		1.24717		0.8018	9	15	0.05	0.99	
Propylbenzene		3.7412	3.5902	3.4860	3.4283	3.4601	3.5412	3.6590	3.6554	AVRG		0.28010		3.5702	3	15	0.05	0.99	
Bromobenzene		0.8959	0.9407	0.9205	0.8777	0.8717	0.8548	0.8610	0.8553	AVRG		1.13031		0.8847	4	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.1875	2.2020	2.1730	2.1752	2.2440	2.3432	2.3984	2.3791	AVRG		0.44193		2.2628	4	15	0.05	0.99	
2-Chlorotoluene		2.5980	2.6076	2.5411	2.4525	2.4384	2.4586	2.4804	2.4673	AVRG		0.39912		2.5055	3	15	0.05	0.99	
4-Chlorotoluene		2.2397	2.1508	2.1644	2.1288	2.1518	2.1484	2.1865	2.1814	AVRG		0.46105		2.1690	2	15	0.05	0.99	
tert-Butylbenzene		2.0945	2.0973	2.0518	2.0363	2.0171	2.1285	2.2138	2.2169	AVRG		0.47460		2.1070	4	15	0.05	0.99	
1,2,4-Trimethylbenzene		1.9687	1.8785	1.8288	1.8691	1.9892	2.1280	2.1493	2.1501	AVRG		0.50120		1.9952	7	15	0.05	0.99	
sec-Butylbenzene		2.9551	3.0116	2.9834	2.9553	2.9843	3.1458	3.2813	3.3045	AVRG		0.32492		3.0777	5	15	0.05	0.99	
para-Isopropyl Toluene		2.1055	2.1364	2.1318	2.1627	2.2490	2.4675	2.5935	2.6118	AVRG		0.43341		2.3073	9	15	0.05	0.99	
1,3-Dichlorobenzene		1.5391	1.5006	1.5021	1.4647	1.4706	1.4978	1.5096	1.5156	AVRG		0.66666		1.5000	2	15	0.05	0.99	
1,4-Dichlorobenzene		1.5526	1.5110	1.4415	1.4292	1.4594	1.4854	1.5235	1.5207	AVRG		0.67096		1.4904	3	15	0.05	0.99	
n-Butylbenzene		1.8447	1.7446	1.6578	1.6682	1.7579	1.9411	2.0137	2.0286	AVRG		0.54583		1.8321	8	15	0.05	0.99	
1,2-Dichlorobenzene		1.4133	1.4411	1.4029	1.3996	1.4048	1.4140	1.4158	1.4185	AVRG		0.70733		1.4138	1	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.1648	0.1626	0.1455	0.1471	0.1442	0.1397	0.1378	AVRG		6.72049		0.1488	7	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.6908	0.6719	0.6318	0.6304	0.6695	0.7095	0.6952	0.7049	AVRG		1.48040		0.6755	5	15	0.05	0.99	
Hexachlorobutadiene		0.3893	0.4219	0.4227	0.4234	0.4156	0.4347	0.4525	0.4598	AVRG		2.33925		0.4275	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.8324	1.7734	1.5328	1.4244	1.5022	1.4750	1.3602	1.3636	AVRG		0.65232		1.5330	12	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6796	0.6503	0.6130	0.5799	0.6269	0.6468	0.6295	0.6324	AVRG		1.58151		0.6323	5	15	0.05	0.99	
Dibromofluoromethane	0.5259	0.5281	0.5294	0.5223	0.5197	0.5216	0.5231	0.5276	0.5175	AVRG		1.90876		0.5239	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3489	0.3520	0.3512	0.3483	0.3394	0.3486	0.3533	0.3537	0.3509	AVRG		2.86058		0.3496	1	15	0.05	0.99	
Toluene-d8	1.3375	1.3344	1.3296	1.3281	1.3212	1.3116	1.3076	1.2912	1.2838	AVRG		0.75981		1.3161	1	15	0.05	0.99	
Bromofluorobenzene	1.1379	1.1638	1.1478	1.1229	1.0833	1.0448	0.9988	0.9748	0.9711	AVRG		0.93309		1.0717	7	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-11	2.000	-14	5.000	-10	10.00	-15	20.00	15	50.00	13	75.00	9	100.0	12
Chloromethane			1.000	-9	2.000	4	5.000	-1	10.00	-5	20.00	6	50.00	2	75.00	0	100.0	3
Vinyl Chloride	0.500	-10	1.000	-4	2.000	-1	5.000	-2	10.00	-5	20.00	7	50.00	6	75.00	3	100.0	6
Bromomethane			1.000	23	2.000	20	5.000	-4	10.00	-8	20.00	2	50.00	0				
Chloroethane			1.000	-12	2.000	3	5.000	-1	10.00	-5	20.00	6	50.00	4	75.00	2	100.0	3
Trichlorofluoromethane			1.000	-9	2.000	-9	5.000	-2	10.00	-5	20.00	6	50.00	6	75.00	5	100.0	8
Acetone					2.000	23	5.000	2	10.00	2	20.00	-3	50.00	-8	75.00	-7	100.0	-9
1,1-Dichloroethene			0.500	6	2.000	4	5.000	0	10.00	-3	20.00	-1	50.00	-2	75.00	-2	100.0	0
Iodomethane							5.000	22	10.00	-6	20.00	-7	50.00	5	75.00	-3	100.0	0
Methylene Chloride			0.500	-2	2.000	7	5.000	0	10.00	-1	20.00	1	50.00	-1	75.00	-2	100.0	-2
Carbon Disulfide			0.500	-2	2.000	3	5.000	0	10.00	-1	20.00	1	50.00	-1	75.00	0	100.0	0
MTBE			0.500	3	2.000	-1	5.000	-1	10.00	-4	20.00	0	50.00	1	75.00	1	100.0	1
trans-1,2-Dichloroethene			0.500	12	2.000	2	5.000	-1	10.00	-5	20.00	-2	50.00	-2	75.00	-2	100.0	-1
Vinyl Acetate			0.500	-17	2.000	-1	5.000	-7	10.00	-6	20.00	4	50.00	9	75.00	8	100.0	10
1,1-Dichloroethane			0.500	-3	2.000	2	5.000	-1	10.00	-2	20.00	2	50.00	0	75.00	1	100.0	0
2-Butanone					2.000	-3	5.000	3	10.00	2	20.00	1	50.00	0	75.00	-2	100.0	-2
2,2-Dichloropropane			0.500	4	2.000	3	5.000	-1	10.00	-3	20.00	0	50.00	-2	75.00	-1	100.0	-1
cis-1,2-Dichloroethene			0.500	9	2.000	-2	5.000	-1	10.00	-5	20.00	-1	50.00	-1	75.00	0	100.0	0
Chloroform			0.500	1	2.000	1	5.000	-2	10.00	-2	20.00	1	50.00	0	75.00	1	100.0	1
Bromochloromethane			0.500	-14	2.000	1	5.000	0	10.00	0	20.00	3	50.00	5	75.00	4	100.0	0
1,1,1-Trichloroethane			0.500	5	2.000	2	5.000	-3	10.00	-3	20.00	-1	50.00	-1	75.00	1	100.0	1
1,1-Dichloropropene			0.500	-2	2.000	1	5.000	-2	10.00	-3	20.00	0	50.00	0	75.00	2	100.0	4
Carbon Tetrachloride			0.500	-7	2.000	-3	5.000	-6	10.00	-5	20.00	-1	50.00	3	75.00	7	100.0	11
1,2-Dichloroethane			0.500	-2	2.000	-1	5.000	-2	10.00	-4	20.00	4	50.00	1	75.00	1	100.0	2
Benzene			0.500	0	2.000	1	5.000	-4	10.00	-4	20.00	0	50.00	1	75.00	2	100.0	4
Trichloroethene			0.500	2	2.000	-3	5.000	-5	10.00	-2	20.00	0	50.00	1	75.00	3	100.0	4
1,2-Dichloropropane			0.500	-2	2.000	0	5.000	-3	10.00	-3	20.00	2	50.00	1	75.00	2	100.0	3
Bromodichloromethane			0.500	-9	2.000	-1	5.000	-2	10.00	-4	20.00	2	50.00	4	75.00	5	100.0	6
Dibromomethane			0.500	-2	2.000	-2	5.000	-4	10.00	-5	20.00	3	50.00	3	75.00	3	100.0	4
4-Methyl-2-Pentanone					2.000	-1	5.000	-3	10.00	-3	20.00	1	50.00	3	75.00	2	100.0	2
cis-1,3-Dichloropropene			0.500	-1	2.000	-3	5.000	-3	10.00	-6	20.00	2	50.00	3	75.00	3	100.0	4
Toluene			0.500	4	2.000	0	5.000	-2	10.00	-3	20.00	-1	50.00	0	75.00	1	100.0	1
trans-1,3-Dichloropropene			0.500	1	2.000	-4	5.000	-4	10.00	-1	20.00	1	50.00	3	75.00	3	100.0	2
1,1,2-Trichloroethane			0.500	4	2.000	2	5.000	0	10.00	-3	20.00	-2	50.00	0	75.00	1	100.0	-1
2-Hexanone					2.000	-5	5.000	-2	10.00	-3	20.00	1	50.00	4	75.00	3	100.0	2
1,3-Dichloropropane			0.500	-1	2.000	0	5.000	-2	10.00	-2	20.00	0	50.00	2	75.00	2	100.0	1
Tetrachloroethene			0.500	-3	2.000	3	5.000	-2	10.00	-4	20.00	-3	50.00	0	75.00	4	100.0	5
Dibromochloromethane			0.500	-9	2.000	-8	5.000	-6	10.00	-5	20.00	1	50.00	7	75.00	9	100.0	10
1,2-Dibromoethane			0.500	1	2.000	-1	5.000	-3	10.00	-4	20.00	0	50.00	2	75.00	2	100.0	2
Chlorobenzene			0.500	3	2.000	-2	5.000	-4	10.00	-3	20.00	-2	50.00	2	75.00	3	100.0	3
1,1,1,2-Tetrachloroethane			0.500	-3	2.000	-6	5.000	-4	10.00	-4	20.00	1	50.00	3	75.00	6	100.0	7
Ethylbenzene			0.500	4	2.000	-5	5.000	-3	10.00	-4	20.00	-3	50.00	2	75.00	4	100.0	5

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	-5	1.000	-8	4.000	-7	10.00	-7	20.00	-5	40.00	-1	100.0	7	150.0	11	200.0	14
o-Xylene			0.500	-10	2.000	-8	5.000	-7	10.00	-5	20.00	0	50.00	7	75.00	11	100.0	12
Styrene			0.500	-14	2.000	-12	5.000	-11	10.00	-6	20.00	1	50.00	10	75.00	14	100.0	16
Bromoform			0.500	-19	2.000	-10	5.000	-8	10.00	-5	20.00	2	50.00	11	75.00	14	100.0	16
Isopropylbenzene			0.500	2	2.000	3	5.000	2	10.00	-1	20.00	-3	50.00	-3	75.00	-1	100.0	-1
1,1,2,2-Tetrachloroethane			0.500	15	2.000	7	5.000	5	10.00	-1	20.00	-1	50.00	-6	75.00	-9	100.0	-11
1,2,3-Trichloropropane			0.500	16	2.000	6	5.000	7	10.00	-1	20.00	-3	50.00	-7	75.00	-8	100.0	-10
Propylbenzene			0.500	5	2.000	1	5.000	-2	10.00	-4	20.00	-3	50.00	-1	75.00	2	100.0	2
Bromobenzene			0.500	1	2.000	6	5.000	4	10.00	-1	20.00	-1	50.00	-3	75.00	-3	100.0	-3
1,3,5-Trimethylbenzene			0.500	-3	2.000	-3	5.000	-4	10.00	-4	20.00	-1	50.00	4	75.00	6	100.0	5
2-Chlorotoluene			0.500	4	2.000	4	5.000	1	10.00	-2	20.00	-3	50.00	-2	75.00	-1	100.0	-2
4-Chlorotoluene			0.500	3	2.000	-1	5.000	0	10.00	-2	20.00	-1	50.00	-1	75.00	1	100.0	1
tert-Butylbenzene			0.500	-1	2.000	0	5.000	-3	10.00	-3	20.00	-4	50.00	1	75.00	5	100.0	5
1,2,4-Trimethylbenzene			0.500	-1	2.000	-6	5.000	-8	10.00	-6	20.00	0	50.00	7	75.00	8	100.0	8
sec-Butylbenzene			0.500	-4	2.000	-2	5.000	-3	10.00	-4	20.00	-3	50.00	2	75.00	7	100.0	7
para-Isopropyl Toluene			0.500	-9	2.000	-7	5.000	-8	10.00	-6	20.00	-3	50.00	7	75.00	12	100.0	13
1,3-Dichlorobenzene			0.500	3	2.000	0	5.000	0	10.00	-2	20.00	-2	50.00	0	75.00	1	100.0	1
1,4-Dichlorobenzene			0.500	4	2.000	1	5.000	-3	10.00	-4	20.00	-2	50.00	0	75.00	2	100.0	2
n-Butylbenzene			0.500	1	2.000	-5	5.000	-10	10.00	-9	20.00	-4	50.00	6	75.00	10	100.0	11
1,2-Dichlorobenzene			0.500	0	2.000	2	5.000	-1	10.00	-1	20.00	-1	50.00	0	75.00	0	100.0	0
1,2-Dibromo-3-Chloropropane					2.000	11	5.000	9	10.00	-2	20.00	-1	50.00	-3	75.00	-6	100.0	-7
1,2,4-Trichlorobenzene			0.500	2	2.000	-1	5.000	-6	10.00	-7	20.00	-1	50.00	5	75.00	3	100.0	4
Hexachlorobutadiene			0.500	-9	2.000	-1	5.000	-1	10.00	-1	20.00	-3	50.00	2	75.00	6	100.0	8
Naphthalene			0.500	20	2.000	16	5.000	0	10.00	-7	20.00	-2	50.00	-4	75.00	-11	100.0	-11
1,2,3-Trichlorobenzene			0.500	7	2.000	3	5.000	-3	10.00	-8	20.00	-1	50.00	2	75.00	0	100.0	0
Dibromofluoromethane	50.00	0	50.00	1	50.00	1	50.00	0	50.00	-1	50.00	0	50.00	0	50.00	1	50.00	-1
1,2-Dichloroethane-d4	50.00	0	50.00	1	50.00	0	50.00	0	50.00	-3	50.00	0	50.00	1	50.00	1	50.00	0
Toluene-d8	50.00	2	50.00	1	50.00	1	50.00	1	50.00	0	50.00	0	50.00	-1	50.00	-2	50.00	-2
Bromofluorobenzene	50.00	6	50.00	9	50.00	7	50.00	5	50.00	1	50.00	-3	50.00	-7	50.00	-9	50.00	-9

BJP 06/15/10 [Freon 12]: Combined split peak1PPB (kfe14).

BJP 06/15/10 [Chloroethane]: Combined split peak in multiple levels.

BJP 06/15/10 [Ethanol]: Combined split peak1PPB (kfe14).

Analyst: BJP

Date: 06/15/10

Reviewer: LW

Date: 06/17/10

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

Page 5 of 5

830238218001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA11
Calnum : 830238218001

Name : 8260GX11
Cal Date : 14-JUN-2010

Type : WATER

ICV 830238218023 (kfe23 15-JUN-2010) stds: S14688 (10000X), S14594 (10000X),
S14573 (10000X), S14746 (2500X)

ICV 830239803005 (kff05 15-JUN-2010) stds: S14843 (10000X), S14746 (2500X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	830239803005	25.00	26.11	ug/L	4	25	
Chloromethane	830239803005	25.00	26.56	ug/L	6	25	
Vinyl Chloride	830239803005	25.00	25.24	ug/L	1	25	
Bromomethane	830239803005	25.00	21.51	ug/L	-14	25	
Chloroethane	830239803005	25.00	27.83	ug/L	11	25	
Trichlorofluoromethane	830239803005	25.00	26.68	ug/L	7	25	
Acetone	830238218023	25.00	25.20	ug/L	1	25	
1,1-Dichloroethene	830238218023	25.00	24.97	ug/L	0	25	
Iodomethane	830238218023	25.00	9.264	ug/L	-63	25	v-
Methylene Chloride	830238218023	25.00	25.34	ug/L	1	25	
Carbon Disulfide	830238218023	25.00	20.84	ug/L	-17	25	
MTBE	830238218023	25.00	22.78	ug/L	-9	25	
trans-1,2-Dichloroethene	830238218023	25.00	25.04	ug/L	0	25	
Vinyl Acetate	830238218023	25.00	27.95	ug/L	12	25	
1,1-Dichloroethane	830238218023	25.00	25.76	ug/L	3	25	
2-Butanone	830238218023	25.00	25.05	ug/L	0	25	
2,2-Dichloropropane	830238218023	25.00	23.53	ug/L	-6	25	
cis-1,2-Dichloroethene	830238218023	25.00	25.81	ug/L	3	25	
Chloroform	830238218023	25.00	25.55	ug/L	2	25	
Bromochloromethane	830238218023	25.00	26.76	ug/L	7	25	
1,1,1-Trichloroethane	830238218023	25.00	25.41	ug/L	2	25	
1,1-Dichloropropene	830238218023	25.00	25.74	ug/L	3	25	
Carbon Tetrachloride	830238218023	25.00	26.79	ug/L	7	25	
1,2-Dichloroethane	830238218023	25.00	25.19	ug/L	1	25	
Benzene	830238218023	25.00	25.82	ug/L	3	25	
Trichloroethene	830238218023	25.00	25.57	ug/L	2	25	
1,2-Dichloropropane	830238218023	25.00	24.74	ug/L	-1	25	
Bromodichloromethane	830238218023	25.00	25.88	ug/L	4	25	
Dibromomethane	830238218023	25.00	25.69	ug/L	3	25	
4-Methyl-2-Pentanone	830238218023	25.00	25.96	ug/L	4	25	
cis-1,3-Dichloropropene	830238218023	25.00	25.31	ug/L	1	25	
Toluene	830238218023	25.00	25.80	ug/L	3	25	
trans-1,3-Dichloropropene	830238218023	25.00	23.76	ug/L	-5	25	
1,1,2-Trichloroethane	830238218023	25.00	25.00	ug/L	0	25	
2-Hexanone	830238218023	25.00	26.17	ug/L	5	25	
1,3-Dichloropropane	830238218023	25.00	25.27	ug/L	1	25	
Tetrachloroethene	830238218023	25.00	26.18	ug/L	5	25	
Dibromochloromethane	830238218023	25.00	26.11	ug/L	4	25	
1,2-Dibromoethane	830238218023	25.00	25.42	ug/L	2	25	
Chlorobenzene	830238218023	25.00	26.00	ug/L	4	25	
1,1,1,2-Tetrachloroethane	830238218023	25.00	25.75	ug/L	3	25	
Ethylbenzene	830238218023	25.00	26.07	ug/L	4	25	
m,p-Xylenes	830238218023	50.00	53.71	ug/L	7	25	
o-Xylene	830238218023	25.00	26.88	ug/L	8	25	
Styrene	830238218023	25.00	27.21	ug/L	9	25	
Bromoform	830238218023	25.00	27.07	ug/L	8	25	
Isopropylbenzene	830238218023	25.00	22.61	ug/L	-10	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	830238218023	25.00	23.79	ug/L	-5	25	
1,2,3-Trichloropropane	830238218023	25.00	24.37	ug/L	-3	25	
Propylbenzene	830238218023	25.00	25.45	ug/L	2	25	
Bromobenzene	830238218023	25.00	25.81	ug/L	3	25	
1,3,5-Trimethylbenzene	830238218023	25.00	26.52	ug/L	6	25	
2-Chlorotoluene	830238218023	25.00	26.04	ug/L	4	25	
4-Chlorotoluene	830238218023	25.00	25.75	ug/L	3	25	
tert-Butylbenzene	830238218023	25.00	26.59	ug/L	6	25	
1,2,4-Trimethylbenzene	830238218023	25.00	27.15	ug/L	9	25	
sec-Butylbenzene	830238218023	25.00	26.60	ug/L	6	25	
para-Isopropyl Toluene	830238218023	25.00	25.76	ug/L	3	25	
1,3-Dichlorobenzene	830238218023	25.00	25.78	ug/L	3	25	
1,4-Dichlorobenzene	830238218023	25.00	25.71	ug/L	3	25	
n-Butylbenzene	830238218023	25.00	26.58	ug/L	6	25	
1,2-Dichlorobenzene	830238218023	25.00	26.34	ug/L	5	25	
1,2-Dibromo-3-Chloropropane	830238218023	25.00	24.08	ug/L	-4	25	
1,2,4-Trichlorobenzene	830238218023	25.00	25.62	ug/L	2	25	
Hexachlorobutadiene	830238218023	25.00	25.87	ug/L	3	25	
Naphthalene	830238218023	25.00	25.03	ug/L	0	25	
1,2,3-Trichlorobenzene	830238218023	25.00	26.32	ug/L	5	25	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : QC549121 IDF : 1.0
 Seqnum : 480243841004.3 File : ifi04 Time : 18-JUN-2010 09:41
 Cal : 480169480001 Caldate : 27-APR-2010 Caltype : WATER
 Standards: S14688 (12500X), S14846 (12500X), S14737 (12500X), S14573 (12500X),
 S14744 (5000X)

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
Freon 12	0.5332	0.7469	20.00	28.02	ug/L	40	20	0.0500	c+ u ***
Chloromethane	0.7623	0.9401	20.00	24.67	ug/L	23	20	0.1000	c+ u ***
Vinyl Chloride	0.5614	0.6731	20.00	23.98	ug/L	20	20	0.0500	u
Bromomethane	0.3441	0.4727	20.00	27.47	ug/L	37	20	0.0500	c+ u ***
Chloroethane	0.3725	0.4799	20.00	25.77	ug/L	29	20	0.0500	c+ u ***
Trichlorofluoromethane	0.6201	0.8064	20.00	26.01	ug/L	30	20	0.0500	c+ u ***
Iodomethane	0.3558	0.5140	20.00	24.68	ug/L	23	20	0.0500	c+ u v- ***
Acetone	0.1153	0.1309	20.00	22.71	ug/L	14	20	0.0500	u
1,1-Dichloroethene	0.3855	0.4053	20.00	21.02	ug/L	5	20	0.0500	u
Methylene Chloride	0.4642	0.5121	20.00	22.06	ug/L	10	20	0.0500	u
Carbon Disulfide	1.6220	1.5529	20.00	19.15	ug/L	-4	20	0.0500	u
MTBE	0.8879	0.8360	20.00	18.83	ug/L	-6	20	0.0500	u
trans-1,2-Dichloroethene	0.4353	0.4922	20.00	22.61	ug/L	13	20	0.0500	u
Vinyl Acetate	0.8268	0.8427	20.00	20.39	ug/L	2	20	0.0500	u
1,1-Dichloroethane	0.9027	0.9894	20.00	21.92	ug/L	10	20	0.1000	u
2-Butanone	0.1638	0.1648	20.00	20.12	ug/L	1	20	0.0500	u
cis-1,2-Dichloroethene	0.4744	0.5179	20.00	21.83	ug/L	9	20	0.0500	u
2,2-Dichloropropane	0.5698	0.6754	20.00	23.71	ug/L	19	20	0.0500	u
Chloroform	0.7719	0.8955	20.00	23.20	ug/L	16	20	0.0500	u
Bromochloromethane	0.2022	0.2145	20.00	21.22	ug/L	6	20	0.0500	u
1,1,1-Trichloroethane	0.5617	0.6399	20.00	22.78	ug/L	14	20	0.0500	u
1,1-Dichloropropene	0.3894	0.3956	20.00	20.32	ug/L	2	20	0.0500	u
Carbon Tetrachloride	0.3152	0.3373	20.00	21.40	ug/L	7	20	0.0500	u
1,2-Dichloroethane	0.3219	0.3053	20.00	18.96	ug/L	-5	20	0.0500	u
Benzene	1.0408	1.1087	20.00	21.30	ug/L	7	20	0.0500	u
Trichloroethene	0.2741	0.2900	20.00	21.16	ug/L	6	20	0.0500	u
1,2-Dichloropropane	0.3399	0.3201	20.00	18.83	ug/L	-6	20	0.0500	u
Bromodichloromethane	0.3505	0.3597	20.00	20.53	ug/L	3	20	0.0500	u
Dibromomethane	0.1514	0.1461	20.00	19.30	ug/L	-3	20	0.0500	u
4-Methyl-2-Pentanone	0.2362	0.2037	20.00	17.24	ug/L	-14	20	0.0500	u
cis-1,3-Dichloropropene	0.4228	0.4035	20.00	19.09	ug/L	-5	20	0.0500	u
Toluene	0.8322	0.8438	20.00	20.28	ug/L	1	20	0.0500	u
trans-1,3-Dichloropropene	0.4686	0.5212	20.00	22.24	ug/L	11	20	0.0500	u
1,1,2-Trichloroethane	0.1404	0.1380	20.00	19.67	ug/L	-2	20	0.0500	u
2-Hexanone	0.2115	0.1921	20.00	18.16	ug/L	-9	20	0.0500	u
1,3-Dichloropropane	0.4588	0.4299	20.00	18.74	ug/L	-6	20	0.0500	u
Tetrachloroethene	0.3116	0.3309	20.00	21.24	ug/L	6	20	0.0500	u
Dibromochloromethane	0.3038	0.2897	20.00	19.07	ug/L	-5	20	0.0500	u
1,2-Dibromoethane	0.2559	0.2359	20.00	18.44	ug/L	-8	20	0.0500	u
Chlorobenzene	0.8575	0.8876	20.00	20.70	ug/L	4	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3045	0.3033	20.00	19.92	ug/L	0	20	0.0500	u
Ethylbenzene	1.4822	1.6145	20.00	21.79	ug/L	9	20	0.0500	u
m,p-Xylenes	0.5355	0.5658	40.00	42.26	ug/L	6	20	0.0500	u
o-Xylene	0.5400	0.5852	20.00	21.68	ug/L	8	20	0.0500	u
Styrene	0.9526	1.0235	20.00	21.49	ug/L	7	20	0.0500	u
Bromoform	0.1734	0.1719	20.00	19.83	ug/L	-1	20	0.1000	u
Isopropylbenzene	2.8605	2.5695	20.00	17.97	ug/L	-10	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.6164	0.5297	20.00	17.19	ug/L	-14	20	0.3000	u
1,2,3-Trichloropropane	0.1477	0.1291	20.00	17.48	ug/L	-13	20	0.0500	u
Propylbenzene	3.4604	3.6833	20.00	21.29	ug/L	6	20	0.0500	u
Bromobenzene	0.7358	0.7196	20.00	19.56	ug/L	-2	20	0.0500	u
1,3,5-Trimethylbenzene	2.2339	2.3097	20.00	20.68	ug/L	3	20	0.0500	u
2-Chlorotoluene	2.3331	2.3894	20.00	20.48	ug/L	2	20	0.0500	u
4-Chlorotoluene	2.2491	2.2163	20.00	19.71	ug/L	-1	20	0.0500	u
tert-Butylbenzene	1.8666	1.9282	20.00	20.66	ug/L	3	20	0.0500	u
1,2,4-Trimethylbenzene	2.2848	2.3414	20.00	20.50	ug/L	2	20	0.0500	u
sec-Butylbenzene	2.9259	3.1609	20.00	21.61	ug/L	8	20	0.0500	u
para-Isopropyl Toluene	2.2172	2.2375	20.00	20.18	ug/L	1	20	0.0500	u
1,3-Dichlorobenzene	1.3016	1.2829	20.00	19.71	ug/L	-1	20	0.0500	u
1,4-Dichlorobenzene	1.3396	1.3018	20.00	19.44	ug/L	-3	20	0.0500	u
n-Butylbenzene	2.1289	2.3457	20.00	22.04	ug/L	10	20	0.0500	u
1,2-Dichlorobenzene	1.1901	1.1500	20.00	19.33	ug/L	-3	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1022	0.0798	20.00	15.63	ug/L	-22	20	0.0500	c- u ***
1,2,4-Trichlorobenzene	0.6730	0.6444	20.00	19.15	ug/L	-4	20	0.0500	u
Hexachlorobutadiene	0.3555	0.3492	20.00	19.65	ug/L	-2	20	0.0500	u
Naphthalene	1.1586	1.1036	20.00	19.05	ug/L	-5	20	0.0500	u
1,2,3-Trichlorobenzene	0.5884	0.5804	20.00	19.73	ug/L	-1	20	0.0500	u
Dibromofluoromethane	0.5496	0.5990	50.00	54.50	ug/L	9	20	0.0500	u
1,2-Dichloroethane-d4	0.3139	0.3261	50.00	51.94	ug/L	4	20	0.0500	u
Toluene-d8	1.4449	1.4489	50.00	50.14	ug/L	0	20	0.0500	u
Bromofluorobenzene	1.0576	1.0082	50.00	47.67	ug/L	-5	20	0.0500	u

ISTD (ICAL idr12)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2485414	2192590	-11.78	12.38	12.38	0.00
1,4-Difluorobenzene	3818086	3719268	-2.59	13.67	13.66	-0.01
Chlorobenzene-d5	2849149	2879334	1.06	17.67	17.66	-0.01
1,4-Dichlorobenzene-d4	1373915	1417863	3.20	20.18	20.18	0.00

Analyst: PDM Date: 06/23/10 Reviewer: LW Date: 06/24/10

+ = high bias -- = low bias c = CCV u = use v = ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : QC549263 IDF : 1.0
 Seqnum : 480246874004.2 File : ifk04 Time : 20-JUN-2010 12:05
 Cal : 480169480001 Caldate : 27-APR-2010 Caltype : WATER
 Standards: S14688 (11110X), S14845 (11110X), S14737 (11110X), S14744 (5000X),
 S14573 (11110X)

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
Freon 12	0.5332	0.6990	22.50	29.50	ug/L	31	20	0.0500	c+ u ***
Chloromethane	0.7623	0.9122	22.50	26.93	ug/L	20	20	0.1000	u
Vinyl Chloride	0.5614	0.6275	22.50	25.15	ug/L	12	20	0.0500	u
Bromomethane	0.3441	0.4089	22.50	26.74	ug/L	19	20	0.0500	u
Chloroethane	0.3725	0.4583	22.50	27.69	ug/L	23	20	0.0500	c+ u ***
Trichlorofluoromethane	0.6201	0.7629	22.50	27.68	ug/L	23	20	0.0500	c+ u ***
Iodomethane	0.3558	0.5183	22.50	27.62	ug/L	23	20	0.0500	c+ u v- ***
Acetone	0.1153	0.1168	22.50	22.79	ug/L	1	20	0.0500	u
1,1-Dichloroethene	0.3855	0.3958	22.50	23.10	ug/L	3	20	0.0500	u
Methylene Chloride	0.4642	0.5037	22.50	24.41	ug/L	9	20	0.0500	u
Carbon Disulfide	1.6220	1.4918	22.50	20.69	ug/L	-8	20	0.0500	u
MTBE	0.8879	0.8498	22.50	21.54	ug/L	-4	20	0.0500	u
trans-1,2-Dichloroethene	0.4353	0.4681	22.50	24.19	ug/L	8	20	0.0500	u
Vinyl Acetate	0.8268	0.9084	22.50	24.72	ug/L	10	20	0.0500	u
1,1-Dichloroethane	0.9027	0.9688	22.50	24.15	ug/L	7	20	0.1000	u
2-Butanone	0.1638	0.1747	22.50	24.00	ug/L	7	20	0.0500	u
cis-1,2-Dichloroethene	0.4744	0.5120	22.50	24.28	ug/L	8	20	0.0500	u
2,2-Dichloropropane	0.5698	0.6649	22.50	26.26	ug/L	17	20	0.0500	u
Chloroform	0.7719	0.8406	22.50	24.50	ug/L	9	20	0.0500	u
Bromochloromethane	0.2022	0.2113	22.50	23.52	ug/L	5	20	0.0500	u
1,1,1-Trichloroethane	0.5617	0.6074	22.50	24.33	ug/L	8	20	0.0500	u
1,1-Dichloropropene	0.3894	0.3797	22.50	21.94	ug/L	-2	20	0.0500	u
Carbon Tetrachloride	0.3152	0.3240	22.50	23.13	ug/L	3	20	0.0500	u
1,2-Dichloroethane	0.3219	0.3054	22.50	21.34	ug/L	-5	20	0.0500	u
Benzene	1.0408	1.0616	22.50	22.95	ug/L	2	20	0.0500	u
Trichloroethene	0.2741	0.2787	22.50	22.88	ug/L	2	20	0.0500	u
1,2-Dichloropropane	0.3399	0.3188	22.50	21.10	ug/L	-6	20	0.0500	u
Bromodichloromethane	0.3505	0.3633	22.50	23.33	ug/L	4	20	0.0500	u
Dibromomethane	0.1514	0.1575	22.50	23.41	ug/L	4	20	0.0500	u
4-Methyl-2-Pentanone	0.2362	0.2245	22.50	21.38	ug/L	-5	20	0.0500	u
cis-1,3-Dichloropropene	0.4228	0.4245	22.50	22.59	ug/L	0	20	0.0500	u
Toluene	0.8322	0.7460	22.50	20.17	ug/L	-10	20	0.0500	u
trans-1,3-Dichloropropene	0.4686	0.5083	22.50	24.41	ug/L	8	20	0.0500	u
1,1,2-Trichloroethane	0.1404	0.1340	22.50	21.48	ug/L	-5	20	0.0500	u
2-Hexanone	0.2115	0.1818	22.50	19.34	ug/L	-14	20	0.0500	u
1,3-Dichloropropane	0.4588	0.4052	22.50	19.87	ug/L	-12	20	0.0500	u
Tetrachloroethene	0.3116	0.2995	22.50	21.63	ug/L	-4	20	0.0500	u
Dibromochloromethane	0.3038	0.2732	22.50	20.23	ug/L	-10	20	0.0500	u
1,2-Dibromoethane	0.2559	0.2313	22.50	20.34	ug/L	-10	20	0.0500	u
Chlorobenzene	0.8575	0.8137	22.50	21.35	ug/L	-5	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3045	0.2774	22.50	20.50	ug/L	-9	20	0.0500	u
Ethylbenzene	1.4822	1.4129	22.50	21.45	ug/L	-5	20	0.0500	u
m,p-Xylenes	0.5355	0.5154	45.00	43.31	ug/L	-4	20	0.0500	u
o-Xylene	0.5400	0.5277	22.50	21.99	ug/L	-2	20	0.0500	u
Styrene	0.9526	0.9211	22.50	21.76	ug/L	-3	20	0.0500	u
Bromoform	0.1734	0.1663	22.50	21.58	ug/L	-4	20	0.1000	u
Isopropylbenzene	2.8605	2.5078	22.50	19.73	ug/L	-12	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.6164	0.5677	22.50	20.72	ug/L	-8	20	0.3000	u
1,2,3-Trichloropropane	0.1477	0.1277	22.50	19.45	ug/L	-14	20	0.0500	u
Propylbenzene	3.4604	3.5003	22.50	22.76	ug/L	1	20	0.0500	u
Bromobenzene	0.7358	0.6924	22.50	21.17	ug/L	-6	20	0.0500	u
1,3,5-Trimethylbenzene	2.2339	2.1035	22.50	21.19	ug/L	-6	20	0.0500	u
2-Chlorotoluene	2.3331	2.2034	22.50	21.25	ug/L	-6	20	0.0500	u
4-Chlorotoluene	2.2491	2.1102	22.50	21.11	ug/L	-6	20	0.0500	u
tert-Butylbenzene	1.8666	1.8211	22.50	21.95	ug/L	-2	20	0.0500	u
1,2,4-Trimethylbenzene	2.2848	2.2255	22.50	21.92	ug/L	-3	20	0.0500	u
sec-Butylbenzene	2.9259	3.0445	22.50	23.41	ug/L	4	20	0.0500	u
para-Isopropyl Toluene	2.2172	2.1069	22.50	21.38	ug/L	-5	20	0.0500	u
1,3-Dichlorobenzene	1.3016	1.2491	22.50	21.59	ug/L	-4	20	0.0500	u
1,4-Dichlorobenzene	1.3396	1.2405	22.50	20.84	ug/L	-7	20	0.0500	u
n-Butylbenzene	2.1289	2.1991	22.50	23.24	ug/L	3	20	0.0500	u
1,2-Dichlorobenzene	1.1901	1.1242	22.50	21.25	ug/L	-6	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1022	0.0839	22.50	18.48	ug/L	-18	20	0.0500	u
1,2,4-Trichlorobenzene	0.6730	0.6315	22.50	21.11	ug/L	-6	20	0.0500	u
Hexachlorobutadiene	0.3555	0.3389	22.50	21.45	ug/L	-5	20	0.0500	u
Naphthalene	1.1586	1.1550	22.50	22.43	ug/L	0	20	0.0500	u
1,2,3-Trichlorobenzene	0.5884	0.5851	22.50	22.37	ug/L	-1	20	0.0500	u
Dibromofluoromethane	0.5496	0.5958	50.00	54.21	ug/L	8	20	0.0500	u
1,2-Dichloroethane-d4	0.3139	0.3329	50.00	53.03	ug/L	6	20	0.0500	u
Toluene-d8	1.4449	1.3896	50.00	48.09	ug/L	-4	20	0.0500	u
Bromofluorobenzene	1.0576	1.0414	50.00	49.24	ug/L	-2	20	0.0500	u

ISTD (ICAL idr12)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2485414	1702162	-31.51	12.38	12.34	-0.04
1,4-Difluorobenzene	3818086	2812296	-26.34	13.67	13.63	-0.04
Chlorobenzene-d5	2849149	2348435	-17.57	17.67	17.65	-0.02
1,4-Dichlorobenzene-d4	1373915	1127318	-17.95	20.18	20.17	-0.01

TEW 06/20/10 : Removed S14673 from LIMS, this standard was not used. [general version]

Analyst: PDM Date: 06/23/10 Reviewer: LW Date: 06/24/10

+ = high bias -- = low bias c = CCV u = use v = ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : QC549534 IDF : 1.0
 Seqnum : 490249599003.10 File : jfm03 Time : 22-JUN-2010 08:57
 Cal : 490027869001 Caldate : 19-JAN-2010 Caltype : WATER
 Standards: S14688 (12500X), S14573 (12500X), S14845 (12500X), S14594 (12500X),
 S14757 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.6144	0.8161	20.00	24.60	ug/L	23	20	0.0500	c+ u ***
Chloromethane	0.9887	1.1086	20.00	22.43	ug/L	12	20	0.1000	u
Vinyl Chloride	0.7734	0.9080	20.00	23.48	ug/L	17	20	0.0500	u
Bromomethane	0.4602	0.4526	20.00	19.67	ug/L	-2	20	0.0500	u
Chloroethane	0.4539	0.5132	20.00	22.62	ug/L	13	20	0.0500	u
Trichlorofluoromethane	0.6225	0.8219	20.00	24.27	ug/L	21	20	0.0500	c+ u ***
Iodomethane	0.5986	0.3494	20.00	11.67	ug/L	-42	20	0.0500	c- u ***
Acetone	0.1678	0.2239	20.00	26.69	ug/L	33	20	0.0500	c+ u ***
1,1-Dichloroethene	0.5696	0.5084	20.00	17.85	ug/L	-11	20	0.0500	u
Methylene Chloride	0.7544	0.7045	20.00	18.68	ug/L	-7	20	0.0500	u
Carbon Disulfide	2.3825	1.9172	20.00	16.09	ug/L	-20	20	0.0500	u
MTBE	1.6272	1.3696	20.00	16.83	ug/L	-16	20	0.0500	u
trans-1,2-Dichloroethene	0.6687	0.6172	20.00	18.46	ug/L	-8	20	0.0500	u
Vinyl Acetate	1.4687	1.2484	20.00	17.00	ug/L	-15	20	0.0500	u
1,1-Dichloroethane	1.1872	1.1992	20.00	20.20	ug/L	1	20	0.1000	u
2-Butanone	0.2678	0.2871	20.00	21.44	ug/L	7	20	0.0500	u
cis-1,2-Dichloroethene	0.7037	0.6803	20.00	19.33	ug/L	-3	20	0.0500	u
2,2-Dichloropropane	0.6877	0.8192	20.00	23.82	ug/L	19	20	0.0500	u
Chloroform	1.0137	1.0272	20.00	20.26	ug/L	1	20	0.0500	u
Bromochloromethane	0.3338	0.3043	20.00	18.24	ug/L	-9	20	0.0500	u
1,1,1-Trichloroethane	0.6595	0.7340	20.00	22.26	ug/L	11	20	0.0500	u
1,1-Dichloropropene	0.4369	0.4874	20.00	22.31	ug/L	12	20	0.0500	u
Carbon Tetrachloride	0.2948	0.3638	20.00	24.68	ug/L	23	20	0.0500	c+ u ***
1,2-Dichloroethane	0.3751	0.4047	20.00	21.58	ug/L	8	20	0.0500	u
Benzene	1.3652	1.4434	20.00	21.14	ug/L	6	20	0.0500	u
Trichloroethene	0.3410	0.3620	20.00	21.23	ug/L	6	20	0.0500	u
1,2-Dichloropropane	0.4171	0.4295	20.00	20.60	ug/L	3	20	0.0500	u
Bromodichloromethane	0.4369	0.4493	20.00	20.57	ug/L	3	20	0.0500	u
Dibromomethane	0.2305	0.2261	20.00	19.62	ug/L	-2	20	0.0500	u
4-Methyl-2-Pentanone	0.3262	0.3341	20.00	20.49	ug/L	2	20	0.0500	u
cis-1,3-Dichloropropene	0.5790	0.5633	20.00	19.46	ug/L	-3	20	0.0500	u
Toluene	0.9653	1.0076	20.00	20.88	ug/L	4	20	0.0500	u
trans-1,3-Dichloropropene	0.5740	0.4997	20.00	17.41	ug/L	-13	20	0.0500	u
1,1,2-Trichloroethane	0.2005	0.1942	20.00	19.38	ug/L	-3	20	0.0500	u
2-Hexanone	0.2578	0.2848	20.00	22.10	ug/L	10	20	0.0500	u
1,3-Dichloropropane	0.5943	0.5802	20.00	19.53	ug/L	-2	20	0.0500	u
Tetrachloroethene	0.3708	0.4058	20.00	21.89	ug/L	9	20	0.0500	u
Dibromochloromethane	0.3751	0.3598	20.00	19.18	ug/L	-4	20	0.0500	u
1,2-Dibromoethane	0.3515	0.3376	20.00	19.21	ug/L	-4	20	0.0500	u
Chlorobenzene	1.0826	1.0997	20.00	20.32	ug/L	2	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3342	0.3472	20.00	20.78	ug/L	4	20	0.0500	u
Ethylbenzene	1.7697	1.9067	20.00	21.55	ug/L	8	20	0.0500	u
m,p-Xylenes	0.6731	0.7036	40.00	41.82	ug/L	5	20	0.0500	u
o-Xylene	0.6638	0.7060	20.00	21.27	ug/L	6	20	0.0500	u
Styrene	1.1877	1.1759	20.00	19.80	ug/L	-1	20	0.0500	u
Bromoform	0.2304	0.2241	20.00	19.45	ug/L	-3	20	0.1000	u
Isopropylbenzene	3.3307	3.3878	20.00	20.34	ug/L	2	20	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.9320	0.9052	20.00	19.43	ug/L	-3	20	0.3000	u
1,2,3-Trichloropropane	0.7453	0.7709	20.00	20.68	ug/L	3	20	0.0500	u
Propylbenzene	4.2189	4.9588	20.00	23.51	ug/L	18	20	0.0500	u
Bromobenzene	0.8895	0.9714	20.00	21.84	ug/L	9	20	0.0500	u
1,3,5-Trimethylbenzene	2.7183	3.1854	20.00	23.44	ug/L	17	20	0.0500	u
2-Chlorotoluene	2.7188	3.1383	20.00	23.09	ug/L	15	20	0.0500	u
4-Chlorotoluene	2.5819	2.9054	20.00	22.51	ug/L	13	20	0.0500	u
tert-Butylbenzene	2.2466	2.6798	20.00	23.86	ug/L	19	20	0.0500	u
1,2,4-Trimethylbenzene	2.8433	3.1273	20.00	22.00	ug/L	10	20	0.0500	u
sec-Butylbenzene	3.5685	4.3443	20.00	24.35	ug/L	22	20	0.0500	c+ u ***
para-Isopropyl Toluene	2.7756	3.1574	20.00	22.75	ug/L	14	20	0.0500	u
1,3-Dichlorobenzene	1.6979	1.7769	20.00	20.93	ug/L	5	20	0.0500	u
1,4-Dichlorobenzene	1.7457	1.8236	20.00	20.89	ug/L	4	20	0.0500	u
n-Butylbenzene	2.7600	3.2471	20.00	23.53	ug/L	18	20	0.0500	u
1,2-Dichlorobenzene	1.5721	1.6460	20.00	20.94	ug/L	5	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1152	0.1192	20.00	20.70	ug/L	3	20	0.0500	u
1,2,4-Trichlorobenzene	0.9215	0.9155	20.00	19.87	ug/L	-1	20	0.0500	u
Hexachlorobutadiene	0.2803	0.3792	20.00	27.06	ug/L	35	20	0.0500	c+ u ***
Naphthalene	1.9986	1.5334	20.00	15.34	ug/L	-23	20	0.0500	c- u ***
1,2,3-Trichlorobenzene	0.7961	0.7915	20.00	19.89	ug/L	-1	20	0.0500	u
Dibromofluoromethane	0.5727	0.5758	50.00	50.27	ug/L	1	20	0.0500	u
1,2-Dichloroethane-d4	0.2764	0.3175	50.00	57.42	ug/L	15	20	0.0500	u
Toluene-d8	1.3484	1.3447	50.00	49.86	ug/L	0	20	0.0500	u
Bromofluorobenzene	0.9907	1.0422	50.00	52.60	ug/L	5	20	0.0500	u

ISTD (ICAL jaj18)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	704216	542758	-22.93	10.97	10.94	-0.03
1,4-Difluorobenzene	1214372	915617	-24.60	12.14	12.11	-0.03
Chlorobenzene-d5	1037725	790979	-23.78	16.07	16.04	-0.03
1,4-Dichlorobenzene-d4	517916	374713	-27.65	18.78	18.75	-0.03

5% spike rule

Analyst: PDM Date: 06/23/10 Reviewer: LW Date: 06/24/10

+ = high bias - = low bias c = CCV u = use

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.9320	0.9049	12.50	12.14	ug/L	-3	20	0.3000	
1,2,3-Trichloropropane	0.7453	0.7289	12.50	12.22	ug/L	-2	20	0.0500	
Propylbenzene	4.2189	4.4848	12.50	13.29	ug/L	6	20	0.0500	
Bromobenzene	0.8895	0.9179	12.50	12.90	ug/L	3	20	0.0500	
1,3,5-Trimethylbenzene	2.7183	2.9227	12.50	13.44	ug/L	8	20	0.0500	
2-Chlorotoluene	2.7188	2.8914	12.50	13.29	ug/L	6	20	0.0500	
4-Chlorotoluene	2.5819	2.6483	12.50	12.82	ug/L	3	20	0.0500	
tert-Butylbenzene	2.2466	2.4488	12.50	13.62	ug/L	9	20	0.0500	
1,2,4-Trimethylbenzene	2.8433	2.9143	12.50	12.81	ug/L	2	20	0.0500	
sec-Butylbenzene	3.5685	3.9960	12.50	14.00	ug/L	12	20	0.0500	
para-Isopropyl Toluene	2.7756	2.9276	12.50	13.18	ug/L	5	20	0.0500	
1,3-Dichlorobenzene	1.6979	1.7007	12.50	12.52	ug/L	0	20	0.0500	
1,4-Dichlorobenzene	1.7457	1.7326	12.50	12.41	ug/L	-1	20	0.0500	
n-Butylbenzene	2.7600	2.9727	12.50	13.46	ug/L	8	20	0.0500	
1,2-Dichlorobenzene	1.5721	1.6004	12.50	12.72	ug/L	2	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.1152	0.1215	12.50	13.19	ug/L	6	20	0.0500	
1,2,4-Trichlorobenzene	0.9215	0.8956	12.50	12.15	ug/L	-3	20	0.0500	
Hexachlorobutadiene	0.2803	0.3495	12.50	15.59	ug/L	25	20	0.0500	c+ ***
Naphthalene	1.9986	1.6893	12.50	10.57	ug/L	-15	20	0.0500	
1,2,3-Trichlorobenzene	0.7961	0.8147	12.50	12.79	ug/L	2	20	0.0500	
Dibromofluoromethane	0.5727	0.5631	50.00	49.17	ug/L	-2	20	0.0500	
1,2-Dichloroethane-d4	0.2764	0.3238	50.00	58.56	ug/L	17	20	0.0500	
Toluene-d8	1.3484	1.3631	50.00	50.55	ug/L	1	20	0.0500	
Bromofluorobenzene	0.9907	1.0149	50.00	51.22	ug/L	2	20	0.0500	

ISTD (ICAL jaj18)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	704216	500531	-28.92	10.97	10.93	-0.04
1,4-Difluorobenzene	1214372	825862	-31.99	12.14	12.11	-0.03
Chlorobenzene-d5	1037725	713704	-31.22	16.07	16.04	-0.03
1,4-Dichlorobenzene-d4	517916	351466	-32.14	18.78	18.75	-0.03

Analyst: PDM

Date: 06/23/10

Reviewer: LW

Date: 06/24/10

+ = high bias - = low bias c = CCV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : QC549147 IDF : 1.0
 Seqnum : 830243964004.2 File : kfi04 Time : 18-JUN-2010 11:29
 Cal : 830238218001 Caldate : 14-JUN-2010 Caltype : WATER
 Standards: S14573 (10000X), S14688 (10000X), S14846 (10000X), S14746 (2500X)

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
Freon 12	0.6143	0.7040	25.00	28.65	ug/L	15	20	0.0500	u
Chloromethane	0.5849	0.6696	25.00	28.62	ug/L	14	20	0.1000	u
Vinyl Chloride	0.7165	0.7633	25.00	26.63	ug/L	7	20	0.0500	u
Bromomethane	0.2439	0.3356	25.00	30.26	ug/L	21	20	0.0500	c+ u ***
Chloroethane	0.3509	0.4221	25.00	30.07	ug/L	20	20	0.0500	u
Trichlorofluoromethane	0.8685	0.9673	25.00	27.84	ug/L	11	20	0.0500	u
Iodomethane	0.2118	0.2999	25.00	30.96	ug/L	24	20	0.0500	c+ u v- ***
Acetone	0.1378	0.1700	25.00	30.86	ug/L	23	20	0.0500	c+ u ***
1,1-Dichloroethene	0.4606	0.4826	25.00	26.19	ug/L	5	20	0.0500	u
Methylene Chloride	0.5399	0.6104	25.00	28.26	ug/L	13	20	0.0500	u
Carbon Disulfide	1.7188	1.5301	25.00	22.25	ug/L	-11	20	0.0500	u
MTBE	1.6914	1.8107	25.00	26.76	ug/L	7	20	0.0500	u
trans-1,2-Dichloroethene	0.5518	0.6123	25.00	27.74	ug/L	11	20	0.0500	u
Vinyl Acetate	0.7546	1.0892	25.00	36.09	ug/L	44	20	0.0500	c+ u ***
1,1-Dichloroethane	0.9139	1.0509	25.00	28.75	ug/L	15	20	0.1000	u
2-Butanone	0.1872	0.2375	25.00	31.72	ug/L	27	20	0.0500	c+ u ***
cis-1,2-Dichloroethene	0.6280	0.7157	25.00	28.49	ug/L	14	20	0.0500	u
2,2-Dichloropropane	0.7202	0.9718	25.00	33.73	ug/L	35	20	0.0500	c+ u ***
Chloroform	0.9693	1.1180	25.00	28.84	ug/L	15	20	0.0500	u
Bromochloromethane	0.2817	0.3312	25.00	29.39	ug/L	18	20	0.0500	u
1,1,1-Trichloroethane	0.8758	0.9805	25.00	27.99	ug/L	12	20	0.0500	u
1,1-Dichloropropene	0.4291	0.4482	25.00	26.11	ug/L	4	20	0.0500	u
Carbon Tetrachloride	0.4059	0.4397	25.00	27.08	ug/L	8	20	0.0500	u
1,2-Dichloroethane	0.4078	0.4413	25.00	27.05	ug/L	8	20	0.0500	u
Benzene	1.2827	1.3871	25.00	27.03	ug/L	8	20	0.0500	u
Trichloroethene	0.3349	0.3483	25.00	26.01	ug/L	4	20	0.0500	u
1,2-Dichloropropane	0.3106	0.3202	25.00	25.77	ug/L	3	20	0.0500	u
Bromodichloromethane	0.4140	0.4512	25.00	27.24	ug/L	9	20	0.0500	u
Dibromomethane	0.1932	0.2159	25.00	27.93	ug/L	12	20	0.0500	u
4-Methyl-2-Pentanone	0.2196	0.2491	25.00	28.36	ug/L	13	20	0.0500	u
cis-1,3-Dichloropropene	0.5029	0.5598	25.00	27.82	ug/L	11	20	0.0500	u
Toluene	0.8388	0.8539	25.00	25.45	ug/L	2	20	0.0500	u
trans-1,3-Dichloropropene	0.4685	0.4572	25.00	24.40	ug/L	-2	20	0.0500	u
1,1,2-Trichloroethane	0.1578	0.1610	25.00	25.51	ug/L	2	20	0.0500	u
2-Hexanone	0.1493	0.1670	25.00	27.96	ug/L	12	20	0.0500	u
1,3-Dichloropropane	0.4959	0.5117	25.00	25.80	ug/L	3	20	0.0500	u
Tetrachloroethene	0.3465	0.3346	25.00	24.14	ug/L	-3	20	0.0500	u
Dibromochloromethane	0.3243	0.3298	25.00	25.42	ug/L	2	20	0.0500	u
1,2-Dibromoethane	0.3050	0.3099	25.00	25.40	ug/L	2	20	0.0500	u
Chlorobenzene	0.9650	0.9795	25.00	25.37	ug/L	1	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3265	0.3246	25.00	24.85	ug/L	-1	20	0.0500	u
Ethylbenzene	1.5972	1.6323	25.00	25.55	ug/L	2	20	0.0500	u
m,p-Xylenes	0.5841	0.6006	50.00	51.41	ug/L	3	20	0.0500	u
o-Xylene	0.5625	0.5806	25.00	25.81	ug/L	3	20	0.0500	u
Styrene	0.9318	0.9724	25.00	26.09	ug/L	4	20	0.0500	u
Bromoform	0.2158	0.2237	25.00	25.92	ug/L	4	20	0.1000	u
Isopropylbenzene	3.3588	2.9320	25.00	21.82	ug/L	-13	20	0.0500	u
1,1,2,2-Tetrachloroethane	0.8091	0.8262	25.00	25.53	ug/L	2	20	0.3000	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,2,3-Trichloropropane	0.8018	0.7996	25.00	24.93	ug/L	0	20	0.0500	u
Propylbenzene	3.5702	3.5670	25.00	24.98	ug/L	0	20	0.0500	u
Bromobenzene	0.8847	0.8734	25.00	24.68	ug/L	-1	20	0.0500	u
1,3,5-Trimethylbenzene	2.2628	2.2846	25.00	25.24	ug/L	1	20	0.0500	u
2-Chlorotoluene	2.5055	2.5633	25.00	25.58	ug/L	2	20	0.0500	u
4-Chlorotoluene	2.1690	2.1837	25.00	25.17	ug/L	1	20	0.0500	u
tert-Butylbenzene	2.1070	2.1085	25.00	25.02	ug/L	0	20	0.0500	u
1,2,4-Trimethylbenzene	1.9952	2.0701	25.00	25.94	ug/L	4	20	0.0500	u
sec-Butylbenzene	3.0777	3.1261	25.00	25.39	ug/L	2	20	0.0500	u
para-Isopropyl Toluene	2.3073	2.2624	25.00	24.51	ug/L	-2	20	0.0500	u
1,3-Dichlorobenzene	1.5000	1.4880	25.00	24.80	ug/L	-1	20	0.0500	u
1,4-Dichlorobenzene	1.4904	1.4708	25.00	24.67	ug/L	-1	20	0.0500	u
n-Butylbenzene	1.8321	1.9047	25.00	25.99	ug/L	4	20	0.0500	u
1,2-Dichlorobenzene	1.4138	1.4244	25.00	25.19	ug/L	1	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1488	0.1470	25.00	24.69	ug/L	-1	20	0.0500	u
1,2,4-Trichlorobenzene	0.6755	0.6519	25.00	24.13	ug/L	-3	20	0.0500	u
Hexachlorobutadiene	0.4275	0.4022	25.00	23.52	ug/L	-6	20	0.0500	u
Naphthalene	1.5330	1.5426	25.00	25.16	ug/L	1	20	0.0500	u
1,2,3-Trichlorobenzene	0.6323	0.6358	25.00	25.14	ug/L	1	20	0.0500	u
Dibromofluoromethane	0.5239	0.5643	50.00	53.86	ug/L	8	20	0.0500	u
1,2-Dichloroethane-d4	0.3496	0.3521	50.00	50.37	ug/L	1	20	0.0500	u
Toluene-d8	1.3161	1.2901	50.00	49.01	ug/L	-2	20	0.0500	u
Bromofluorobenzene	1.0717	1.0656	50.00	49.72	ug/L	-1	20	0.0500	u

ISTD (ICAL kfe19)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	674857	532711	-21.06	10.45	10.45	0.00
1,4-Difluorobenzene	1199364	1015843	-15.30	11.38	11.38	0.01
Chlorobenzene-d5	1205193	1077961	-10.56	14.46	14.46	0.00
1,4-Dichlorobenzene-d4	579558	486552	-16.05	16.69	16.69	0.00

Analyst: PDM Date: 06/23/10 Reviewer: LW Date: 06/24/10

+ = high bias - = low bias c = CCV u = use v = ICV

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.8091	0.8049	35.00	34.82	ug/L	-1	20	0.3000	
1,2,3-Trichloropropane	0.8018	0.7988	35.00	34.87	ug/L	0	20	0.0500	
Propylbenzene	3.5702	3.3537	35.00	32.88	ug/L	-6	20	0.0500	
Bromobenzene	0.8847	0.8344	35.00	33.01	ug/L	-6	20	0.0500	
1,3,5-Trimethylbenzene	2.2628	2.1985	35.00	34.00	ug/L	-3	20	0.0500	
2-Chlorotoluene	2.5055	2.4029	35.00	33.57	ug/L	-4	20	0.0500	
4-Chlorotoluene	2.1690	2.1085	35.00	34.03	ug/L	-3	20	0.0500	
tert-Butylbenzene	2.1070	1.9454	35.00	32.32	ug/L	-8	20	0.0500	
1,2,4-Trimethylbenzene	1.9952	1.9904	35.00	34.92	ug/L	0	20	0.0500	
sec-Butylbenzene	3.0777	2.8519	35.00	32.43	ug/L	-7	20	0.0500	
para-Isopropyl Toluene	2.3073	2.1967	35.00	33.32	ug/L	-5	20	0.0500	
1,3-Dichlorobenzene	1.5000	1.4250	35.00	33.25	ug/L	-5	20	0.0500	
1,4-Dichlorobenzene	1.4904	1.4059	35.00	33.01	ug/L	-6	20	0.0500	
n-Butylbenzene	1.8321	1.7644	35.00	33.71	ug/L	-4	20	0.0500	
1,2-Dichlorobenzene	1.4138	1.3435	35.00	33.26	ug/L	-5	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.1488	0.1537	35.00	36.16	ug/L	3	20	0.0500	
1,2,4-Trichlorobenzene	0.6755	0.6461	35.00	33.48	ug/L	-4	20	0.0500	
Hexachlorobutadiene	0.4275	0.3713	35.00	30.40	ug/L	-13	20	0.0500	
Naphthalene	1.5330	1.5284	35.00	34.90	ug/L	0	20	0.0500	
1,2,3-Trichlorobenzene	0.6323	0.6116	35.00	33.85	ug/L	-3	20	0.0500	
Dibromofluoromethane	0.5239	0.5725	50.00	54.64	ug/L	9	20	0.0500	
1,2-Dichloroethane-d4	0.3496	0.3684	50.00	52.69	ug/L	5	20	0.0500	
Toluene-d8	1.3161	1.2939	50.00	49.16	ug/L	-2	20	0.0500	
Bromofluorobenzene	1.0717	1.0509	50.00	49.03	ug/L	-2	20	0.0500	

ISTD (ICAL kfe19)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	674857	517446	-23.33	10.45	10.45	0.00
1,4-Difluorobenzene	1199364	1002176	-16.44	11.38	11.38	0.01
Chlorobenzene-d5	1205193	1072513	-11.01	14.46	14.46	0.00
1,4-Dichlorobenzene-d4	579558	499602	-13.80	16.69	16.69	0.00

Analyst: PDM

Date: 06/23/10

Reviewer: LW

Date: 06/24/10

+ = high bias c = CCV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220657 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : QC549403 IDF : 1.0
 Seqnum : 830248287014.1 File : kfl14 Time : 21-JUN-2010 15:25
 Cal : 830238218001 Caldate : 14-JUN-2010 Caltype : WATER
 Standards: S14573 (10000X), S14688 (10000X), S14846 (10000X), S14746 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.6143	0.6705	25.00	27.29	ug/L	9	20	0.0500	u
Chloromethane	0.5849	0.6552	25.00	28.00	ug/L	12	20	0.1000	u
Vinyl Chloride	0.7165	0.7373	25.00	25.73	ug/L	3	20	0.0500	u
Bromomethane	0.2439	0.3490	25.00	31.30	ug/L	25	20	0.0500	c+ u ***
Chloroethane	0.3509	0.4165	25.00	29.67	ug/L	19	20	0.0500	u
Trichlorofluoromethane	0.8685	0.9592	25.00	27.61	ug/L	10	20	0.0500	u
Iodomethane	0.2118	0.2585	25.00	27.32	ug/L	9	20	0.0500	u v- ***
Acetone	0.1378	0.1707	25.00	30.97	ug/L	24	20	0.0500	c+ u ***
1,1-Dichloroethene	0.4606	0.4814	25.00	26.13	ug/L	5	20	0.0500	u
Methylene Chloride	0.5399	0.6193	25.00	28.67	ug/L	15	20	0.0500	u
Carbon Disulfide	1.7188	1.5083	25.00	21.94	ug/L	-12	20	0.0500	u
MTBE	1.6914	1.8452	25.00	27.27	ug/L	9	20	0.0500	u
trans-1,2-Dichloroethene	0.5518	0.6243	25.00	28.29	ug/L	13	20	0.0500	u
Vinyl Acetate	0.7546	1.0377	25.00	34.38	ug/L	38	20	0.0500	c+ u ***
1,1-Dichloroethane	0.9139	1.0505	25.00	28.74	ug/L	15	20	0.1000	u
2-Butanone	0.1872	0.2328	25.00	31.09	ug/L	24	20	0.0500	c+ u ***
cis-1,2-Dichloroethene	0.6280	0.7391	25.00	29.42	ug/L	18	20	0.0500	u
2,2-Dichloropropane	0.7202	0.9552	25.00	33.16	ug/L	33	20	0.0500	c+ u ***
Chloroform	0.9693	1.1245	25.00	29.00	ug/L	16	20	0.0500	u
Bromochloromethane	0.2817	0.3371	25.00	29.91	ug/L	20	20	0.0500	u
1,1,1-Trichloroethane	0.8758	0.9855	25.00	28.13	ug/L	13	20	0.0500	u
1,1-Dichloropropene	0.4291	0.4374	25.00	25.48	ug/L	2	20	0.0500	u
Carbon Tetrachloride	0.4059	0.4275	25.00	26.33	ug/L	5	20	0.0500	u
1,2-Dichloroethane	0.4078	0.4352	25.00	26.68	ug/L	7	20	0.0500	u
Benzene	1.2827	1.3466	25.00	26.24	ug/L	5	20	0.0500	u
Trichloroethene	0.3349	0.3457	25.00	25.81	ug/L	3	20	0.0500	u
1,2-Dichloropropane	0.3106	0.3114	25.00	25.06	ug/L	0	20	0.0500	u
Bromodichloromethane	0.4140	0.4459	25.00	26.92	ug/L	8	20	0.0500	u
Dibromomethane	0.1932	0.2080	25.00	26.92	ug/L	8	20	0.0500	u
4-Methyl-2-Pentanone	0.2196	0.2421	25.00	27.56	ug/L	10	20	0.0500	u
cis-1,3-Dichloropropene	0.5029	0.5493	25.00	27.30	ug/L	9	20	0.0500	u
Toluene	0.8388	0.8023	25.00	23.91	ug/L	-4	20	0.0500	u
trans-1,3-Dichloropropene	0.4685	0.4314	25.00	23.02	ug/L	-8	20	0.0500	u
1,1,2-Trichloroethane	0.1578	0.1513	25.00	23.97	ug/L	-4	20	0.0500	u
2-Hexanone	0.1493	0.1575	25.00	26.37	ug/L	5	20	0.0500	u
1,3-Dichloropropane	0.4959	0.4782	25.00	24.11	ug/L	-4	20	0.0500	u
Tetrachloroethene	0.3465	0.3233	25.00	23.32	ug/L	-7	20	0.0500	u
Dibromochloromethane	0.3243	0.3162	25.00	24.37	ug/L	-3	20	0.0500	u
1,2-Dibromoethane	0.3050	0.2940	25.00	24.10	ug/L	-4	20	0.0500	u
Chlorobenzene	0.9650	0.9282	25.00	24.04	ug/L	-4	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3265	0.3089	25.00	23.65	ug/L	-5	20	0.0500	u
Ethylbenzene	1.5972	1.5312	25.00	23.97	ug/L	-4	20	0.0500	u
m,p-Xylenes	0.5841	0.5629	50.00	48.19	ug/L	-4	20	0.0500	u
o-Xylene	0.5625	0.5487	25.00	24.39	ug/L	-2	20	0.0500	u
Styrene	0.9318	0.9077	25.00	24.35	ug/L	-3	20	0.0500	u
Bromoform	0.2158	0.2193	25.00	25.40	ug/L	2	20	0.1000	u
Isopropylbenzene	3.3588	2.7597	25.00	20.54	ug/L	-18	20	0.0500	u
1,1,2,2-Tetrachloroethane	0.8091	0.7621	25.00	23.55	ug/L	-6	20	0.3000	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,2,3-Trichloropropane	0.8018	0.7464	25.00	23.27	ug/L	-7	20	0.0500	u
Propylbenzene	3.5702	3.2888	25.00	23.03	ug/L	-8	20	0.0500	u
Bromobenzene	0.8847	0.8361	25.00	23.63	ug/L	-5	20	0.0500	u
1,3,5-Trimethylbenzene	2.2628	2.0922	25.00	23.11	ug/L	-8	20	0.0500	u
2-Chlorotoluene	2.5055	2.3799	25.00	23.75	ug/L	-5	20	0.0500	u
4-Chlorotoluene	2.1690	2.0182	25.00	23.26	ug/L	-7	20	0.0500	u
tert-Butylbenzene	2.1070	2.0006	25.00	23.74	ug/L	-5	20	0.0500	u
1,2,4-Trimethylbenzene	1.9952	1.8633	25.00	23.35	ug/L	-7	20	0.0500	u
sec-Butylbenzene	3.0777	2.9452	25.00	23.92	ug/L	-4	20	0.0500	u
para-Isopropyl Toluene	2.3073	2.0983	25.00	22.74	ug/L	-9	20	0.0500	u
1,3-Dichlorobenzene	1.5000	1.3977	25.00	23.30	ug/L	-7	20	0.0500	u
1,4-Dichlorobenzene	1.4904	1.3837	25.00	23.21	ug/L	-7	20	0.0500	u
n-Butylbenzene	1.8321	1.7314	25.00	23.63	ug/L	-5	20	0.0500	u
1,2-Dichlorobenzene	1.4138	1.3417	25.00	23.73	ug/L	-5	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1488	0.1382	25.00	23.21	ug/L	-7	20	0.0500	u
1,2,4-Trichlorobenzene	0.6755	0.6349	25.00	23.50	ug/L	-6	20	0.0500	u
Hexachlorobutadiene	0.4275	0.3978	25.00	23.26	ug/L	-7	20	0.0500	u
Naphthalene	1.5330	1.5298	25.00	24.95	ug/L	0	20	0.0500	u
1,2,3-Trichlorobenzene	0.6323	0.6221	25.00	24.59	ug/L	-2	20	0.0500	u
Dibromofluoromethane	0.5239	0.5706	50.00	54.46	ug/L	9	20	0.0500	u
1,2-Dichloroethane-d4	0.3496	0.3520	50.00	50.34	ug/L	1	20	0.0500	u
Toluene-d8	1.3161	1.2233	50.00	46.47	ug/L	-7	20	0.0500	u
Bromofluorobenzene	1.0717	1.0514	50.00	49.05	ug/L	-2	20	0.0500	u

ISTD (ICAL kfe19)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	674857	643905	-4.59	10.45	10.45	0.00
1,4-Difluorobenzene	1199364	1257693	4.86	11.38	11.38	0.01
Chlorobenzene-d5	1205193	1399185	16.10	14.46	14.46	0.00
1,4-Dichlorobenzene-d4	579558	633468	9.30	16.69	16.69	0.00

Analyst: PDM Date: 06/23/10 Reviewer: LW Date: 06/24/10

+ = high bias - = low bias c = CCV u = use v = ICV

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 480243841

Date : 06/18/10
 Sequence : MSVOA09 ifi

Reference : idr12
 Analyzed : 04/27/10 23:09

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	2485414	12.38	3818086	13.67	2849149	17.67	1373915	20.18
		LOWER LIMIT	1242707	11.88	1909043	13.17	1424575	17.17	686958	19.68
		UPPER LIMIT	4970828	12.88	7636172	14.17	5698298	18.17	2747830	20.68
003	CCV	20PPB	2234906	12.39	3773659	13.66	2952029	17.67	1422262	20.18
004	CCV/BS	QC549121	2192590	12.38	3719268	13.66	2879334	17.66	1417863	20.18
005	BSD	QC549122	2147030	12.37	3704096	13.66	2884503	17.67	1376539	20.18
006	IB	IB	2329092	12.38	3793048	13.66	3045037	17.66	1502222	20.17
007	BLANK	QC549123	2071551	12.37	3452986	13.66	2762698	17.67	1317054	20.17
008	MS	QC548716	1982267	12.37	3392665	13.66	2808063	17.66	1373402	20.17
009	MSD	QC548717	2086337	12.38	3464838	13.66	2775529	17.66	1374459	20.17
010	IB	IB	1693707	12.37	2948276	13.65	2728195	17.66	1415037	20.17
011	SAMPLE	220746-001	1897607	12.37	3243843	13.66	2538322	17.66	1195654	20.17
012	SAMPLE	220657-001	1863658	12.36	3166771	13.65	2583496	17.67	1175127	20.17
013	SAMPLE	220657-002	1824534	12.36	3022451	13.65	2479334	17.67	1130345	20.17
014	SAMPLE	220657-003	1797490	12.36	3060143	13.65	2439818	17.66	1130597	20.17
015	SAMPLE	220657-004	1766746	12.37	2892498	13.65	2436906	17.66	1126705	20.17
016	SAMPLE	220657-005	1352652	12.34	2324155	13.64	1906944	17.66	916585	20.17
017	SAMPLE	220746-002	1294846	12.34	2274097	13.63	1882477	17.66	880031	20.17
018	SAMPLE	220746-003	1354320	12.34	2319897	13.63	1879235	17.66	891076	20.17
019	SAMPLE	220746-004	1296364	12.34	2323764	13.64	1867279	17.66	859259	20.17
020	SAMPLE	220746-005	1352916	12.34	2304683	13.63	1866112	17.65	862449	20.17
021	SAMPLE	220746-006	1305065	12.34	2237655	13.63	1920875	17.66	887773	20.17
022	SAMPLE	220746-007	1347706	12.34	2399748	13.63	1973721	17.66	895366	20.17
023	IB	IB	1129439	12.34 *	2100836	13.63	1973093	17.65	1029170	20.17
024	IB	IB	1629409	12.34	2653468	13.63	2023903	17.66	991851	20.17
025	IB	IB	1487081	12.34	2506172	13.63	2048708	17.65	960606	20.16

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 480246874

Date : 06/20/10
 Sequence : MSVOA09 ifk

Reference : idr12
 Analyzed : 04/27/10 23:09

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	2485414	12.38	3818086	13.67	2849149	17.67	1373915	20.18
		LOWER LIMIT	1242707	11.88	1909043	13.17	1424575	17.17	686958	19.68
		UPPER LIMIT	4970828	12.88	7636172	14.17	5698298	18.17	2747830	20.68
003	CCV	35PPB	1628541	12.34	2792610	13.63	2297162	17.66	1139619	20.16
004	CCV/BS	QC549263	1702162	12.34	2812296	13.63	2348435	17.65	1127318	20.17
005	BSD	QC549264	1697670	12.34	2868742	13.63	2299738	17.65	1108061	20.16
007	BLANK	QC549262	1546696	12.34	2638309	13.63	2177191	17.65	1017504	20.16
008	SAMPLE	220657-011	1509718	12.34	2542032	13.63	2092071	17.66	959930	20.17
009	SAMPLE	220657-009	1437742	12.34	2476775	13.63	2057352	17.65	949908	20.17
010	SAMPLE	220657-010	1493660	12.34	2529486	13.64	2093490	17.65	955903	20.17
011	SAMPLE	220657-013	1359854	12.34	2470245	13.63	2074763	17.66	981153	20.17
012	SAMPLE	220657-014	1474965	12.34	2504429	13.64	2106642	17.66	1005114	20.17
013	SAMPLE	220657-015	1539474	12.34	2605998	13.64	2261619	17.66	1061906	20.17
014	MSS	220657-012	1569120	12.34	2633890	13.64	2236214	17.66	1042911	20.17
015	SAMPLE	220646-013	1588466	12.34	2660300	13.63	2222046	17.66	1049290	20.16
016	SAMPLE	220646-014	1530070	12.35	2553322	13.63	2126551	17.66	1002559	20.17
017	SAMPLE	220646-015	1419624	12.34	2415300	13.64	2138924	17.66	1025642	20.17
018	SAMPLE	220646-016	1375999	12.34	2366297	13.63	1951910	17.66	932456	20.17
019	SAMPLE	220646-017	1332491	12.34	2216336	13.63	1971712	17.65	943636	20.17
020	SAMPLE	220646-018	1359447	12.34	2311615	13.63	1941088	17.66	918938	20.17
021	MS	QC549277	1363400	12.34	2345292	13.63	1980295	17.66	990878	20.17
022	MSD	QC549278	1418731	12.35	2385003	13.64	2026890	17.66	1033074	20.17

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 490249599

Date : 06/22/10
 Sequence : MSVOA10 jfm

Reference : jaj18
 Analyzed : 01/19/10 22:26

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	704216	10.97	1214372	12.14	1037725	16.07	517916	18.78
		LOWER LIMIT	352108	10.47	607186	11.64	518863	15.57	258958	18.28
		UPPER LIMIT	1408432	11.47	2428744	12.64	2075450	16.57	1035832	19.28
003	CCV/BS	QC549534	542758	10.94	915617	12.11	790979	16.04	374713	18.75
004	BSD	QC549535	540911	10.93	901232	12.11	779189	16.04	385960	18.74
005	CCV/BS	QC549536	537193	10.93	887220	12.11	756951	16.04	375932	18.74
006	BSD	QC549537	528575	10.93	862159	12.11	747300	16.04	369090	18.74
008	BLANK	QC549544	487657	10.94	805970	12.10	702644	16.04	346937	18.75
009	SAMPLE	220804-006	499109	10.94	830426	12.11	708652	16.04	356262	18.74
010	SAMPLE	220804-002	514925	10.93	854628	12.11	727942	16.03	368618	18.74
011	SAMPLE	220804-003	504467	10.93	834018	12.10	728242	16.04	365994	18.75
012	SAMPLE	220804-004	501087	10.93	828301	12.10	716585	16.04	356870	18.75
014	CCV		500531	10.93	825862	12.11	713704	16.04	351466	18.75
015	CCV		517043	10.93	852180	12.10	723682	16.04	361221	18.75
017	BLANK	QC549737	513827	10.93	839370	12.10	727862	16.04	368204	18.75
018	SAMPLE	220786-027	517101	10.94	852729	12.11	731486	16.04	367812	18.75
019	SAMPLE	220786-022	514355	10.93	842954	12.11	731297	16.04	366379	18.75
020	SAMPLE	220657-019	508200	10.94	846289	12.11	735607	16.04	360755	18.75
021	SAMPLE	220657-020	503383	10.93	835368	12.11	720456	16.04	358116	18.75
022	SAMPLE	220646-010	502224	10.94	828536	12.11	717485	16.04	354455	18.75
023	SAMPLE	220785-004	505687	10.93	842294	12.11	725504	16.04	362153	18.75
024	SAMPLE	220821-005	511589	10.93	837357	12.10	731209	16.04	364777	18.75
025	SAMPLE	220646-029	503665	10.93	843641	12.10	735127	16.04	366823	18.75
026	SAMPLE	220646-023	503489	10.93	841290	12.11	723585	16.04	356469	18.75
027	SAMPLE	220646-024	503896	10.93	836316	12.10	727145	16.04	365892	18.75
028	SAMPLE	220785-005	505349	10.94	832220	12.11	727724	16.04	361755	18.74
029	SAMPLE	220804-005	511917	10.94	854780	12.11	734335	16.04	364105	18.75
030	SAMPLE	220785-002	508903	10.93	843154	12.11	726071	16.04	362387	18.75
031	SAMPLE	220804-001	504280	10.94	835293	12.11	727889	16.04	360614	18.75
032	SAMPLE	220785-001	509354	10.93	852293	12.11	735942	16.04	369961	18.75
033	SAMPLE	220785-003	502978	10.94	827280	12.11	717631	16.04	354797	18.75

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 490249599

Date : 06/22/10
 Sequence : MSVOA10 jfm

Reference : jba15
 Analyzed : 02/10/10 16:44

#	Type	Sample ID	CLBZD5-TIC	RT
		ICAL STD	2875680	16.03
		LOWER LIMIT	1437840	15.53
		UPPER LIMIT	5751360	16.53
005	CCV/BS	QC549536	2375362	16.04
015	CCV		2247689	16.04
023	SAMPLE	220785-004	2205472	16.04
028	SAMPLE	220785-005	2204074	16.04
030	SAMPLE	220785-002	2210227	16.04
032	SAMPLE	220785-001	2260611	16.04
033	SAMPLE	220785-003	2161445	16.04

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 830243964

Date : 06/18/10
 Sequence : MSVOA11 kfi

Reference : kfe19
 Analyzed : 06/15/10 00:33

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	674857	10.45	1199364	11.38	1205193	14.46	579558	16.69
		LOWER LIMIT	337429	9.95	599682	10.88	602597	13.96	289779	16.19
		UPPER LIMIT	1349714	10.95	2398728	11.88	2410386	14.96	1159116	17.19
003	CCV		521743	10.45	1005608	11.38	1072352	14.46	471492	16.69
004	CCV/BS	QC549147	532711	10.45	1015843	11.38	1077961	14.46	486552	16.69
005	BSD	QC549148	542351	10.45	1031491	11.38	1084126	14.46	492197	16.69
007	BLANK	QC549146	521399	10.44	1010819	11.37	1069436	14.46	391608	16.69
008	SAMPLE	220749-001	506424	10.45	991282	11.37	1043448	14.46	399490	16.69
009	SAMPLE	220635-003	508389	10.45	1000302	11.37	1040432	14.46	388864	16.69
010	SAMPLE	220633-015	505437	10.45	986923	11.38	1035283	14.46	394602	16.69
011	SAMPLE	220633-016	492804	10.45	973471	11.37	1034846	14.46	383602	16.69
012	SAMPLE	220633-017	494957	10.45	965560	11.38	1030688	14.46	381305	16.69
013	SAMPLE	220633-018	490408	10.45	969478	11.38	1021850	14.46	366521	16.69
014	SAMPLE	220633-019	483472	10.45	960582	11.38	1015361	14.46	369961	16.69
015	MSS	220633-010	485137	10.45	952984	11.38	1014071	14.46	372969	16.69
016	SAMPLE	220749-002	491935	10.45	962198	11.37	1012534	14.46	373308	16.69
017	SAMPLE	220749-003	485278	10.45	961855	11.38	1019453	14.46	369671	16.69
018	SAMPLE	220749-004	483497	10.45	954087	11.38	1010483	14.46	369847	16.69
019	SAMPLE	220749-005	464942	10.45	924694	11.38	982035	14.46	359117	16.69
020	SAMPLE	220749-006	467117	10.45	926177	11.38	989904	14.46	372305	16.69
021	SAMPLE	220749-007	463803	10.45	924572	11.38	981139	14.46	356723	16.69
022	SAMPLE	220657-006	470256	10.45	942445	11.37	1000872	14.46	372317	16.69
023	SAMPLE	220657-007	465886	10.45	928711	11.38	988457	14.46	368740	16.69
024	SAMPLE	220657-008	458109	10.45	922790	11.38	984580	14.46	363684	16.69
025	MS	QC549173	485300	10.45	953530	11.38	1041507	14.46	458555	16.69
026	MSD	QC549174	505244	10.45	994956	11.38	1065833	14.46	467298	16.69

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 830246971

Date : 06/20/10
 Sequence : MSVOA11 kfk

Reference : kfe19
 Analyzed : 06/15/10 00:33

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	674857	10.45	1199364	11.38	1205193	14.46	579558	16.69
		LOWER LIMIT	337429	9.95	599682	10.88	602597	13.96	289779	16.19
		UPPER LIMIT	1349714	10.95	2398728	11.88	2410386	14.96	1159116	17.19
003	CCV		517446	10.45	1002176	11.38	1072513	14.46	499602	16.69
004	BS	QC549275	521321	10.45	1003216	11.38	1082486	14.46	481472	16.69
005	BSD	QC549276	533133	10.45	1027535	11.38	1102021	14.46	497848	16.69
007	BLANK	QC549274	491650	10.45	981940	11.37	1059209	14.46	399609	16.69
008	SAMPLE	220669-003	481015	10.45	963257	11.37	1045039	14.46	384872	16.69
009	SAMPLE	220723-021	474693	10.45	956135	11.38	1037815	14.46	390647	16.69
010	SAMPLE	220702-007	470894	10.45	948852	11.38	1040131	14.46	389585	16.69
011	SAMPLE	220669-001	467687	10.45	946325	11.38	1028996	14.46	377914	16.69
012	SAMPLE	220657-018	463575	10.45	939749	11.38	1019758	14.46	383466	16.69
013	SAMPLE	220802-003	465541	10.45	937872	11.38	1023463	14.46	379163	16.69
014	SAMPLE	220802-002	463991	10.45	935507	11.38	1021307	14.46	377111	16.69
015	SAMPLE	220802-001	452534	10.45	920526	11.38	1006672	14.46	370461	16.69
016	SAMPLE	220702-002	451661	10.45	916347	11.38	1007787	14.46	363351	16.69
017	SAMPLE	220657-016	439692	10.45	897074	11.38	997034	14.46	374971	16.69
018	MSS	220669-002	447943	10.45	904644	11.38	1001425	14.46	373289	16.69
019	SAMPLE	220657-017	453106	10.45	928192	11.38	1020240	14.46	450627	16.69
020	SAMPLE	220702-004	462766	10.45	937018	11.38	1026597	14.46	393689	16.69
021	SAMPLE	220702-006	451734	10.45	916035	11.38	1003213	14.46	363552	16.69
022	SAMPLE	220702-003	464664	10.45	941270	11.38	1028378	14.46	382660	16.69
023	SAMPLE	220702-005	450316	10.45	916827	11.38	1014517	14.46	382971	16.69
024	MS	QC549284	471676	10.45	947718	11.38	1062496	14.46	476213	16.69
025	MSD	QC549285	480217	10.45	965288	11.38	1084457	14.46	488112	16.69

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 830248287

Date : 06/21/10
 Sequence : MSVOA11 kfl

Reference : kfe19
 Analyzed : 06/15/10 00:33

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	674857	10.45	1199364	11.38	1205193	14.46	579558	16.69
		LOWER LIMIT	337429	9.95	599682	10.88	602597	13.96	289779	16.19
		UPPER LIMIT	1349714	10.95	2398728	11.88	2410386	14.96	1159116	17.19
003	CCV		471022	10.45	952063	11.38	1048390	14.46	455312	16.69
004	CCV/BS	QC549403	480776	10.45	963040	11.38	1073473	14.46	487392	16.69
005	BSD	QC549404	492714	10.45	985743	11.38	1091279	14.46	495224	16.69
007	CCV		492464	10.45	971698	11.37	1082810	14.46	476007	16.69
008	CCV/BS	QC549403	500258	10.45	992683	11.38	1112364	14.46	503196	16.69
013	CCV		616799	10.45	1209305	11.38	1354393	14.46	610021	16.69
014	CCV/BS	QC549403	643905	10.45	1257693	11.38	1399185	14.46	633468	16.69
015	BSD	QC549404	636987	10.45	1243335	11.37	1390182	14.46	632962	16.69
017	BLANK	QC549402	598180	10.45	1202969	11.37	1324625	14.46	506745	16.69
018	SAMPLE	220821-006	591887	10.45	1187266	11.38	1319817	14.46	492369	16.69
019	SAMPLE	220658-001	573544	10.45	1165860	11.38	1300867	14.46	474159	16.69
020	SAMPLE	220658-002	566596	10.45	1152897	11.38	1292384	14.46	469900	16.69
021	SAMPLE	220657-020	576528	10.45	1176143	11.38	1329453	14.46	530955	16.69
022	MSS	220657-019	572110	10.45	1158792	11.38	1305366	14.46	504119	16.69
023	SAMPLE	220780-002	580371	10.45	1171476	11.38	1305453	14.46	479635	16.69
024	SAMPLE	220657-014	574414	10.45	1166690	11.38	1318191	14.46	548331	16.69
025	SAMPLE	220657-015	588805	10.45	1182074	11.38	1327229	14.46	534261	16.69
026	SAMPLE	220702-004	589863	10.45	1195568	11.38	1336015	14.46	495913	16.69
027	SAMPLE	220702-005	568403	10.45	1159569	11.38	1299125	14.46	496620	16.69
028	SAMPLE	220702-003	572219	10.45	1161673	11.37	1307014	14.46	494371	16.69
029	SAMPLE	220780-001	574596	10.45	1171210	11.38	1336399	14.46	489477	16.69
030	SAMPLE	220821-001	568532	10.45	1176489	11.38	1316703	14.46	534500	16.69
031	SAMPLE	220821-004	570743	10.45	1160915	11.38	1305499	14.46	478328	16.69
032	SAMPLE	220821-005	558480	10.45	1145303	11.38	1292141	14.46	498988	16.69
033	SAMPLE	220821-002	566932	10.45	1165084	11.38	1322048	14.46	529480	16.69
034	SAMPLE	220821-003	583564	10.45	1192525	11.38	1353476	14.46	569330	16.69
035	MS	QC549456	596134	10.45	1202335	11.38	1378387	14.46	619141	16.69
036	MSD	QC549457	599786	10.45	1201564	11.38	1368609	14.46	609830	16.69

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 480246874

Instrument : MSVOA09 Begun : 06/20/10 10:34
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ifk01	X	IB			06/20/10 10:34	1.0	1	
002	ifk02	TUN	BFB			06/20/10 11:05	1.0	2	
003	ifk03	CCV	35PPB			06/20/10 11:32	1.0	3 4 5 6 1	1:CYHEKET=580
004	ifk04	CCV/BS	QC549263	Water	164198	06/20/10 12:05	1.0	7 8 9 1 10	
005	ifk05	BSD	QC549264	Water	164198	06/20/10 12:39	1.0	7 8 9 1 10	
006	ifk06	X	IB			06/20/10 13:13	1.0	1	
007	ifk07	BLANK	QC549262	Water	164198	06/20/10 13:47	1.0	1	
008	ifk08	SAMPLE	220657-011	Water	164198	06/20/10 14:20	1.0	1	headspace <= 1 mL
009	ifk09	SAMPLE	220657-009	Water	164198	06/20/10 14:55	1.0	1	
010	ifk10	SAMPLE	220657-010	Water	164198	06/20/10 15:29	1.0	1	
011	ifk11	SAMPLE	220657-013	Water	164198	06/20/10 16:03	1.0	1	
012	ifk12	SAMPLE	220657-014	Water	164198	06/20/10 16:37	1.0	1	
013	ifk13	SAMPLE	220657-015	Water	164198	06/20/10 17:11	1.0	1	
014	ifk14	MSS	220657-012	Water	164198	06/20/10 17:45	1.0	1	
015	ifk15	SAMPLE	220646-013	Water	164198	06/20/10 18:19	1.0	1	
016	ifk16	SAMPLE	220646-014	Water	164198	06/20/10 18:54	1.0	1	
017	ifk17	SAMPLE	220646-015	Water	164198	06/20/10 19:28	1.0	1	
018	ifk18	SAMPLE	220646-016	Water	164198	06/20/10 20:02	1.0	1	
019	ifk19	SAMPLE	220646-017	Water	164198	06/20/10 20:36	1.0	1	
020	ifk20	SAMPLE	220646-018	Water	164198	06/20/10 21:11	8.333	1	
021	ifk21	MS	QC549277	Water	164198	06/20/10 21:45	1.0	7 8 9 10 1	
022	ifk22	MSD	QC549278	Water	164198	06/20/10 22:19	1.0	7 8 9 10 1	
023	ifk23	X	IB			06/20/10 22:53	1.0	1	
024	ifk24	X	IB			06/20/10 23:27	1.0	1	
025	ifk25	X	IB			06/21/10 00:01	1.0	1	

TDL 06/21/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Analyst: TDL Date: 06/21/10 Reviewer: BJP Date: 06/21/10

Standards used: 1=S14744 2=S13652 3=S14722 4=S14228 5=S14330 6=S14747 7=S14688 8=S14845 9=S14737 10=S14573

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 490027869

Instrument : MSVOA10 Begun : 01/19/10 08:29
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	jaj01	X	IB			01/19/10 08:29	1.0	1
002	jaj02	X	LOW PT			01/19/10 09:26	1.0	1
003	jaj03	X	LOW PT			01/19/10 10:09	1.0	1
004	jaj04	X	LOW PT			01/19/10 10:43	1.0	1
005	jaj05	X	LOW PT			01/19/10 11:49	1.0	1
006	jaj06	X	LOW PT			01/19/10 14:28	1.0	1
007	jaj07	X	LOW PT			01/19/10 15:02	1.0	1
008	jaj08	TUN	BFB			01/19/10 15:39	1.0	2
009	jaj09	X	IB			01/19/10 17:14	1.0	1
010	jaj10	X	IB			01/19/10 17:49	1.0	1
011	jaj11	IB	CALIB IB			01/19/10 18:23	1.0	1
012	jaj12	ICAL	.25/.5PPB			01/19/10 18:58	1.0	3 4 5 6 1
013	jaj13	ICAL	0.5/1PPB			01/19/10 19:32	1.0	3 4 5 6 1
014	jaj14	ICAL	2PPB			01/19/10 20:07	1.0	3 4 5 6 1
015	jaj15	ICAL	5PPB			01/19/10 20:42	1.0	3 4 5 6 1
016	jaj16	ICAL	10PPB			01/19/10 21:17	1.0	3 4 5 6 1
017	jaj17	ICAL	20PPB			01/19/10 21:51	1.0	7 8 9 10 1
018	jaj18	ICAL	50PPB			01/19/10 22:26	1.0	7 8 9 10 1
019	jaj19	ICAL	75PPB			01/19/10 23:01	1.0	7 8 9 10 1
020	jaj20	ICAL	100PPB			01/19/10 23:35	1.0	7 8 9 10 1
021	jaj21	ICV	25PPB			01/20/10 00:10	1.0	11 1
022	jaj22	ICV	25PPB			01/20/10 00:44	1.0	12 13 14 1
023	jaj23	X	IB			01/20/10 01:19	1.0	1
024	jaj24	X	IB			01/20/10 01:54	1.0	1
025	jaj25	X	IB			01/20/10 02:28	1.0	1

BO 01/20/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Analyst: BO Date: 01/20/10 Reviewer: LW Date: 01/22/10
 Standards used: 1=S13615 2=S13652 3=S13745 4=S13746 5=S13747 6=S13748 7=S13680 8=S13586 9=S13625 10=S13503 11=S13817
 12=S13559 13=S13639 14=S13492

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 830238218

Instrument : MSVOA11 Begun : 06/14/10 10:18
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used					
001	kfe01	X	IB			06/14/10 10:18	1.0	1					
002	kfe02	X	IB			06/14/10 10:46	1.0	1					
003	kfe03	X	STD 0.5 PPB			06/14/10 14:02	1.0	1					
004	kfe04	TUN	BFB			06/14/10 16:24	1.0	2					
005	kfe05	TUN	BFB			06/14/10 18:39	1.0	2					
006	kfe06	TUN	BFB			06/14/10 18:58	1.0	2					
007	kfe07	TUN	BFB			06/14/10 19:07	1.0	2					
008	kfe08	TUN	BFB			06/14/10 19:19	1.0	2					
009	kfe09	X	IB			06/14/10 19:52	1.0	1					
010	kfe10	X	IB			06/14/10 20:20	1.0	1					
011	kfe11	X	IB			06/14/10 20:48	1.0	1					
012	kfe12	IB	CALIB			06/14/10 21:16	1.0	1					
013	kfe13	ICAL	.25/.5PPB			06/14/10 21:45	1.0	3	4	5	6	1	
014	kfe14	ICAL	0.5/1PPB			06/14/10 22:13	1.0	3	4	5	6	1	
015	kfe15	ICAL	2PPB			06/14/10 22:41	1.0	3	4	5	6	1	
016	kfe16	ICAL	5PPB			06/14/10 23:09	1.0	3	4	5	6	1	
017	kfe17	ICAL	10PPB			06/14/10 23:37	1.0	3	4	5	6	1	
018	kfe18	ICAL	20PPB			06/15/10 00:05	1.0	7	8	9	10	1	
019	kfe19	ICAL	50PPB			06/15/10 00:33	1.0	7	8	9	10	1	
020	kfe20	ICAL	75PPB			06/15/10 01:01	1.0	7	8	9	10	1	
021	kfe21	ICAL	100PPB			06/15/10 01:29	1.0	7	8	9	10	1	
022	kfe22	ICV	25PPB			06/15/10 01:57	1.0	11	1				
023	kfe23	ICV	25PPB			06/15/10 02:25	1.0	12	13	14	1		
024	kfe24	X	IB			06/15/10 02:53	1.0	1					
025	kfe25	X	IB			06/15/10 03:21	1.0	1					

BJP 06/15/10 : Adjusted tune for kfe06.

BJP 06/15/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Analyst: BJP Date: 06/15/10 Reviewer: LW Date: 06/17/10
 Standards used: 1=S14746 2=S13652 3=S14738 4=S14834 5=S14742 6=S14739 7=S14722 8=S14747 9=S14228 10=S14230 11=S14846
 12=S14688 13=S14594 14=S14573

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 830243964

Instrument : MSVOA11 Begun : 06/18/10 10:04
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	kfi01	X	IB			06/18/10 10:04	1.0	1
002	kfi02	TUN	BFB			06/18/10 10:28	1.0	2
003	kfi03	CCV				06/18/10 10:51	1.0	3 4 5 6 1
004	kfi04	CCV/BS	QC549147	Water	164167	06/18/10 11:29	1.0	7 8 9 1
005	kfi05	BSD	QC549148	Water	164167	06/18/10 12:12	1.0	7 8 9 1
006	kfi06	X	IB			06/18/10 12:41	1.0	1
007	kfi07	BLANK	QC549146	Water	164167	06/18/10 13:20	1.0	1
008	kfi08	SAMPLE	220749-001	Water	164167	06/18/10 13:49	1.0	1
009	kfi09	SAMPLE	220635-003	Water	164167	06/18/10 14:17	2.0	1
010	kfi10	SAMPLE	220633-015	Water	164167	06/18/10 14:45	1.0	1
011	kfi11	SAMPLE	220633-016	Water	164167	06/18/10 15:13	1.0	1
012	kfi12	SAMPLE	220633-017	Water	164167	06/18/10 15:41	1.0	1
013	kfi13	SAMPLE	220633-018	Water	164167	06/18/10 16:09	1.0	1
014	kfi14	SAMPLE	220633-019	Water	164167	06/18/10 16:37	1.0	1
015	kfi15	MSS	220633-010	Water	164167	06/18/10 17:05	1.0	1
016	kfi16	SAMPLE	220749-002	Water	164167	06/18/10 17:33	1.0	1
017	kfi17	SAMPLE	220749-003	Water	164167	06/18/10 18:01	1.0	1
018	kfi18	SAMPLE	220749-004	Water	164167	06/18/10 18:29	1.0	1
019	kfi19	SAMPLE	220749-005	Water	164167	06/18/10 18:57	1.0	1
020	kfi20	SAMPLE	220749-006	Water	164167	06/18/10 19:25	1.0	1
021	kfi21	SAMPLE	220749-007	Water	164167	06/18/10 19:53	1.0	1
022	kfi22	SAMPLE	220657-006	Water	164167	06/18/10 20:21	1.0	1
023	kfi23	SAMPLE	220657-007	Water	164167	06/18/10 20:49	1.0	1
024	kfi24	SAMPLE	220657-008	Water	164167	06/18/10 21:17	1.0	1
025	kfi25	MS	QC549173	Water	164167	06/18/10 21:45	1.0	7 8 9 1
026	kfi26	MSD	QC549174	Water	164167	06/18/10 22:13	1.0	7 8 9 1
027	kfi27	X	IB			06/18/10 22:41	1.0	1
028	kfi28	X	IB			06/18/10 23:09	1.0	1
029	kfi29	X	IB			06/18/10 23:37	1.0	1
030	kfi30	X	IB			06/19/10 00:06	1.0	1

MCT 06/21/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Analyst: MCT Date: 06/21/10 Reviewer: BO Date: 06/21/10

Standards used: 1=S14746 2=S13652 3=S14747 4=S14228 5=S14722 6=S14230 7=S14573 8=S14688 9=S14846

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 830248287

Instrument : MSVOA11 Begun : 06/21/10 10:07
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	kfl101	X	IB			06/21/10 10:07	1.0	1	
002	kfl102	TUN	BFB			06/21/10 10:34	1.0	2	
003	kfl103	CCV				06/21/10 11:01	1.0	3 4 5 6 1	
004	kfl104	CCV/BS	QC549403	Water	164228	06/21/10 11:29	1.0	7 8 9 1	
005	kfl105	BSD	QC549404	Water	164228	06/21/10 11:57	1.0	7 8 9 1	
006	kfl106	TUN	BFB			06/21/10 12:20	1.0	2	
007	kfl107	CCV				06/21/10 12:44	1.0	3 4 5 6 1	
008	kfl108	CCV/BS	QC549403	Water	164228	06/21/10 13:12	1.0	7 8 9 1	
009	kfl109	TUN	BFB			06/21/10 13:54	1.0	2	
010	kfl110	TUN	BFB			06/21/10 14:09	1.0	2	
011	kfl111	TUN	BFB			06/21/10 14:22	1.0	2	
012	kfl112	TUN	BFB			06/21/10 14:35	1.0	2	
013	kfl113	CCV				06/21/10 14:57	1.0	3 4 5 6 1	
014	kfl114	CCV/BS	QC549403	Water	164228	06/21/10 15:25	1.0	7 8 9 1	
015	kfl115	BSD	QC549404	Water	164228	06/21/10 16:06	1.0	7 8 9 1	
016	kfl116	X	IB			06/21/10 16:34	1.0	1	
017	kfl117	BLANK	QC549402	Water	164228	06/21/10 17:02	1.0	1	
018	kfl118	SAMPLE	220821-006	Water	164228	06/21/10 17:30	1.0	1	
019	kfl119	SAMPLE	220658-001	Water	164228	06/21/10 17:58	1.0	1	headspace <= 1 mL
020	kfl120	SAMPLE	220658-002	Water	164228	06/21/10 18:26	1.0	1	
021	kfl121	SAMPLE	220657-020	Water	164228	06/21/10 18:54	1.0	1	
022	kfl122	MSS	220657-019	Water	164228	06/21/10 19:22	1.0	1	
023	kfl123	SAMPLE	220780-002	Water	164228	06/21/10 19:50	1.0	1	
024	kfl124	SAMPLE	220657-014	Water	164228	06/21/10 20:18	1.0	1	
025	kfl125	SAMPLE	220657-015	Water	164228	06/21/10 20:46	1.0	1	
026	kfl126	SAMPLE	220702-004	Water	164228	06/21/10 21:14	5.0	1	1:TCE=100
027	kfl127	SAMPLE	220702-005	Water	164228	06/21/10 21:42	33.33	1	
028	kfl128	SAMPLE	220702-003	Water	164228	06/21/10 22:11	200.0	1	
029	kfl129	SAMPLE	220780-001	Water	164228	06/21/10 22:39	2.0	1	1:TCA111=130
030	kfl130	SAMPLE	220821-001	Water	164228	06/21/10 23:07	5.0	1	2:VA=290
031	kfl131	SAMPLE	220821-004	Water	164228	06/21/10 23:35	625.0	1	pH > 2, 1:ACE=870
032	kfl132	SAMPLE	220821-005	Water	164228	06/22/10 00:03	625.0	1	
033	kfl133	SAMPLE	220821-002	Water	164228	06/22/10 00:31	333.3	1	
034	kfl134	SAMPLE	220821-003	Water	164228	06/22/10 00:59	142.9	1	4:ISOPROH=5100
035	kfl135	MS	QC549456	Water	164228	06/22/10 01:27	1.0	7 8 9 1	
036	kfl136	MSD	QC549457	Water	164228	06/22/10 01:55	1.0	7 8 9 1	
037	kfl137	X	IB			06/22/10 02:23	1.0	1	
038	kfl138	X	IB			06/22/10 02:51	1.0	1	

MCT 06/22/10 : Adjusted tune file # kfl112

MCT 06/22/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 38.

Analyst: MCT Date: 06/22/10 Reviewer: LW Date: 06/22/10

Standards used: 1=S14746 2=S13652 3=S14747 4=S14228 5=S14722 6=S14230 7=S14573 8=S14688 9=S14846

GC/MS VOLATILE ORGANICS

Batch #: 104161

Water Sample Prep Sheet

Initials & Date
 TDL 6/18/10
 TDL 6/19/10
 TDL 6/2

Sample Number	Sample Vial	pH	Head space?	Shelf	Diln Flask	MS#	Comments
1	M4 220621-18						
2	M50	← 2				9	REPAIR check
3	220746-1	← 2		14			ix TB
4							
5							
6							
7							
8							
9							
10							
11	220657-1						
12				11			ix TB
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							



GC/MS VOLATILE ORGANICS

Batch #: 164167

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
1	220635-003	<2			3	11	RA @ 2x for TCE (stand/stand)	W.S. 6/18/08
2	220633-015	<2						
3	-016							
4	-017							
5	-018							
6	-019							
7	-010							
8	-010 (stand/stand)							
9	220749-001	<2						
10	-002							
11	-003							
12	-004							
13	-005							
14	-006							
15	-007							
16	220657-006							
17	-007							
18	-008							
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								

GC/MS VOLATILE ORGANICS

Batch #: 164198

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Ret off	Initials & Date
1	220746-8	C	LV	14		9	RC 21x	CLEAN MB.	
2	220747-2	B		14					
3		↓							
4		C	LV						
5		E							
6		B	LV						
7	220657-9	↓		11		9			
8		↓							
9		A							
10		B							
11		↓							
12		↓							
13		↓							
14	M5/M5B	C, D, E							
15	220646-13	B							
16		A							
17		C							
18		B							
19		↓							
20		C			1				
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									

VOA Water Prep Sheet_050508-2

Curtis & Tompkins, Ltd.

RV.3, Effective 5/05/08

GC/MS VOLATILE ORGANICS

Batch #: 164202

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
220702-2	B	<2		13	4	11	PRE 1x ✓ C.O.	Tew 6-20-10
↓ -3		<2					20x > LR	
↓ -7							1x to confirm	
220723-21	↓		LV	13			1x C.O.	
220669-1	D			12			↓ 1x I to MDL C.O. ✓	
↓ -2	C						1x MSS (fridge)	
M5/MSD	D, E, F	<2					↓	
220702-4	A	<2		13	10		4x	
↓ -5	↓						33.3x	
220669-3	C	<2		12			TB (first batch)	
220702-6	B	<2	LV		1		PRE 10x cis-1,2-DCE + TCE > LR	
220802-1	A			10			1x	
↓ -2	↓						↓ TB	
↓ -3	↓		LV				1x	
220657-16	B	<2		11	2		2x	
↓ -17	↓						1x ED	
↓ -18	↓						↓ MSS Put off	
↓ -19	↓						↓	
↓ -20	↓						↓	
M5/MSD	C, D, E	<2					↓	



Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

**Laboratory Job Number 220658
ANALYTICAL REPORT**

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 397664.CL.90.DM.02
Location : CERCLA Quarterly
Level : III

<u>Sample ID</u>	<u>Lab ID</u>
TB-010-GW-10Q2	220658-001
ASE-84A-GW-10Q2	220658-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Senior Program Manager

Date: 06/24/2010

NELAP # 01107CA

CASE NARRATIVE

Laboratory number: 220658
Client: CH2M Hill
Project: 397664.CL.90.DM.02
Location: CERCLA Quarterly
Request Date: 06/10/10
Samples Received: 06/10/10

This data package contains sample and QC results for two water samples, requested for the above referenced project on 06/10/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

Volatile Organics by GC/MS (EPA 8260B):

Low response was observed for iodomethane in the ICV analyzed 06/15/10 02:25; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low response was observed for vinyl acetate in the ICV analyzed 06/17/10 03:08; affected data was qualified with "b".

High responses were observed for a number of analytes in the CCV analyzed 06/21/10 15:25; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

High responses were observed for many analytes in the CCV analyzed 06/22/10 12:32; affected data was qualified with "b".

High recoveries were observed for a number of analytes in the BS/BSD for batch 164228; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples.

Low recovery was observed for iodomethane in the MS for batch 164228; the parent sample was not a project sample, and the BS/BSD were within limits. High recoveries were observed for many analytes in the MS/MSD for batch 164228. High RPD was observed for acetone, bromomethane, and iodomethane; the RPD was acceptable in the BS/BSD, and these analytes were not detected at or above the RL in the associated samples.

High recoveries were observed for many analytes in the BS/BSD for batch 164269; the associated RPDs were within limits, and these high recoveries were not associated with any reported results.

No other analytical problems were encountered.

Chain of Custody

220658

37380-100609

Curtis & Tompkins Laboratories
 2323 5th St.
 Berkeley, CA 94710
 510-204-2221

Honeywell Chain Of Custody / Analysis Request

Privileged & Confidential

Sampling Co.: CH2MHILL
 Client Contact: (name, co., address)
 CH2M HILL
 2625 South Plaza Drive, Suite 300
 Tempe, AZ 85282

Site Name: Sky Harbor AZ
 Location of Site: PHOENIX, AZ
 Phase: Sampling Program
 CERCCLA Quarterly

PO #
 Analysis Turnaround Time (TAT): 10
 Consultant

PO: 5101516, PN: 397664, CL: 90, DM: 02, CC: 6400

Sample Receipt
 Hard Copy To
 Invoice To:

ES&I Ref: 40336.60323
 COC#: 37380
 Lab Proj # (SDG):
 Lab ID
 Site ID
 Lab Job #
 Authorized User: Honeywell
 Text & Excel File Drive
 Excel & Text File Order

Location ID	Sample Identification		Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Field Filled Sample ?	Total VOCs (SW8260B)	Copyright AES: Version 10.0 (11-25-06) Unauthorized use strictly prohibited.	Sampling Method (code)	Lab Sample Numbers
	Start Depth (ft)	End Depth (ft)													
1	GN-100Z	-	TR-010-6W-100Z	060910	0415	BIKWATER GW-GWS	WATER	TB	1	LN	X				
2	ASE-84A	-	ASE-84A-6W-100Z	060910	0426	GW-GWS	WATER	REG	3	LN	X				
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

Relinquished by: *[Signature]* Company: CH2MHILL
 Date/Time: 06/09/10

Received by: *[Signature]* Company: *[Signature]*
 Date/Time: 06/10/10

Condition: Cooler Temp.
 Condition: Cooler Temp.

Custody Seals Intact
 Custody Seals Intact

Preservatives: (Other, Specify):
 0 (None); 1 (4 Deg C); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, pH>12); 7 (H2SO4, pH<2, 4 Deg C); 8 (HCl, pH<2, 4 Deg C); 9 (HCl, 4 Deg C); 10 (HNO3, pH<2, 4 Deg C); 11 (NaOH, pH>12, 4 Deg C); 12 (H2SO4, pH<2, 4 Deg C); 13 (Zn Acetate); 14 (1-MeOH, 4 Deg C and 2-NaHSO4, 4 Deg C); 15 (NaOH, pH>12, 4 Deg C); sp (special instructions)

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 220658 Date Received 6/10/10 Number of coolers 4
Client CH2M AZ Honeywell Project _____

Date Opened 6-10-10 By (print) S. EVANS (sign) _____
Date Logged in J By (print) _____ (sign) _____

1. Did cooler come with a shipping slip (airbill, etc) FedEx# YES NO
Shipping info 8726 Sabu 8364

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 1 ea Name SIGNATURE Date 6-9-10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(°C) 3.0, 1.5, 0.8, 1.1

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO

If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Sample # 001 : 1/1 VOAs have bubbles

Laboratory Job Number 220658

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Purgeable Organics by GC/MS

Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Field ID:	TB-010-GW-10Q2	Batch#:	164228
Lab ID:	220658-001	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	L1
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Field ID:	TB-010-GW-10Q2	Batch#:	164228
Lab ID:	220658-001	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	112	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	94	83-125	
Bromofluorobenzene	116	78-120	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Field ID:	ASE-84A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220658-002	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ	Flags
Freon 12	ND	1.0	164228	06/21/10		
Chloromethane	ND	1.0	164228	06/21/10		
Vinyl Chloride	ND	0.5	164228	06/21/10		
Bromomethane	ND	1.0	164269	06/22/10		
Chloroethane	ND	1.0	164228	06/21/10		
Trichlorofluoromethane	ND	1.0	164228	06/21/10		
Iodomethane	ND	10	164269	06/22/10		
Acetone	ND	10	164228	06/21/10		V1
1,1-Dichloroethene	ND	0.5	164228	06/21/10		
Methylene Chloride	ND	10	164228	06/21/10		
Carbon Disulfide	ND	0.5	164228	06/21/10		
MTBE	13	0.5	164228	06/21/10		
trans-1,2-Dichloroethene	ND	0.5	164228	06/21/10		
Vinyl Acetate	ND	10	164228	06/21/10		L1 V1
1,1-Dichloroethane	7.9	0.5	164228	06/21/10		
2-Butanone	ND	10	164228	06/21/10		L1 V1
cis-1,2-Dichloroethene	ND	0.5	164228	06/21/10		
2,2-Dichloropropane	ND	0.5	164228	06/21/10		L1 V1
Chloroform	0.6	0.5	164228	06/21/10		
Bromochloromethane	ND	0.5	164228	06/21/10		L1
1,1,1-Trichloroethane	ND	0.5	164228	06/21/10		
1,1-Dichloropropene	ND	0.5	164228	06/21/10		
Carbon Tetrachloride	ND	0.5	164228	06/21/10		
1,2-Dichloroethane	ND	0.5	164228	06/21/10		
Benzene	ND	0.5	164228	06/21/10		
Trichloroethene	1.3	0.5	164228	06/21/10		
1,2-Dichloropropane	ND	0.5	164228	06/21/10		
Bromodichloromethane	ND	0.5	164228	06/21/10		
Dibromomethane	ND	0.5	164228	06/21/10		
4-Methyl-2-Pentanone	ND	10	164228	06/21/10		
cis-1,3-Dichloropropene	ND	0.5	164228	06/21/10		
Toluene	ND	0.5	164228	06/21/10		
trans-1,3-Dichloropropene	ND	0.5	164228	06/21/10		
1,1,2-Trichloroethane	ND	0.5	164228	06/21/10		
2-Hexanone	ND	10	164228	06/21/10		
1,3-Dichloropropane	ND	0.5	164228	06/21/10		
Tetrachloroethene	ND	0.5	164228	06/21/10		
Dibromochloromethane	ND	0.5	164228	06/21/10		
1,2-Dibromoethane	ND	0.5	164228	06/21/10		
Chlorobenzene	ND	0.5	164228	06/21/10		
1,1,1,2-Tetrachloroethane	ND	0.5	164228	06/21/10		
Ethylbenzene	ND	0.5	164228	06/21/10		
m,p-Xylenes	ND	0.5	164228	06/21/10		
o-Xylene	ND	0.5	164228	06/21/10		
Styrene	ND	0.5	164228	06/21/10		
Bromoform	ND	1.0	164228	06/21/10		
Isopropylbenzene	ND	0.5	164228	06/21/10		
1,1,2,2-Tetrachloroethane	ND	0.5	164228	06/21/10		
1,2,3-Trichloropropane	ND	0.5	164228	06/21/10		
Propylbenzene	ND	0.5	164228	06/21/10		
Bromobenzene	ND	0.5	164228	06/21/10		
1,3,5-Trimethylbenzene	ND	0.5	164228	06/21/10		
2-Chlorotoluene	ND	0.5	164228	06/21/10		
4-Chlorotoluene	ND	0.5	164228	06/21/10		
tert-Butylbenzene	ND	0.5	164228	06/21/10		

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Field ID:	ASE-84A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220658-002	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	ND	0.5	164228	06/21/10	
sec-Butylbenzene	ND	0.5	164228	06/21/10	
para-Isopropyl Toluene	ND	0.5	164228	06/21/10	
1,3-Dichlorobenzene	ND	0.5	164228	06/21/10	
1,4-Dichlorobenzene	ND	0.5	164228	06/21/10	
n-Butylbenzene	ND	0.5	164228	06/21/10	
1,2-Dichlorobenzene	ND	0.5	164228	06/21/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	164228	06/21/10	
1,2,4-Trichlorobenzene	ND	0.5	164228	06/21/10	
Hexachlorobutadiene	ND	2.0	164228	06/21/10	
Naphthalene	ND	2.0	164228	06/21/10	
1,2,3-Trichlorobenzene	ND	0.5	164228	06/21/10	
Xylene (total)	ND	0.5	164228	06/21/10	

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	111	77-120	164228	06/21/10	
Dibromofluoromethane	104	77-120	164269	06/22/10	
1,2-Dichloroethane-d4	103	70-127	164228	06/21/10	
1,2-Dichloroethane-d4	106	70-127	164269	06/22/10	
Toluene-d8	94	83-125	164228	06/21/10	
Toluene-d8	109	83-125	164269	06/22/10	
Bromofluorobenzene	116	78-120	164228	06/21/10	
Bromofluorobenzene	105	78-120	164269	06/22/10	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549402	Batch#:	164228
Matrix:	Water	Analyzed:	06/21/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	L1 V1
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	L1
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549402	Batch#:	164228
Matrix:	Water	Analyzed:	06/21/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	112	77-120	
1,2-Dichloroethane-d4	103	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	111	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164228
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549403

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	27.29	109	56-140		
Chloromethane	25.00	28.00	112	46-142		
Vinyl Chloride	25.00	25.73	103	49-136		
Bromomethane	25.00	31.30	b 125	42-154	V3	
Chloroethane	25.00	29.67	119	51-133		
Trichlorofluoromethane	25.00	27.61	110	63-135		
Iodomethane	25.00	27.32	b 109	70-130		
Acetone	25.00	30.97	b 124	48-130	V3	
1,1-Dichloroethene	25.00	26.13	105	68-133		
Methylene Chloride	25.00	28.67	115	71-120		
Carbon Disulfide	25.00	21.94	88	56-120		
MTBE	25.00	27.27	109	58-120		
trans-1,2-Dichloroethene	25.00	28.29	113	80-120		
Vinyl Acetate	25.00	34.38	b 138 *	63-124	L1	V3
1,1-Dichloroethane	25.00	28.74	115	77-120		
2-Butanone	25.00	31.09	b 124 *	57-120	L1	V3
cis-1,2-Dichloroethene	25.00	29.42	118	75-120		
2,2-Dichloropropane	25.00	33.16	b 133 *	72-128	L1	V3
Chloroform	25.00	29.00	116	78-120		
Bromochloromethane	25.00	29.91	120	78-120		
1,1,1-Trichloroethane	25.00	28.13	113	78-120		
1,1-Dichloropropene	25.00	25.48	102	75-120		
Carbon Tetrachloride	25.00	26.33	105	80-120		
1,2-Dichloroethane	25.00	26.68	107	74-120		
Benzene	25.00	26.24	105	77-120		
Trichloroethene	25.00	25.81	103	78-122		
1,2-Dichloropropane	25.00	25.06	100	76-120		
Bromodichloromethane	25.00	26.92	108	78-120		
Dibromomethane	25.00	26.92	108	77-120		
4-Methyl-2-Pentanone	25.00	27.56	110	65-120		
cis-1,3-Dichloropropene	25.00	27.30	109	76-120		
Toluene	25.00	23.91	96	73-120		
trans-1,3-Dichloropropene	25.00	23.02	92	72-120		
1,1,2-Trichloroethane	25.00	23.97	96	76-120		
2-Hexanone	25.00	26.37	105	57-121		
1,3-Dichloropropane	25.00	24.11	96	75-120		
Tetrachloroethene	25.00	23.32	93	77-120		
Dibromochloromethane	25.00	24.37	97	76-120		
1,2-Dibromoethane	25.00	24.10	96	77-120		
Chlorobenzene	25.00	24.04	96	78-120		
1,1,1,2-Tetrachloroethane	25.00	23.65	95	77-120		
Ethylbenzene	25.00	23.97	96	78-120		
m,p-Xylenes	50.00	48.19	96	77-120		
o-Xylene	25.00	24.39	98	77-120		
Styrene	25.00	24.35	97	77-120		
Bromoform	25.00	25.40	102	74-121		
Isopropylbenzene	25.00	20.54	82	71-120		
1,1,2,2-Tetrachloroethane	25.00	23.55	94	73-120		
1,2,3-Trichloropropane	25.00	23.27	93	72-120		
Propylbenzene	25.00	23.03	92	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164228
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	23.63	95	75-120	
1,3,5-Trimethylbenzene	25.00	23.11	92	77-120	
2-Chlorotoluene	25.00	23.75	95	76-120	
4-Chlorotoluene	25.00	23.26	93	78-120	
tert-Butylbenzene	25.00	23.74	95	76-120	
1,2,4-Trimethylbenzene	25.00	23.35	93	77-120	
sec-Butylbenzene	25.00	23.92	96	80-120	
para-Isopropyl Toluene	25.00	22.74	91	76-120	
1,3-Dichlorobenzene	25.00	23.30	93	75-120	
1,4-Dichlorobenzene	25.00	23.21	93	77-120	
n-Butylbenzene	25.00	23.63	95	76-120	
1,2-Dichlorobenzene	25.00	23.73	95	76-120	
1,2-Dibromo-3-Chloropropane	25.00	23.21	93	65-120	
1,2,4-Trichlorobenzene	25.00	23.50	94	73-121	
Hexachlorobutadiene	25.00	23.26	93	73-123	
Naphthalene	25.00	24.95	100	62-121	
1,2,3-Trichlorobenzene	25.00	24.59	98	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	109	77-120	
1,2-Dichloroethane-d4	101	70-127	
Toluene-d8	93	83-125	
Bromofluorobenzene	98	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164228
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549404

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	28.09	112	56-140	3	24		
Chloromethane	25.00	29.40	118	46-142	5	24		
Vinyl Chloride	25.00	26.80	107	49-136	4	24		
Bromomethane	25.00	31.24 b	125	42-154	0	24	V3	
Chloroethane	25.00	29.94	120	51-133	1	25		
Trichlorofluoromethane	25.00	28.38	114	63-135	3	20		
Iodomethane	25.00	29.50 b	118	70-130	8	20		
Acetone	25.00	30.16 b	121	48-130	3	41	V3	
1,1-Dichloroethene	25.00	26.93	108	68-133	3	20		
Methylene Chloride	25.00	28.77	115	71-120	0	20		
Carbon Disulfide	25.00	22.54	90	56-120	3	20		
MTBE	25.00	27.69	111	58-120	2	21		
trans-1,2-Dichloroethene	25.00	28.65	115	80-120	1	24		
Vinyl Acetate	25.00	33.16 b	133	* 63-124	4	24	L1	V3
1,1-Dichloroethane	25.00	29.82	119	77-120	4	20		
2-Butanone	25.00	31.77 b	127	* 57-120	2	32	L1	V3
cis-1,2-Dichloroethene	25.00	29.69	119	75-120	1	20		
2,2-Dichloropropane	25.00	33.64 b	135	* 72-128	1	24	L1	V3
Chloroform	25.00	29.88	120	78-120	3	20		
Bromochloromethane	25.00	31.01	124	* 78-120	4	20	L1	
1,1,1-Trichloroethane	25.00	28.89	116	78-120	3	20		
1,1-Dichloropropene	25.00	26.14	105	75-120	3	21		
Carbon Tetrachloride	25.00	27.46	110	80-120	4	21		
1,2-Dichloroethane	25.00	26.77	107	74-120	0	20		
Benzene	25.00	27.05	108	77-120	3	20		
Trichloroethene	25.00	26.82	107	78-122	4	20		
1,2-Dichloropropane	25.00	25.96	104	76-120	4	20		
Bromodichloromethane	25.00	27.14	109	78-120	1	20		
Dibromomethane	25.00	27.12	108	77-120	1	20		
4-Methyl-2-Pentanone	25.00	28.18	113	65-120	2	22		
cis-1,3-Dichloropropene	25.00	27.17	109	76-120	0	20		
Toluene	25.00	24.48	98	73-120	2	20		
trans-1,3-Dichloropropene	25.00	23.08	92	72-120	0	20		
1,1,2-Trichloroethane	25.00	24.21	97	76-120	1	20		
2-Hexanone	25.00	26.85	107	57-121	2	25		
1,3-Dichloropropane	25.00	24.73	99	75-120	3	20		
Tetrachloroethene	25.00	24.28	97	77-120	4	20		
Dibromochloromethane	25.00	24.51	98	76-120	1	20		
1,2-Dibromoethane	25.00	24.53	98	77-120	2	20		
Chlorobenzene	25.00	24.67	99	78-120	3	20		
1,1,1,2-Tetrachloroethane	25.00	23.94	96	77-120	1	20		
Ethylbenzene	25.00	24.59	98	78-120	3	26		
m,p-Xylenes	50.00	49.55	99	77-120	3	20		
o-Xylene	25.00	24.86	99	77-120	2	20		
Styrene	25.00	24.91	100	77-120	2	20		
Bromoform	25.00	25.69	103	74-121	1	21		
Isopropylbenzene	25.00	20.83	83	71-120	1	20		
1,1,2,2-Tetrachloroethane	25.00	23.58	94	73-120	0	20		
1,2,3-Trichloropropane	25.00	23.63	95	72-120	2	20		
Propylbenzene	25.00	23.33	93	76-120	1	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164228
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	24.17	97	75-120	2	20		
1,3,5-Trimethylbenzene	25.00	24.06	96	77-120	4	20		
2-Chlorotoluene	25.00	24.11	96	76-120	2	20		
4-Chlorotoluene	25.00	23.81	95	78-120	2	20		
tert-Butylbenzene	25.00	23.78	95	76-120	0	21		
1,2,4-Trimethylbenzene	25.00	24.16	97	77-120	3	20		
sec-Butylbenzene	25.00	24.08	96	80-120	1	21		
para-Isopropyl Toluene	25.00	23.23	93	76-120	2	20		
1,3-Dichlorobenzene	25.00	23.79	95	75-120	2	20		
1,4-Dichlorobenzene	25.00	23.59	94	77-120	2	23		
n-Butylbenzene	25.00	24.16	97	76-120	2	21		
1,2-Dichlorobenzene	25.00	24.19	97	76-120	2	20		
1,2-Dibromo-3-Chloropropane	25.00	23.19	93	65-120	0	22		
1,2,4-Trichlorobenzene	25.00	23.05	92	73-121	2	20		
Hexachlorobutadiene	25.00	23.02	92	73-123	1	25		
Naphthalene	25.00	22.92	92	62-121	8	32		
1,2,3-Trichlorobenzene	25.00	23.79	95	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	110	77-120		
1,2-Dichloroethane-d4	101	70-127		
Toluene-d8	93	83-125		
Bromofluorobenzene	97	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164228
MSS Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549456

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1104	25.00	31.00	124	56-140		
Chloromethane	0.1122	25.00	28.43	113	46-142		
Vinyl Chloride	<0.1000	25.00	27.33	109	49-136		
Bromomethane	2.476	25.00	13.88 b	46	42-154	V3	
Chloroethane	<0.1012	25.00	33.38	134 *	51-133	M1	
Trichlorofluoromethane	<0.1000	25.00	31.01	124	63-135		
Iodomethane	4.856	25.00	9.228 b	17 *	60-140	M2	
Acetone	<0.5288	25.00	62.15 b	249 *	48-130	M1	V3
1,1-Dichloroethene	0.3878	25.00	30.27	120	68-133		
Methylene Chloride	<0.1261	25.00	31.55	126 *	71-120	M1	
Carbon Disulfide	<0.1000	25.00	25.01	100	56-120		
MTBE	4.291	25.00	33.93	119	58-120		
trans-1,2-Dichloroethene	<0.1000	25.00	31.36	125 *	80-120	M1	
Vinyl Acetate	<0.1904	25.00	33.01 b	132 *	63-124	M1	V3
1,1-Dichloroethane	0.3013	25.00	32.48	129 *	77-120	M1	
2-Butanone	<0.2122	25.00	30.99 b	124 *	57-120	M1	V3
cis-1,2-Dichloroethene	0.1105	25.00	32.19	128 *	75-120	M1	
2,2-Dichloropropane	<0.1208	25.00	31.51 b	126	72-128	V3	
Chloroform	0.2398	25.00	32.54	129 *	78-120	M1	
Bromochloromethane	<0.1603	25.00	33.42	134 *	78-120	M1	
1,1,1-Trichloroethane	<0.1471	25.00	31.52	126 *	78-120	M1	
1,1-Dichloropropene	<0.1000	25.00	27.94	112	75-120		
Carbon Tetrachloride	<0.1000	25.00	29.22	117	80-120		
1,2-Dichloroethane	<0.1000	25.00	28.46	114	74-120		
Benzene	8.478	25.00	37.78	117	77-120		
Trichloroethene	1.910	25.00	29.05	109	78-122		
1,2-Dichloropropane	<0.1000	25.00	27.21	109	76-120		
Bromodichloromethane	<0.1000	25.00	28.63	115	78-120		
Dibromomethane	<0.1456	25.00	28.71	115	77-120		
4-Methyl-2-Pentanone	<0.1556	25.00	28.87	115	65-120		
cis-1,3-Dichloropropene	<0.1126	25.00	27.49	110	76-120		
Toluene	<0.1000	25.00	25.12	100	73-120		
trans-1,3-Dichloropropene	<0.1000	25.00	22.38	90	72-120		
1,1,2-Trichloroethane	<0.1000	25.00	24.56	98	76-120		
2-Hexanone	<0.1698	25.00	24.91	100	57-121		
1,3-Dichloropropane	<0.1000	25.00	24.80	99	75-120		
Tetrachloroethene	0.6543	25.00	24.11	94	77-120		
Dibromochloromethane	<0.1000	25.00	24.31	97	76-120		
1,2-Dibromoethane	<0.1252	25.00	24.13	97	77-120		
Chlorobenzene	<0.1000	25.00	24.88	100	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	25.00	24.31	97	77-120		
Ethylbenzene	0.1427	25.00	24.97	99	78-120		
m,p-Xylenes	<0.1309	50.00	49.89	100	77-120		
o-Xylene	<0.1000	25.00	25.10	100	77-120		
Styrene	<0.1578	25.00	24.51	98	77-120		
Bromoform	<0.1000	25.00	24.80	99	74-121		
Isopropylbenzene	3.827	25.00	25.10	85	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	25.00	24.61	98	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164228
MSS Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
1,2,3-Trichloropropane	<0.1043	25.00	24.37	97	72-120		
Propylbenzene	2.665	25.00	26.24	94	76-120		
Bromobenzene	<0.1000	25.00	24.24	97	75-120		
1,3,5-Trimethylbenzene	0.2086	25.00	23.92	95	77-120		
2-Chlorotoluene	<0.1000	25.00	24.39	98	76-120		
4-Chlorotoluene	<0.1000	25.00	23.80	95	78-120		
tert-Butylbenzene	<0.1000	25.00	24.53	98	76-120		
1,2,4-Trimethylbenzene	0.6696	25.00	24.34	95	77-120		
sec-Butylbenzene	0.7419	25.00	24.98	97	80-120		
para-Isopropyl Toluene	<0.1000	25.00	22.74	91	76-120		
1,3-Dichlorobenzene	<0.1018	25.00	23.43	94	75-120		
1,4-Dichlorobenzene	<0.1000	25.00	23.20	93	77-120		
n-Butylbenzene	0.3661	25.00	23.25	92	76-120		
1,2-Dichlorobenzene	<0.1000	25.00	24.13	97	76-120		
1,2-Dibromo-3-Chloropropane	<0.1766	25.00	23.42	94	65-120		
1,2,4-Trichlorobenzene	<0.1000	25.00	20.41	82	73-121		
Hexachlorobutadiene	<0.2383	25.00	21.89	88	73-123		
Naphthalene	3.139	25.00	22.70	78	62-121		
1,2,3-Trichlorobenzene	<0.1000	25.00	21.31	85	66-123		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	114	77-120		
1,2-Dichloroethane-d4	103	70-127		
Toluene-d8	92	83-125		
Bromofluorobenzene	100	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164228
MSS Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549457

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	29.61	118	56-140	5	24		
Chloromethane	25.00	27.36	109	46-142	4	24		
Vinyl Chloride	25.00	26.53	106	49-136	3	24		
Bromomethane	25.00	18.99 b	66	42-154	31 *	24	R5	V3
Chloroethane	25.00	31.56	126	51-133	6	25		
Trichlorofluoromethane	25.00	29.96	120	63-135	3	20		
Iodomethane	25.00	23.29 b	74	60-140	86 *	30	R2	
Acetone	25.00	33.63 b	135 *	48-130	60 *	41	M1	R2 V3
1,1-Dichloroethene	25.00	28.49	112	68-133	6	20		
Methylene Chloride	25.00	30.98	124 *	71-120	2	20	M1	
Carbon Disulfide	25.00	23.43	94	56-120	7	20		
MTBE	25.00	33.91	118	58-120	0	21		
trans-1,2-Dichloroethene	25.00	29.82	119	80-120	5	24		
Vinyl Acetate	25.00	32.68 b	131 *	63-124	1	24	M1	V3
1,1-Dichloroethane	25.00	31.49	125 *	77-120	3	20	M1	
2-Butanone	25.00	31.50 b	126 *	57-120	2	32	M1	V3
cis-1,2-Dichloroethene	25.00	31.47	125 *	75-120	2	20	M1	
2,2-Dichloropropane	25.00	29.15 b	117	72-128	8	24	V3	
Chloroform	25.00	31.65	126 *	78-120	3	20	M1	
Bromochloromethane	25.00	33.12	132 *	78-120	1	20	M1	
1,1,1-Trichloroethane	25.00	30.26	121 *	78-120	4	20	M1	
1,1-Dichloropropene	25.00	26.48	106	75-120	5	21		
Carbon Tetrachloride	25.00	27.89	112	80-120	5	21		
1,2-Dichloroethane	25.00	27.79	111	74-120	2	20		
Benzene	25.00	36.57	112	77-120	3	20		
Trichloroethene	25.00	27.88	104	78-122	4	20		
1,2-Dichloropropane	25.00	27.01	108	76-120	1	20		
Bromodichloromethane	25.00	28.25	113	78-120	1	20		
Dibromomethane	25.00	29.03	116	77-120	1	20		
4-Methyl-2-Pentanone	25.00	29.00	116	65-120	0	22		
cis-1,3-Dichloropropene	25.00	27.16	109	76-120	1	20		
Toluene	25.00	24.29	97	73-120	3	20		
trans-1,3-Dichloropropene	25.00	22.28	89	72-120	0	20		
1,1,2-Trichloroethane	25.00	24.47	98	76-120	0	20		
2-Hexanone	25.00	25.62	102	57-121	3	25		
1,3-Dichloropropane	25.00	24.90	100	75-120	0	20		
Tetrachloroethene	25.00	23.14	90	77-120	4	20		
Dibromochloromethane	25.00	24.61	98	76-120	1	20		
1,2-Dibromoethane	25.00	24.57	98	77-120	2	20		
Chlorobenzene	25.00	24.23	97	78-120	3	20		
1,1,1,2-Tetrachloroethane	25.00	24.17	97	77-120	1	20		
Ethylbenzene	25.00	24.20	96	78-120	3	26		
m,p-Xylenes	50.00	47.93	96	77-120	4	20		
o-Xylene	25.00	24.14	97	77-120	4	20		
Styrene	25.00	23.80	95	77-120	3	20		
Bromoform	25.00	25.46	102	74-121	3	21		
Isopropylbenzene	25.00	24.37	82	71-120	3	20		
1,1,1,2,2-Tetrachloroethane	25.00	25.07	100	73-120	2	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164228
MSS Lab ID:	220657-019	Sampled:	06/09/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	25.00	24.68	99	72-120	1	20		
Propylbenzene	25.00	25.27	90	76-120	4	20		
Bromobenzene	25.00	24.31	97	75-120	0	20		
1,3,5-Trimethylbenzene	25.00	22.77	90	77-120	5	20		
2-Chlorotoluene	25.00	23.59	94	76-120	3	20		
4-Chlorotoluene	25.00	23.25	93	78-120	2	20		
tert-Butylbenzene	25.00	23.58	94	76-120	4	21		
1,2,4-Trimethylbenzene	25.00	23.20	90	77-120	5	20		
sec-Butylbenzene	25.00	23.97	93	80-120	4	21		
para-Isopropyl Toluene	25.00	21.57	86	76-120	5	20		
1,3-Dichlorobenzene	25.00	23.41	94	75-120	0	20		
1,4-Dichlorobenzene	25.00	22.89	92	77-120	1	23		
n-Butylbenzene	25.00	22.22	87	76-120	5	21		
1,2-Dichlorobenzene	25.00	23.93	96	76-120	1	20		
1,2-Dibromo-3-Chloropropane	25.00	24.09	96	65-120	3	22		
1,2,4-Trichlorobenzene	25.00	20.09	80	73-121	2	20		
Hexachlorobutadiene	25.00	21.20	85	73-123	3	25		
Naphthalene	25.00	23.25	80	62-121	2	32		
1,2,3-Trichlorobenzene	25.00	21.01	84	66-123	1	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	114	77-120		
1,2-Dichloroethane-d4	103	70-127		
Toluene-d8	93	83-125		
Bromofluorobenzene	100	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549566	Batch#:	164269
Matrix:	Water	Analyzed:	06/22/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549566	Batch#:	164269
Matrix:	Water	Analyzed:	06/22/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	2.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	L1 V1
1,2,3-Trichloropropane	ND	2.0	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	L1
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	L1 V1
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	L1 V1
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1 V1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	108	77-120	
1,2-Dichloroethane-d4	108	70-127	
Toluene-d8	105	83-125	
Bromofluorobenzene	105	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164269
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	26.07	104	75-120	
1,3,5-Trimethylbenzene	25.00	28.20	113	77-120	
2-Chlorotoluene	25.00	28.40	114	76-120	
4-Chlorotoluene	25.00	28.56	114	78-120	
tert-Butylbenzene	25.00	28.68	115	76-120	
1,2,4-Trimethylbenzene	25.00	29.27	117	77-120	
sec-Butylbenzene	25.00	31.17 b	125 *	80-120	L1 V3
para-Isopropyl Toluene	25.00	28.51	114	76-120	
1,3-Dichlorobenzene	25.00	26.91	108	75-120	
1,4-Dichlorobenzene	25.00	26.67	107	77-120	
n-Butylbenzene	25.00	31.97 b	128 *	76-120	L1 V3
1,2-Dichlorobenzene	25.00	27.61	110	76-120	
1,2-Dibromo-3-Chloropropane	25.00	24.13	97	65-120	
1,2,4-Trichlorobenzene	25.00	27.27	109	73-121	
Hexachlorobutadiene	25.00	31.59 b	126 *	73-123	L1 V3
Naphthalene	25.00	28.57	114	62-121	
1,2,3-Trichlorobenzene	25.00	28.04	112	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	103	77-120	
1,2-Dichloroethane-d4	99	70-127	
Toluene-d8	102	83-125	
Bromofluorobenzene	102	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164269
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549568

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	27.94	112	56-140	4	24		
Chloromethane	25.00	28.48	114	46-142	1	24		
Vinyl Chloride	25.00	26.78	107	49-136	2	24		
Bromomethane	25.00	26.97	108	42-154	3	24		
Chloroethane	25.00	28.81	115	51-133	1	25		
Trichlorofluoromethane	25.00	28.42	114	63-135	4	20		
Iodomethane	25.00	26.88	108	70-130	6	20		
Acetone	25.00	30.24	121	48-130	15	41		
1,1-Dichloroethene	25.00	27.85	111	68-133	2	20		
Methylene Chloride	25.00	24.15	97	71-120	1	20		
Carbon Disulfide	25.00	22.20	89	56-120	1	20		
MTBE	25.00	23.57	94	58-120	1	21		
trans-1,2-Dichloroethene	25.00	25.66	103	80-120	1	24		
Vinyl Acetate	25.00	48.20	b 193	* 63-124	1	24	L1	V3
1,1-Dichloroethane	25.00	26.89	108	77-120	2	20		
2-Butanone	25.00	28.26	113	57-120	11	32		
cis-1,2-Dichloroethene	25.00	26.29	105	75-120	6	20		
2,2-Dichloropropane	25.00	31.97	b 128	72-128	1	24	V3	
Chloroform	25.00	28.54	114	78-120	1	20		
Bromochloromethane	25.00	26.07	104	78-120	2	20		
1,1,1-Trichloroethane	25.00	28.84	115	78-120	3	20		
1,1-Dichloropropene	25.00	27.10	108	75-120	2	21		
Carbon Tetrachloride	25.00	28.89	116	80-120	2	21		
1,2-Dichloroethane	25.00	26.19	105	74-120	2	20		
Benzene	25.00	27.52	110	77-120	4	20		
Trichloroethene	25.00	26.32	105	78-122	7	20		
1,2-Dichloropropane	25.00	25.84	103	76-120	7	20		
Bromodichloromethane	25.00	26.59	106	78-120	4	20		
Dibromomethane	25.00	26.21	105	77-120	6	20		
4-Methyl-2-Pentanone	25.00	24.44	98	65-120	1	22		
cis-1,3-Dichloropropene	25.00	27.06	108	76-120	7	20		
Toluene	25.00	27.63	111	73-120	5	20		
trans-1,3-Dichloropropene	25.00	25.40	102	72-120	3	20		
1,1,2-Trichloroethane	25.00	26.52	106	76-120	10	20		
2-Hexanone	25.00	28.43	114	57-121	7	25		
1,3-Dichloropropane	25.00	27.09	108	75-120	7	20		
Tetrachloroethene	25.00	28.06	112	77-120	4	20		
Dibromochloromethane	25.00	25.67	103	76-120	5	20		
1,2-Dibromoethane	25.00	25.94	104	77-120	4	20		
Chlorobenzene	25.00	26.64	107	78-120	2	20		
1,1,1,2-Tetrachloroethane	25.00	28.26	113	77-120	6	20		
Ethylbenzene	25.00	29.26	117	78-120	4	26		
m,p-Xylenes	50.00	57.48	115	77-120	7	20		
o-Xylene	25.00	28.14	113	77-120	4	20		
Styrene	25.00	28.59	114	77-120	8	20		
Bromoform	25.00	26.32	105	74-121	9	21		
Isopropylbenzene	25.00	24.31	97	71-120	4	20		
1,1,2,2-Tetrachloroethane	25.00	30.24	b 121	* 73-120	0	20	L1	V3
1,2,3-Trichloropropane	25.00	25.44	102	72-120	1	20		
Propylbenzene	25.00	28.71	115	76-120	1	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220658	Location:	CERCLA Quarterly
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	397664.CL.90.DM.02	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164269
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	25.81	103	75-120	1	20		
1,3,5-Trimethylbenzene	25.00	28.13	113	77-120	0	20		
2-Chlorotoluene	25.00	27.75	111	76-120	2	20		
4-Chlorotoluene	25.00	28.61	114	78-120	0	20		
tert-Butylbenzene	25.00	30.91	124 *	76-120	7	21		L1
1,2,4-Trimethylbenzene	25.00	29.15	117	77-120	0	20		
sec-Butylbenzene	25.00	28.75 b	115	80-120	8	21		V3
para-Isopropyl Toluene	25.00	28.29	113	76-120	1	20		
1,3-Dichlorobenzene	25.00	28.31	113	75-120	5	20		
1,4-Dichlorobenzene	25.00	27.96	112	77-120	5	23		
n-Butylbenzene	25.00	32.46 b	130 *	76-120	2	21		L1 V3
1,2-Dichlorobenzene	25.00	26.89	108	76-120	3	20		
1,2-Dibromo-3-Chloropropane	25.00	26.09	104	65-120	8	22		
1,2,4-Trichlorobenzene	25.00	27.76	111	73-121	2	20		
Hexachlorobutadiene	25.00	29.12 b	116	73-123	8	25		V3
Naphthalene	25.00	28.39	114	62-121	1	32		
1,2,3-Trichlorobenzene	25.00	28.90	116	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	103	77-120		
1,2-Dichloroethane-d4	102	70-127		
Toluene-d8	104	83-125		
Bromofluorobenzene	98	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

CURTIS & TOMPKINS BFB TUNE FOR 220658 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 470241127003 File : hfg03 Time : 16-JUN-2010 17:38

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	7479	26.23	
75	30% - 60% of mass 95	13260	46.51	
95		28509	100.00	
96	5% - 9% of mass 95	1693	5.94	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	16895	59.26	
175	5% - 9% of mass 174	1183	7.00	
176	> 95% and < 101% of mass 174	16161	95.66	
177	5% - 9% of mass 176	1087	6.73	

Analyst: BJP Date: 06/22/10 Reviewer: LW Date: 06/22/10

CURTIS & TOMPKINS BFB TUNE FOR 220658 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 470249763003 File : hfm03 Time : 22-JUN-2010 11:26

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6278	32.82	
75	30% - 60% of mass 95	9868	51.59	
95		19128	100.00	
96	5% - 9% of mass 95	1408	7.36	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	9800	51.23	
175	5% - 9% of mass 174	735	7.50	
176	> 95% and < 101% of mass 174	9593	97.89	
177	5% - 9% of mass 176	833	8.68	

MCT: 06/22/10 * BJP: 06/24/10 LW: 06/24/10

CURTIS & TOMPKINS BFB TUNE FOR 220658 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830238218008 File : kfe08 Time : 14-JUN-2010 19:19

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	7944	18.40	
75	30% - 60% of mass 95	22021	51.01	
95		43173	100.00	
96	5% - 9% of mass 95	2781	6.44	
173	< 2% of mass 174	563	1.66	
174	> 50% and < 100% of mass 95	33946	78.63	
175	5% - 9% of mass 174	2553	7.52	
176	> 95% and < 101% of mass 174	33037	97.32	
177	5% - 9% of mass 176	2304	6.97	

Analyst: BJP Date: 06/15/10 Reviewer: LW Date: 06/17/10

CURTIS & TOMPKINS BFB TUNE FOR 220658 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830239803004 File : kff04 Time : 15-JUN-2010 16:17

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	8117	17.34	
75	30% - 60% of mass 95	22770	48.64	
95		46816	100.00	
96	5% - 9% of mass 95	3056	6.53	
173	< 2% of mass 174	347	0.95	
174	> 50% and < 100% of mass 95	36400	77.75	
175	5% - 9% of mass 174	2916	8.01	
176	> 95% and < 101% of mass 174	35149	96.56	
177	5% - 9% of mass 176	2298	6.54	

Analyst: BJP Date: 06/15/10 Reviewer: LW Date: 06/17/10

CURTIS & TOMPKINS BFB TUNE FOR 220658 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : BFB IDF : 1.0
Seqnum : 830248287012 File : kfl112 Time : 21-JUN-2010 14:35

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	9538	17.65	
75	30% - 60% of mass 95	27530	50.94	
95		54040	100.00	
96	5% - 9% of mass 95	3823	7.07	
173	< 2% of mass 174	704	1.67	
174	> 50% and < 100% of mass 95	42178	78.05	
175	5% - 9% of mass 174	3301	7.83	
176	> 95% and < 101% of mass 174	41338	98.01	
177	5% - 9% of mass 176	2865	6.93	

Analyst: MCT Date: 06/22/10 Reviewer: LW Date: 06/22/10

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220658 MSVOA Water: EPA 8260B

Inst : MSVOA08
 Calnum : 470241127001
 Units : ug/L

Name : 826GOX8
 Date : 16-JUN-2010 20:57
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	hfg08	470241127008	.25/.5PPB	16-JUN-2010 20:57	S14834 (20000X), S14738 (20000X), S14742 (20000X), S14739 (10000X), S14572 (5000X)
L2	hfg09	470241127009	0.5/1PPB	16-JUN-2010 21:34	S14834 (10000X), S14738 (10000X), S14742 (10000X), S14739 (5000X), S14572 (5000X)
L3	hfg10	470241127010	2PPB	16-JUN-2010 22:11	S14834 (25000X), S14738 (25000X), S14742 (50000X), S14739 (25000X), S14572 (5000X)
L4	hfg11	470241127011	5PPB	16-JUN-2010 22:49	S14834 (10000X), S14738 (10000X), S14742 (20000X), S14739 (10000X), S14572 (5000X)
L5	hfg12	470241127012	10PPB	16-JUN-2010 23:26	S14834 (5000X), S14738 (5000X), S14742 (10000X), S14739 (5000X), S14572 (5000X)
L6	hfg13	470241127013	20PPB	17-JUN-2010 00:03	S14722 (25000X), S14747 (25000X), S14228 (50000X), S14230 (25000X), S14572 (5000X)
L7	hfg14	470241127014	50PPB	17-JUN-2010 00:40	S14722 (10000X), S14747 (10000X), S14228 (20000X), S14230 (10000X), S14572 (5000X)
L8	hfg15	470241127015	75PPB	17-JUN-2010 01:18	S14722 (6667X), S14747 (6667X), S14228 (13330X), S14230 (6667X), S14572 (5000X)
L9	hfg16	470241127016	100PPB	17-JUN-2010 01:55	S14722 (5000X), S14747 (5000X), S14228 (10000X), S14230 (5000X), S14572 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.7902	0.8465	0.9431	0.9960	1.0436	1.2796			QUAD	0.22121	1.02751	-0.00390	0.9832	1.000	15	0.05	0.99	
Chloromethane		1.4024	1.6485	1.4210	1.4711	1.4955	1.5463	1.4564	1.4343	AVRG		0.67366		1.4844	5	15	0.10	0.99	
Vinyl Chloride	1.0624	0.9914	1.0700	1.1277	1.1155	1.1624	1.2181	1.1981	1.2019	AVRG		0.88690		1.1275	7	15	0.05	0.99	
Bromomethane		0.7702	0.7727	0.7027	0.6239	0.6428	0.6496	0.6319	0.6343	AVRG		1.47382		0.6785	9	15	0.05	0.99	
Chloroethane		0.5847	0.5314	0.5741	0.5566	0.5949	0.6187	0.5723	0.6057	AVRG		1.72472		0.5798	5	15	0.05	0.99	
Trichlorofluoromethane		0.9326	0.9582	1.0016	1.1115	0.9715	1.1015	1.0345	1.1023	AVRG		0.97399		1.0267	7	15	0.05	0.99	
Acetone				0.2165m	0.2273m	0.1746m	0.1675	0.1744		LINR	-1.6635	5.94683		0.1921	0.997	15	0.05	0.99	
1,1-Dichloroethene		0.8054	0.5790	0.6020	0.6073	0.5328	0.5636	0.5485	0.5382	AVRG		1.67471		0.5971	15	15	0.05	0.99	
Iodomethane				0.3445	0.4009	0.7163	0.8476	0.8393	0.8039	LINR	3.25009	1.16873		0.6588	0.997	15	0.05	0.99	
Methylene Chloride		0.8812	0.8443	0.6607	0.6492	0.6240	0.6364	0.6268	0.6136	AVRG		1.44504		0.6920	15	15	0.05	0.99	
Carbon Disulfide		3.4536	3.1823	3.1727	3.1805	2.8378	3.1369	3.0737	3.0447	AVRG		0.31895		3.1353	5	15	0.05	0.99	
MTBE		1.0664	1.1315	1.0932	1.0511	1.0475	1.1455	1.0758	1.0850	AVRG		0.91995		1.0870	3	15	0.05	0.99	
trans-1,2-Dichloroethene		0.9671	0.8550	0.7608	0.7133	0.7283	0.7498	0.6993	0.7399	AVRG		1.28751		0.7767	12	15	0.05	0.99	
Vinyl Acetate				0.6377	0.6366	0.6523	0.6270	0.5334	0.5616	AVRG		1.64450		0.6081	8	15	0.05	0.99	
1,1-Dichloroethane		1.6047	1.5333	1.5794	1.5826	1.5837	1.6739	1.5393	1.5821	AVRG		0.63096		1.5849	3	15	0.10	0.99	
2-Butanone			0.3051	0.2767	0.3018	0.2668	0.2739	0.2577	0.2540	AVRG		3.61574		0.2766	7	15	0.05	0.99	
2,2-Dichloropropane		1.0812	0.8479	0.9713	0.9444	0.8935	0.9413	0.8964	0.9110	AVRG		1.06852		0.9359	7	15	0.05	0.99	
cis-1,2-Dichloroethene		0.8704	0.7097	0.6509	0.7007	0.6846	0.7124	0.6861	0.7068	AVRG		1.39820		0.7152	9	15	0.05	0.99	
Chloroform		1.1542	1.0708	1.1284	1.1575	1.1218	1.1879	1.0977	1.1516	AVRG		0.88203		1.1337	3	15	0.05	0.99	
Bromochloromethane		0.1733	0.2089	0.2074	0.2206	0.2112	0.2219	0.2169	0.2264	AVRG		4.74309		0.2108	8	15	0.05	0.99	
1,1,1-Trichloroethane		0.8812	0.9239	0.9136	0.9322	0.9004	0.9528	0.8892	0.9424	AVRG		1.09057		0.9170	3	15	0.05	0.99	
1,1-Dichloropropene		0.6652	0.6204	0.6821	0.6505	0.6247	0.6153	0.6179	0.6644	AVRG		1.55624		0.6426	4	15	0.05	0.99	
Carbon Tetrachloride		0.4067	0.3487	0.3963	0.4098	0.3909	0.3895	0.3996	0.4373	AVRG		2.51667		0.3974	6	15	0.05	0.99	
1,2-Dichloroethane		0.3302	0.3771	0.4040	0.3768	0.3922	0.4018	0.3949	0.4116	AVRG		2.59013		0.3861	7	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.5731	1.5242	1.6265	1.4707	1.5365	1.5379	1.5764	1.5929	AVRG		0.64317		1.5548	3	15	0.05	0.99	
Trichloroethene		0.3987	0.4042	0.4686	0.4566	0.4708	0.4686	0.4649	0.4727	AVRG		2.21913		0.4506	7	15	0.05	0.99	
1,2-Dichloropropane		0.4170m	0.4104	0.4817m	0.4433	0.4284m	0.4403	0.4322m	0.4502	AVRG		2.28335		0.4380	5	15	0.05	0.99	
Bromodichloromethane		0.3962	0.3762	0.4031	0.3808	0.4103	0.4110	0.4163	0.4311	AVRG		2.48058		0.4031	5	15	0.05	0.99	
Dibromomethane		0.1660m	0.1562	0.1657	0.1550	0.1613	0.1666	0.1653	0.1718	AVRG		6.11683		0.1635	3	15	0.05	0.99	
4-Methyl-2-Pentanone			0.3644	0.3291	0.2937	0.3064	0.3129	0.3116	0.3133	AVRG		3.13698		0.3188	7	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5108	0.4688	0.4458	0.4596	0.4813	0.4993	0.4887	0.5055	AVRG		2.07275		0.4825	5	15	0.05	0.99	
Toluene		1.2437	1.1807	1.2232	1.3140	1.2316	1.3287	1.2463	1.2328	AVRG		0.79993		1.2501	4	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4878	0.5084	0.5120	0.5479	0.5012	0.5879	0.5558	0.5458	AVRG		1.88374		0.5309	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.1661	0.1577	0.1910	0.1502	0.1668	0.1780	0.1659	0.1639	AVRG		5.97198		0.1674	7	15	0.05	0.99	
2-Hexanone			0.3448	0.2946	0.3052	0.3002	0.3051	0.3014	0.2885	AVRG		3.27126		0.3057	6	15	0.05	0.99	
1,3-Dichloropropane		0.5389	0.5308	0.5189	0.5232	0.5470	0.5411	0.5403	0.5102	AVRG		1.88219		0.5313	2	15	0.05	0.99	
Tetrachloroethene		0.4257	0.4586	0.4494	0.4484	0.4337	0.4486	0.4438	0.4372	AVRG		2.25641		0.4432	2	15	0.05	0.99	
Dibromochloromethane		0.2845	0.2303	0.2616	0.2823	0.2550	0.3052	0.2978	0.2932	AVRG		3.62015		0.2762	9	15	0.05	0.99	
1,2-Dibromoethane		0.2244	0.2667	0.2653	0.2718	0.2762	0.2979	0.2883	0.2839	AVRG		3.67906		0.2718	8	15	0.05	0.99	
Chlorobenzene		1.2925	1.0436	1.0789	1.1556	1.1549	1.1760	1.1582	1.1363	AVRG		0.86994		1.1495	6	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.2360	0.2689	0.2749	0.3047	0.2955	0.3351	0.3155	0.3286	AVRG		3.39097		0.2949	11	15	0.05	0.99	
Ethylbenzene		2.7390	2.4842	2.2945	2.5357	2.4573	2.5951	2.2830	2.3274	AVRG		0.40576		2.4645	6	15	0.05	0.99	
m,p-Xylenes	0.8218	0.8826	0.8297	0.7735	0.8510	0.8652	0.9120	0.8753	0.8611	AVRG		1.17307		0.8525	5	15	0.05	0.99	
o-Xylene		0.7009	0.7457	0.6688	0.7646	0.7641	0.8485	0.8169	0.7970	AVRG		1.31006		0.7633	8	15	0.05	0.99	
Styrene		1.0411	1.0101	1.0398	1.1568	1.1521	1.3295	1.2887	1.1817	AVRG		0.86958		1.1500	10	15	0.05	0.99	
Bromoform			0.0984	0.1229	0.1404	0.1277	0.1522	0.1499	0.1466	AVRG		7.46208		0.1340	14	15	0.10	0.99	
Isopropylbenzene		6.2485	5.8340	5.6210	6.3699	5.9274	5.8574	5.4793	5.9576	AVRG		0.16915		5.9119	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.7458	0.8598	0.8059	0.8111	0.8383	0.8500	0.8023	0.8711	AVRG		1.21503		0.8230	5	15	0.30	0.99	
1,2,3-Trichloropropane			0.1931	0.1626	0.2072	0.2035	0.2101	0.2054	0.2033	AVRG		5.05305		0.1979	8	15	0.05	0.99	
Propylbenzene		8.8142	8.3883	8.3033	9.0032	7.9804	8.2076	7.2338	7.4936	AVRG		0.12228		8.1781	7	15	0.05	0.99	
Bromobenzene		0.9901	0.8881	0.8554	0.9547	0.9091	0.9881	0.9052	1.0030	AVRG		1.06756		0.9367	6	15	0.05	0.99	
1,3,5-Trimethylbenzene		4.8495	4.6903	4.6850	4.9429	4.8650	4.7217	4.2442	4.5766	AVRG		0.21291		4.6969	5	15	0.05	0.99	
2-Chlorotoluene		5.0607	4.9414	4.9196	4.8964	4.6964	4.7923	4.2929	4.5816	AVRG		0.20953		4.7727	5	15	0.05	0.99	
4-Chlorotoluene		4.7147	4.2313	4.0146	4.6912	4.3406	4.5059	3.8911	4.2378	AVRG		0.23103		4.3284	7	15	0.05	0.99	
tert-Butylbenzene		3.5536	3.8643	3.8946	3.9722	3.8701	3.9444	3.5201	3.8643	AVRG		0.26244		3.8104	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		4.6356	4.1144	4.3060	4.5639	4.5249	4.7238	4.1215	4.5478	AVRG		0.22511		4.4422	5	15	0.05	0.99	
sec-Butylbenzene		6.6532	6.9216	6.7036	7.3872	6.8798	6.8784	6.0575	6.4650	AVRG		0.14830		6.7433	6	15	0.05	0.99	
para-Isopropyl Toluene		5.1624	4.9322	4.5746	5.2020	4.8963	4.9854	4.4026	4.9124	AVRG		0.20477		4.8835	6	15	0.05	0.99	
1,3-Dichlorobenzene		1.7458	1.9943	1.8089	1.9514	2.0088	2.0999	1.8642	2.0686	AVRG		0.51474		1.9427	6	15	0.05	0.99	
1,4-Dichlorobenzene		1.8213	2.0444	1.8631	1.9531	1.8842	1.9805	1.7967	1.9331	AVRG		0.52368		1.9096	4	15	0.05	0.99	
n-Butylbenzene		5.9364	5.0961	5.5801	5.9838	5.7915	5.4385	5.0551	5.3549	AVRG		0.18085		5.5295	6	15	0.05	0.99	
1,2-Dichlorobenzene		1.5586	1.5619	1.5153	1.6069	1.5511	1.6182	1.5375	1.7028	AVRG		0.63229		1.5815	4	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.1440	0.1163	0.1408	0.1363	0.1498	0.1387	0.1502	AVRG		7.17118		0.1394	8	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.6935	0.8409	0.8420	0.8699	0.8864	0.9594	0.9333	0.9307	AVRG		1.15007		0.8695	10	15	0.05	0.99	
Hexachlorobutadiene		0.3701	0.5748	0.5059	0.5723	0.5456	0.5506	0.5504	0.5640	AVRG		1.88958		0.5292	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.3312	1.3250	1.3963	1.5644	1.5464	1.7060	1.7416	1.7613	AVRG		0.64661		1.5465	12	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6765	0.6512	0.6262	0.7774	0.7415	0.7839	0.7356	0.7554	AVRG		1.39184		0.7185	8	15	0.05	0.99	
Dibromofluoromethane	0.5247	0.5053	0.5196	0.5287	0.5101	0.5162	0.5196	0.5209	0.5106	AVRG		1.93310		0.5173	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.2672	0.2645	0.2593	0.2803	0.2510	0.2619	0.2383	0.2577	0.2460	AVRG		3.86876		0.2585	5	15	0.05	0.99	
Toluene-d8	1.7062	1.6916	1.6498	1.6995	1.7128	1.6937	1.7708	1.7481	1.6317	AVRG		0.58807		1.7005	3	15	0.05	0.99	
Bromofluorobenzene	1.3786	1.3418	1.3432	1.3464	1.3790	1.2858	1.3299	1.3205	1.3521	AVRG		0.74520		1.3419	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	3	2.000	-3	5.000	0	10.00	1	20.00	0	50.00	0				
Chloromethane			1.000	-6	2.000	11	5.000	-4	10.00	-1	20.00	1	50.00	4	75.00	-2	100.0	-3
Vinyl Chloride	0.500	-6	1.000	-12	2.000	-5	5.000	0	10.00	-1	20.00	3	50.00	8	75.00	6	100.0	7
Bromomethane			1.000	14	2.000	14	5.000	4	10.00	-8	20.00	-5	50.00	-4	75.00	-7	100.0	-7
Chloroethane			1.000	1	2.000	-8	5.000	-1	10.00	-4	20.00	3	50.00	7	75.00	-1	100.0	4
Trichlorofluoromethane			1.000	-9	2.000	-7	5.000	-2	10.00	8	20.00	-5	50.00	7	75.00	1	100.0	7
Acetone							5.000	-5	10.00	19	20.00	-4	50.00	-4	75.00	1		
1,1-Dichloroethene			0.500	35	2.000	-3	5.000	1	10.00	2	20.00	-11	50.00	-6	75.00	-8	100.0	-10
Iodomethane							5.000	5	10.00	-21	20.00	0	50.00	6	75.00	2	100.0	-3
Methylene Chloride			0.500	27	2.000	22	5.000	-5	10.00	-6	20.00	-10	50.00	-8	75.00	-9	100.0	-11
Carbon Disulfide			0.500	10	2.000	1	5.000	1	10.00	1	20.00	-9	50.00	0	75.00	-2	100.0	-3
MTBE			0.500	-2	2.000	4	5.000	1	10.00	-3	20.00	-4	50.00	5	75.00	-1	100.0	0
trans-1,2-Dichloroethene			0.500	25	2.000	10	5.000	-2	10.00	-8	20.00	-6	50.00	-3	75.00	-10	100.0	-5
Vinyl Acetate							5.000	5	10.00	5	20.00	7	50.00	3	75.00	-12	100.0	-8
1,1-Dichloroethane			0.500	1	2.000	-3	5.000	0	10.00	0	20.00	0	50.00	6	75.00	-3	100.0	0
2-Butanone					2.000	10	5.000	0	10.00	9	20.00	-4	50.00	-1	75.00	-7	100.0	-8
2,2-Dichloropropane			0.500	16	2.000	-9	5.000	4	10.00	1	20.00	-5	50.00	1	75.00	-4	100.0	-3
cis-1,2-Dichloroethene			0.500	22	2.000	-1	5.000	-9	10.00	-2	20.00	-4	50.00	0	75.00	-4	100.0	-1
Chloroform			0.500	2	2.000	-6	5.000	0	10.00	2	20.00	-1	50.00	5	75.00	-3	100.0	2
Bromochloromethane			0.500	-18	2.000	-1	5.000	-2	10.00	5	20.00	0	50.00	5	75.00	3	100.0	7
1,1,1-Trichloroethane			0.500	-4	2.000	1	5.000	0	10.00	2	20.00	-2	50.00	4	75.00	-3	100.0	3
1,1-Dichloropropene			0.500	4	2.000	-3	5.000	6	10.00	1	20.00	-3	50.00	-4	75.00	-4	100.0	3
Carbon Tetrachloride			0.500	2	2.000	-12	5.000	0	10.00	3	20.00	-2	50.00	-2	75.00	1	100.0	10
1,2-Dichloroethane			0.500	-14	2.000	-2	5.000	5	10.00	-2	20.00	2	50.00	4	75.00	2	100.0	7
Benzene			0.500	1	2.000	-2	5.000	5	10.00	-5	20.00	-1	50.00	-1	75.00	1	100.0	2
Trichloroethene			0.500	-12	2.000	-10	5.000	4	10.00	1	20.00	4	50.00	4	75.00	3	100.0	5
1,2-Dichloropropane			0.500	-5	2.000	-6	5.000	10	10.00	1	20.00	-2	50.00	1	75.00	-1	100.0	3
Bromodichloromethane			0.500	-2	2.000	-7	5.000	0	10.00	-6	20.00	2	50.00	2	75.00	3	100.0	7
Dibromomethane			0.500	2	2.000	-4	5.000	1	10.00	-5	20.00	-1	50.00	2	75.00	1	100.0	5
4-Methyl-2-Pentanone					2.000	14	5.000	3	10.00	-8	20.00	-4	50.00	-2	75.00	-2	100.0	-2
cis-1,3-Dichloropropene			0.500	6	2.000	-3	5.000	-8	10.00	-5	20.00	0	50.00	3	75.00	1	100.0	5
Toluene			0.500	-1	2.000	-6	5.000	-2	10.00	5	20.00	-1	50.00	6	75.00	0	100.0	-1
trans-1,3-Dichloropropene			0.500	-8	2.000	-4	5.000	-4	10.00	3	20.00	-6	50.00	11	75.00	5	100.0	3
1,1,2-Trichloroethane			0.500	-1	2.000	-6	5.000	14	10.00	-10	20.00	0	50.00	6	75.00	-1	100.0	-2
2-Hexanone					2.000	13	5.000	-4	10.00	0	20.00	-2	50.00	0	75.00	-1	100.0	-6
1,3-Dichloropropane			0.500	1	2.000	0	5.000	-2	10.00	-2	20.00	3	50.00	2	75.00	2	100.0	-4
Tetrachloroethene			0.500	-4	2.000	3	5.000	1	10.00	1	20.00	-2	50.00	1	75.00	0	100.0	-1
Dibromochloromethane			0.500	3	2.000	-17	5.000	-5	10.00	2	20.00	-8	50.00	10	75.00	8	100.0	6
1,2-Dibromoethane			0.500	-17	2.000	-2	5.000	-2	10.00	0	20.00	2	50.00	10	75.00	6	100.0	4
Chlorobenzene			0.500	12	2.000	-9	5.000	-6	10.00	1	20.00	0	50.00	2	75.00	1	100.0	-1
1,1,1,2-Tetrachloroethane			0.500	-20	2.000	-9	5.000	-7	10.00	3	20.00	0	50.00	14	75.00	7	100.0	11
Ethylbenzene			0.500	11	2.000	1	5.000	-7	10.00	3	20.00	0	50.00	5	75.00	-7	100.0	-6

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	-4	1.000	4	4.000	-3	10.00	-9	20.00	0	40.00	1	100.0	7	150.0	3	200.0	1
o-Xylene			0.500	-8	2.000	-2	5.000	-12	10.00	0	20.00	0	50.00	11	75.00	7	100.0	4
Styrene			0.500	-9	2.000	-12	5.000	-10	10.00	1	20.00	0	50.00	16	75.00	12	100.0	3
Bromoform					2.000	-27	5.000	-8	10.00	5	20.00	-5	50.00	14	75.00	12	100.0	9
Isopropylbenzene			0.500	6	2.000	-1	5.000	-5	10.00	8	20.00	0	50.00	-1	75.00	-7	100.0	1
1,1,2,2-Tetrachloroethane			0.500	-9	2.000	4	5.000	-2	10.00	-1	20.00	2	50.00	3	75.00	-3	100.0	6
1,2,3-Trichloropropane					2.000	-2	5.000	-18	10.00	5	20.00	3	50.00	6	75.00	4	100.0	3
Propylbenzene			0.500	8	2.000	3	5.000	2	10.00	10	20.00	-2	50.00	0	75.00	-12	100.0	-8
Bromobenzene			0.500	6	2.000	-5	5.000	-9	10.00	2	20.00	-3	50.00	5	75.00	-3	100.0	7
1,3,5-Trimethylbenzene			0.500	3	2.000	0	5.000	0	10.00	5	20.00	4	50.00	1	75.00	-10	100.0	-3
2-Chlorotoluene			0.500	6	2.000	4	5.000	3	10.00	3	20.00	-2	50.00	0	75.00	-10	100.0	-4
4-Chlorotoluene			0.500	9	2.000	-2	5.000	-7	10.00	8	20.00	0	50.00	4	75.00	-10	100.0	-2
tert-Butylbenzene			0.500	-7	2.000	1	5.000	2	10.00	4	20.00	2	50.00	4	75.00	-8	100.0	1
1,2,4-Trimethylbenzene			0.500	4	2.000	-7	5.000	-3	10.00	3	20.00	2	50.00	6	75.00	-7	100.0	2
sec-Butylbenzene			0.500	-1	2.000	3	5.000	-1	10.00	10	20.00	2	50.00	2	75.00	-10	100.0	-4
para-Isopropyl Toluene			0.500	6	2.000	1	5.000	-6	10.00	7	20.00	0	50.00	2	75.00	-10	100.0	1
1,3-Dichlorobenzene			0.500	-10	2.000	3	5.000	-7	10.00	0	20.00	3	50.00	8	75.00	-4	100.0	6
1,4-Dichlorobenzene			0.500	-5	2.000	7	5.000	-2	10.00	2	20.00	-1	50.00	4	75.00	-6	100.0	1
n-Butylbenzene			0.500	7	2.000	-8	5.000	1	10.00	8	20.00	5	50.00	-2	75.00	-9	100.0	-3
1,2-Dichlorobenzene			0.500	-1	2.000	-1	5.000	-4	10.00	2	20.00	-2	50.00	2	75.00	-3	100.0	8
1,2-Dibromo-3-Chloropropane					2.000	3	5.000	-17	10.00	1	20.00	-2	50.00	7	75.00	-1	100.0	8
1,2,4-Trichlorobenzene			0.500	-20	2.000	-3	5.000	-3	10.00	0	20.00	2	50.00	10	75.00	7	100.0	7
Hexachlorobutadiene			0.500	-30	2.000	9	5.000	-4	10.00	8	20.00	3	50.00	4	75.00	4	100.0	7
Naphthalene			0.500	-14	2.000	-14	5.000	-10	10.00	1	20.00	0	50.00	10	75.00	13	100.0	14
1,2,3-Trichlorobenzene			0.500	-6	2.000	-9	5.000	-13	10.00	8	20.00	3	50.00	9	75.00	2	100.0	5
Dibromofluoromethane	50.00	1	50.00	-2	50.00	0	50.00	2	50.00	-1	50.00	0	50.00	0	50.00	1	50.00	-1
1,2-Dichloroethane-d4	50.00	3	50.00	2	50.00	0	50.00	8	50.00	-3	50.00	1	50.00	-8	50.00	0	50.00	-5
Toluene-d8	50.00	0	50.00	-1	50.00	-3	50.00	0	50.00	1	50.00	0	50.00	4	50.00	3	50.00	-4
Bromofluorobenzene	50.00	3	50.00	0	50.00	0	50.00	0	50.00	3	50.00	-4	50.00	-1	50.00	-2	50.00	1

BJP 06/23/10 [2-Chloroethylvinylether]: DO NOT USE!

BJP 06/23/10 [1,2-Dichloropropane]: Separated from coeluting peak in multiple levels.

BJP 06/23/10 [Dibromomethane]: Combined split peak1PPB (hfg09).

BJP 06/23/10 [Ethyl tert-Butyl Ether (ETBE)]: Picked or reassigned peak1PPB (hfg09).

BJP 06/23/10 [Acetone]: Corrected baseline noise or negative peak in multiple levels.

LW 06/23/10 : Indexing error in hfg09. DO NOT USE FOR LEVEL IV!

Analyst: BJP

Date: 06/23/10

Reviewer: LW

Date: 06/23/10

m=manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

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470241127001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220658 MSVOA Water
EPA 8260B

Inst : MSVOA08
Calnum : 470241127001

Name : 826GOX8
Cal Date : 16-JUN-2010

Type : WATER

ICV 470241127017 (hfg17 17-JUN-2010) stds: S14846 (10000X), S14572 (5000X)
ICV 470241127018 (hfg18 17-JUN-2010) stds: S14688 (10000X), S14573 (10000X),
S14594 (10000X), S14572 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	470241127017	25.00	22.46	ug/L	-10	25	
Chloromethane	470241127017	25.00	22.19	ug/L	-11	25	
Vinyl Chloride	470241127017	25.00	23.44	ug/L	-6	25	
Bromomethane	470241127017	25.00	20.46	ug/L	-18	25	
Chloroethane	470241127017	25.00	22.80	ug/L	-9	25	
Trichlorofluoromethane	470241127017	25.00	22.22	ug/L	-11	25	
Acetone	470241127018	25.00	23.45	ug/L	-6	25	
1,1-Dichloroethene	470241127018	25.00	23.49	ug/L	-6	25	
Iodomethane	470241127018	25.00	21.31	ug/L	-15	25	
Methylene Chloride	470241127018	25.00	22.52	ug/L	-10	25	
Carbon Disulfide	470241127018	25.00	20.48	ug/L	-18	25	
MTBE	470241127018	25.00	22.13	ug/L	-11	25	
trans-1,2-Dichloroethene	470241127018	25.00	23.26	ug/L	-7	25	
Vinyl Acetate	470241127018	25.00	18.52	ug/L	-26	25	v-
1,1-Dichloroethane	470241127018	25.00	23.92	ug/L	-4	25	
2-Butanone	470241127018	25.00	23.56	ug/L	-6	25	
2,2-Dichloropropane	470241127018	25.00	22.54	ug/L	-10	25	
cis-1,2-Dichloroethene	470241127018	25.00	24.58	ug/L	-2	25	
Chloroform	470241127018	25.00	25.17	ug/L	1	25	
Bromochloromethane	470241127018	25.00	24.00	ug/L	-4	25	
1,1,1-Trichloroethane	470241127018	25.00	26.63	ug/L	7	25	
1,1-Dichloropropene	470241127018	25.00	27.50	ug/L	10	25	
Carbon Tetrachloride	470241127018	25.00	28.70	ug/L	15	25	
1,2-Dichloroethane	470241127018	25.00	26.11	ug/L	4	25	
Benzene	470241127018	25.00	26.25	ug/L	5	25	
Trichloroethene	470241127018	25.00	27.15	ug/L	9	25	
1,2-Dichloropropane	470241127018	25.00	24.00	ug/L	-4	25	
Bromodichloromethane	470241127018	25.00	25.78	ug/L	3	25	
Dibromomethane	470241127018	25.00	26.38	ug/L	6	25	
4-Methyl-2-Pentanone	470241127018	25.00	23.62	ug/L	-6	25	
cis-1,3-Dichloropropene	470241127018	25.00	23.89	ug/L	-4	25	
Toluene	470241127018	25.00	26.14	ug/L	5	25	
trans-1,3-Dichloropropene	470241127018	25.00	23.04	ug/L	-8	25	
1,1,2-Trichloroethane	470241127018	25.00	25.54	ug/L	2	25	
2-Hexanone	470241127018	25.00	24.97	ug/L	0	25	
1,3-Dichloropropane	470241127018	25.00	24.74	ug/L	-1	25	
Tetrachloroethene	470241127018	25.00	27.09	ug/L	8	25	
Dibromochloromethane	470241127018	25.00	24.16	ug/L	-3	25	
1,2-Dibromoethane	470241127018	25.00	24.24	ug/L	-3	25	
Chlorobenzene	470241127018	25.00	26.11	ug/L	4	25	
1,1,1,2-Tetrachloroethane	470241127018	25.00	25.34	ug/L	1	25	
Ethylbenzene	470241127018	25.00	26.10	ug/L	4	25	
m,p-Xylenes	470241127018	50.00	54.07	ug/L	8	25	
o-Xylene	470241127018	25.00	25.98	ug/L	4	25	
Styrene	470241127018	25.00	27.39	ug/L	10	25	
Bromoform	470241127018	25.00	25.12	ug/L	0	25	
Isopropylbenzene	470241127018	25.00	25.06	ug/L	0	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	470241127018	25.00	24.97	ug/L	0	25	
1,2,3-Trichloropropane	470241127018	25.00	24.79	ug/L	-1	25	
Propylbenzene	470241127018	25.00	27.85	ug/L	11	25	
Bromobenzene	470241127018	25.00	25.87	ug/L	3	25	
1,3,5-Trimethylbenzene	470241127018	25.00	28.36	ug/L	13	25	
2-Chlorotoluene	470241127018	25.00	27.96	ug/L	12	25	
4-Chlorotoluene	470241127018	25.00	26.89	ug/L	8	25	
tert-Butylbenzene	470241127018	25.00	28.11	ug/L	12	25	
1,2,4-Trimethylbenzene	470241127018	25.00	27.67	ug/L	11	25	
sec-Butylbenzene	470241127018	25.00	29.48	ug/L	18	25	
para-Isopropyl Toluene	470241127018	25.00	27.49	ug/L	10	25	
1,3-Dichlorobenzene	470241127018	25.00	27.20	ug/L	9	25	
1,4-Dichlorobenzene	470241127018	25.00	26.52	ug/L	6	25	
n-Butylbenzene	470241127018	25.00	27.87	ug/L	11	25	
1,2-Dichlorobenzene	470241127018	25.00	26.99	ug/L	8	25	
1,2-Dibromo-3-Chloropropane	470241127018	25.00	24.72	ug/L	-1	25	
1,2,4-Trichlorobenzene	470241127018	25.00	26.93	ug/L	8	25	
Hexachlorobutadiene	470241127018	25.00	27.45	ug/L	10	25	
Naphthalene	470241127018	25.00	27.20	ug/L	9	25	
1,2,3-Trichlorobenzene	470241127018	25.00	27.30	ug/L	9	25	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220658 MSVOA Water: EPA 8260B

Inst : MSVOA11
 Calnum : 830238218001
 Units : ug/L

Name : 8260GX11
 Date : 14-JUN-2010 21:45
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	kfe13	830238218013	.25/.5PPB	14-JUN-2010 21:45	S14738 (20000X), S14834 (20000X), S14742 (20000X), S14739 (100000X), S14746 (2500X)
L2	kfe14	830238218014	0.5/1PPB	14-JUN-2010 22:13	S14738 (100000X), S14834 (100000X), S14742 (100000X), S14739 (50000X), S14746 (2500X)
L3	kfe15	830238218015	2PPB	14-JUN-2010 22:41	S14738 (25000X), S14834 (25000X), S14742 (50000X), S14739 (25000X), S14746 (2500X)
L4	kfe16	830238218016	5PPB	14-JUN-2010 23:09	S14738 (10000X), S14834 (10000X), S14742 (20000X), S14739 (10000X), S14746 (2500X)
L5	kfe17	830238218017	10PPB	14-JUN-2010 23:37	S14738 (5000X), S14834 (5000X), S14742 (10000X), S14739 (5000X), S14746 (2500X)
L6	kfe18	830238218018	20PPB	15-JUN-2010 00:05	S14722 (25000X), S14747 (25000X), S14228 (50000X), S14230 (25000X), S14746 (2500X)
L7	kfe19	830238218019	50PPB	15-JUN-2010 00:33	S14722 (10000X), S14747 (10000X), S14228 (20000X), S14230 (10000X), S14746 (2500X)
L8	kfe20	830238218020	75PPB	15-JUN-2010 01:01	S14722 (6667X), S14747 (6667X), S14228 (13330X), S14230 (6667X), S14746 (2500X)
L9	kfe21	830238218021	100PPB	15-JUN-2010 01:29	S14722 (5000X), S14747 (5000X), S14228 (10000X), S14230 (5000X), S14746 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.5452m	0.5279	0.5542	0.5206	0.7076	0.6956	0.6723	0.6909	AVRG		1.62793		0.6143	14	15	0.05	0.99	
Chloromethane		0.5342	0.6078	0.5788	0.5555	0.6202	0.5947	0.5850	0.6030	AVRG		1.70971		0.5849	5	15	0.10	0.99	
Vinyl Chloride	0.6475	0.6907	0.7073	0.7042	0.6779	0.7675	0.7590	0.7349	0.7595	AVRG		1.39567		0.7165	6	15	0.05	0.99	
Bromomethane		0.1929	0.2439	0.2202	0.2261	0.2697	0.3106			QUAD	0.46172	3.97896	-0.05094	0.2439	0.999	15	0.05	0.99	
Chloroethane		0.3074m	0.3629m	0.3461	0.3349	0.3718	0.3660	0.3564	0.3618	AVRG		2.84963		0.3509	6	15	0.05	0.99	
Trichlorofluoromethane		0.7925	0.7928	0.8530	0.8272	0.9196	0.9166	0.9079	0.9383	AVRG		1.15141		0.8685	7	15	0.05	0.99	
Acetone			0.1697	0.1400	0.1399	0.1339	0.1268	0.1281	0.1260	AVRG		7.25916		0.1378	11	15	0.05	0.99	
1,1-Dichloroethene		0.4868	0.4778	0.4624	0.4459	0.4544	0.4493	0.4494	0.4589	AVRG		2.17104		0.4606	3	15	0.05	0.99	
Iodomethane				0.1052	0.1425	0.2013	0.2744	0.2640	0.2833	QUAD	4.20930	3.62862	-0.00812	0.2118	0.998	15	0.05	0.99	
Methylene Chloride		0.5267	0.5794	0.5403	0.5352	0.5454	0.5345	0.5289	0.5288	AVRG		1.85216		0.5399	3	15	0.05	0.99	
Carbon Disulfide		1.6785	1.7711	1.7238	1.6997	1.7321	1.7093	1.7219	1.7142	AVRG		0.58179		1.7188	2	15	0.05	0.99	
MTBE		1.7387	1.6691	1.6791	1.6297	1.6973	1.7059	1.7079	1.7038	AVRG		0.59122		1.6914	2	15	0.05	0.99	
trans-1,2-Dichloroethene		0.6174	0.5646	0.5451	0.5228	0.5422	0.5384	0.5400	0.5436	AVRG		1.81235		0.5518	5	15	0.05	0.99	
Vinyl Acetate		0.6265	0.7496	0.6994	0.7121	0.7839	0.8200	0.8149	0.8300	AVRG		1.32529		0.7546	9	15	0.05	0.99	
1,1-Dichloroethane		0.8906	0.9352	0.9006	0.8999	0.9349	0.9161	0.9238	0.9104	AVRG		1.09419		0.9139	2	15	0.10	0.99	
2-Butanone			0.1822	0.1934	0.1900	0.1896	0.1868	0.1844	0.1840	AVRG		5.34144		0.1872	2	15	0.05	0.99	
2,2-Dichloropropane		0.7510	0.7404	0.7159	0.6999	0.7175	0.7091	0.7162	0.7118	AVRG		1.38846		0.7202	2	15	0.05	0.99	
cis-1,2-Dichloroethene		0.6853	0.6185	0.6200	0.5981	0.6234	0.6221	0.6282	0.6283	AVRG		1.59242		0.6280	4	15	0.05	0.99	
Chloroform		0.9752	0.9778	0.9507	0.9455	0.9822	0.9700	0.9763	0.9767	AVRG		1.03168		0.9693	1	15	0.05	0.99	
Bromochloromethane		0.2432	0.2832	0.2817	0.2824	0.2903	0.2965	0.2937	0.2830	AVRG		3.54928		0.2817	6	15	0.05	0.99	
1,1,1-Trichloroethane		0.9179	0.8925	0.8453	0.8518	0.8682	0.8636	0.8815	0.8854	AVRG		1.14186		0.8758	3	15	0.05	0.99	
1,1-Dichloropropene		0.4214	0.4342	0.4188	0.4167	0.4284	0.4278	0.4398	0.4456	AVRG		2.33053		0.4291	2	15	0.05	0.99	
Carbon Tetrachloride		0.3775	0.3952	0.3835	0.3854	0.4036	0.4178	0.4359	0.4486	AVRG		2.46347		0.4059	6	15	0.05	0.99	
1,2-Dichloroethane		0.3994	0.4055	0.4015	0.3924	0.4236	0.4128	0.4126	0.4147	AVRG		2.45204		0.4078	2	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.2844	1.2900	1.2364	1.2357	1.2814	1.2895	1.3148	1.3298	AVRG		0.77958		1.2827	3	15	0.05	0.99	
Trichloroethene		0.3407	0.3261	0.3176	0.3286	0.3350	0.3386	0.3453	0.3470	AVRG		2.98626		0.3349	3	15	0.05	0.99	
1,2-Dichloropropane		0.3049	0.3102	0.3003	0.3011	0.3166	0.3126	0.3179	0.3213	AVRG		3.21936		0.3106	3	15	0.05	0.99	
Bromodichloromethane		0.3755	0.4092	0.4048	0.3971	0.4243	0.4299	0.4332	0.4381	AVRG		2.41540		0.4140	5	15	0.05	0.99	
Dibromomethane		0.1891	0.1902	0.1854	0.1835	0.1989	0.1986	0.1995	0.2005	AVRG		5.17495		0.1932	4	15	0.05	0.99	
4-Methyl-2-Pentanone			0.2165	0.2130	0.2126	0.2210	0.2260	0.2240	0.2240	AVRG		4.55394		0.2196	3	15	0.05	0.99	
cis-1,3-Dichloropropene		0.4967	0.4870	0.4889	0.4742	0.5121	0.5198	0.5193	0.5254	AVRG		1.98831		0.5029	4	15	0.05	0.99	
Toluene		0.8688	0.8395	0.8204	0.8142	0.8264	0.8424	0.8482	0.8506	AVRG		1.19218		0.8388	2	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4710	0.4517	0.4475	0.4619	0.4729	0.4818	0.4811	0.4801	AVRG		2.13450		0.4685	3	15	0.05	0.99	
1,1,2-Trichloroethane		0.1643	0.1609	0.1570	0.1524	0.1550	0.1579	0.1588	0.1563	AVRG		6.33612		0.1578	2	15	0.05	0.99	
2-Hexanone			0.1417	0.1459	0.1454	0.1512	0.1552	0.1537	0.1524	AVRG		6.69607		0.1493	3	15	0.05	0.99	
1,3-Dichloropropane		0.4923	0.4982	0.4854	0.4847	0.4955	0.5077	0.5045	0.4990	AVRG		2.01652		0.4959	2	15	0.05	0.99	
Tetrachloroethene		0.3346	0.3556	0.3412	0.3332	0.3371	0.3458	0.3611	0.3634	AVRG		2.88600		0.3465	3	15	0.05	0.99	
Dibromochloromethane		0.2954	0.2988	0.3063	0.3096	0.3281	0.3460	0.3541	0.3563	AVRG		3.08341		0.3243	8	15	0.05	0.99	
1,2-Dibromoethane		0.3086	0.3025	0.2966	0.2939	0.3054	0.3101	0.3118	0.3108	AVRG		3.27910		0.3050	2	15	0.05	0.99	
Chlorobenzene		0.9935	0.9429	0.9288	0.9350	0.9466	0.9830	0.9933	0.9972	AVRG		1.03623		0.9650	3	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3163	0.3083	0.3140	0.3141	0.3283	0.3364	0.3453	0.3494	AVRG		3.06285		0.3265	5	15	0.05	0.99	
Ethylbenzene		1.6633	1.5249	1.5415	1.5321	1.5566	1.6234	1.6645	1.6712	AVRG		0.62610		1.5972	4	15	0.05	0.99	
m,p-Xylenes	0.5550	0.5385	0.5415	0.5457	0.5553	0.5786	0.6275	0.6505	0.6646	AVRG		1.71193		0.5841	9	15	0.05	0.99	
o-Xylene		0.5078	0.5163	0.5232	0.5336	0.5612	0.6036	0.6233	0.6306	AVRG		1.77793		0.5625	9	15	0.05	0.99	
Styrene		0.8037	0.8195	0.8339	0.8761	0.9443	1.0293	1.0634	1.0843	AVRG		1.07316		0.9318	12	15	0.05	0.99	
Bromoform		0.1742	0.1937	0.1983	0.2047	0.2202	0.2403	0.2452	0.2499	AVRG		4.63349		0.2158	13	15	0.10	0.99	
Isopropylbenzene		3.4413	3.4588	3.4324	3.3319	3.2734	3.2652	3.3343	3.3328	AVRG		0.29773		3.3588	2	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.9331	0.8696	0.8509	0.8030	0.7982	0.7602	0.7357	0.7224	AVRG		1.23588		0.8091	9	15	0.30	0.99	
1,2,3-Trichloropropane		0.9308	0.8484	0.8569	0.7938	0.7791	0.7491	0.7353	0.7210	AVRG		1.24717		0.8018	9	15	0.05	0.99	
Propylbenzene		3.7412	3.5902	3.4860	3.4283	3.4601	3.5412	3.6590	3.6554	AVRG		0.28010		3.5702	3	15	0.05	0.99	
Bromobenzene		0.8959	0.9407	0.9205	0.8777	0.8717	0.8548	0.8610	0.8553	AVRG		1.13031		0.8847	4	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.1875	2.2020	2.1730	2.1752	2.2440	2.3432	2.3984	2.3791	AVRG		0.44193		2.2628	4	15	0.05	0.99	
2-Chlorotoluene		2.5980	2.6076	2.5411	2.4525	2.4384	2.4586	2.4804	2.4673	AVRG		0.39912		2.5055	3	15	0.05	0.99	
4-Chlorotoluene		2.2397	2.1508	2.1644	2.1288	2.1518	2.1484	2.1865	2.1814	AVRG		0.46105		2.1690	2	15	0.05	0.99	
tert-Butylbenzene		2.0945	2.0973	2.0518	2.0363	2.0171	2.1285	2.2138	2.2169	AVRG		0.47460		2.1070	4	15	0.05	0.99	
1,2,4-Trimethylbenzene		1.9687	1.8785	1.8288	1.8691	1.9892	2.1280	2.1493	2.1501	AVRG		0.50120		1.9952	7	15	0.05	0.99	
sec-Butylbenzene		2.9551	3.0116	2.9834	2.9553	2.9843	3.1458	3.2813	3.3045	AVRG		0.32492		3.0777	5	15	0.05	0.99	
para-Isopropyl Toluene		2.1055	2.1364	2.1318	2.1627	2.2490	2.4675	2.5935	2.6118	AVRG		0.43341		2.3073	9	15	0.05	0.99	
1,3-Dichlorobenzene		1.5391	1.5006	1.5021	1.4647	1.4706	1.4978	1.5096	1.5156	AVRG		0.66666		1.5000	2	15	0.05	0.99	
1,4-Dichlorobenzene		1.5526	1.5110	1.4415	1.4292	1.4594	1.4854	1.5235	1.5207	AVRG		0.67096		1.4904	3	15	0.05	0.99	
n-Butylbenzene		1.8447	1.7446	1.6578	1.6682	1.7579	1.9411	2.0137	2.0286	AVRG		0.54583		1.8321	8	15	0.05	0.99	
1,2-Dichlorobenzene		1.4133	1.4411	1.4029	1.3996	1.4048	1.4140	1.4158	1.4185	AVRG		0.70733		1.4138	1	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.1648	0.1626	0.1455	0.1471	0.1442	0.1397	0.1378	AVRG		6.72049		0.1488	7	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.6908	0.6719	0.6318	0.6304	0.6695	0.7095	0.6952	0.7049	AVRG		1.48040		0.6755	5	15	0.05	0.99	
Hexachlorobutadiene		0.3893	0.4219	0.4227	0.4234	0.4156	0.4347	0.4525	0.4598	AVRG		2.33925		0.4275	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.8324	1.7734	1.5328	1.4244	1.5022	1.4750	1.3602	1.3636	AVRG		0.65232		1.5330	12	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6796	0.6503	0.6130	0.5799	0.6269	0.6468	0.6295	0.6324	AVRG		1.58151		0.6323	5	15	0.05	0.99	
Dibromofluoromethane	0.5259	0.5281	0.5294	0.5223	0.5197	0.5216	0.5231	0.5276	0.5175	AVRG		1.90876		0.5239	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3489	0.3520	0.3512	0.3483	0.3394	0.3486	0.3533	0.3537	0.3509	AVRG		2.86058		0.3496	1	15	0.05	0.99	
Toluene-d8	1.3375	1.3344	1.3296	1.3281	1.3212	1.3116	1.3076	1.2912	1.2838	AVRG		0.75981		1.3161	1	15	0.05	0.99	
Bromofluorobenzene	1.1379	1.1638	1.1478	1.1229	1.0833	1.0448	0.9988	0.9748	0.9711	AVRG		0.93309		1.0717	7	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-11	2.000	-14	5.000	-10	10.00	-15	20.00	15	50.00	13	75.00	9	100.0	12
Chloromethane			1.000	-9	2.000	4	5.000	-1	10.00	-5	20.00	6	50.00	2	75.00	0	100.0	3
Vinyl Chloride	0.500	-10	1.000	-4	2.000	-1	5.000	-2	10.00	-5	20.00	7	50.00	6	75.00	3	100.0	6
Bromomethane			1.000	23	2.000	20	5.000	-4	10.00	-8	20.00	2	50.00	0				
Chloroethane			1.000	-12	2.000	3	5.000	-1	10.00	-5	20.00	6	50.00	4	75.00	2	100.0	3
Trichlorofluoromethane			1.000	-9	2.000	-9	5.000	-2	10.00	-5	20.00	6	50.00	6	75.00	5	100.0	8
Acetone					2.000	23	5.000	2	10.00	2	20.00	-3	50.00	-8	75.00	-7	100.0	-9
1,1-Dichloroethene			0.500	6	2.000	4	5.000	0	10.00	-3	20.00	-1	50.00	-2	75.00	-2	100.0	0
Iodomethane							5.000	22	10.00	-6	20.00	-7	50.00	5	75.00	-3	100.0	0
Methylene Chloride			0.500	-2	2.000	7	5.000	0	10.00	-1	20.00	1	50.00	-1	75.00	-2	100.0	-2
Carbon Disulfide			0.500	-2	2.000	3	5.000	0	10.00	-1	20.00	1	50.00	-1	75.00	0	100.0	0
MTBE			0.500	3	2.000	-1	5.000	-1	10.00	-4	20.00	0	50.00	1	75.00	1	100.0	1
trans-1,2-Dichloroethene			0.500	12	2.000	2	5.000	-1	10.00	-5	20.00	-2	50.00	-2	75.00	-2	100.0	-1
Vinyl Acetate			0.500	-17	2.000	-1	5.000	-7	10.00	-6	20.00	4	50.00	9	75.00	8	100.0	10
1,1-Dichloroethane			0.500	-3	2.000	2	5.000	-1	10.00	-2	20.00	2	50.00	0	75.00	1	100.0	0
2-Butanone					2.000	-3	5.000	3	10.00	2	20.00	1	50.00	0	75.00	-2	100.0	-2
2,2-Dichloropropane			0.500	4	2.000	3	5.000	-1	10.00	-3	20.00	0	50.00	-2	75.00	-1	100.0	-1
cis-1,2-Dichloroethene			0.500	9	2.000	-2	5.000	-1	10.00	-5	20.00	-1	50.00	-1	75.00	0	100.0	0
Chloroform			0.500	1	2.000	1	5.000	-2	10.00	-2	20.00	1	50.00	0	75.00	1	100.0	1
Bromochloromethane			0.500	-14	2.000	1	5.000	0	10.00	0	20.00	3	50.00	5	75.00	4	100.0	0
1,1,1-Trichloroethane			0.500	5	2.000	2	5.000	-3	10.00	-3	20.00	-1	50.00	-1	75.00	1	100.0	1
1,1-Dichloropropene			0.500	-2	2.000	1	5.000	-2	10.00	-3	20.00	0	50.00	0	75.00	2	100.0	4
Carbon Tetrachloride			0.500	-7	2.000	-3	5.000	-6	10.00	-5	20.00	-1	50.00	3	75.00	7	100.0	11
1,2-Dichloroethane			0.500	-2	2.000	-1	5.000	-2	10.00	-4	20.00	4	50.00	1	75.00	1	100.0	2
Benzene			0.500	0	2.000	1	5.000	-4	10.00	-4	20.00	0	50.00	1	75.00	2	100.0	4
Trichloroethene			0.500	2	2.000	-3	5.000	-5	10.00	-2	20.00	0	50.00	1	75.00	3	100.0	4
1,2-Dichloropropane			0.500	-2	2.000	0	5.000	-3	10.00	-3	20.00	2	50.00	1	75.00	2	100.0	3
Bromodichloromethane			0.500	-9	2.000	-1	5.000	-2	10.00	-4	20.00	2	50.00	4	75.00	5	100.0	6
Dibromomethane			0.500	-2	2.000	-2	5.000	-4	10.00	-5	20.00	3	50.00	3	75.00	3	100.0	4
4-Methyl-2-Pentanone					2.000	-1	5.000	-3	10.00	-3	20.00	1	50.00	3	75.00	2	100.0	2
cis-1,3-Dichloropropene			0.500	-1	2.000	-3	5.000	-3	10.00	-6	20.00	2	50.00	3	75.00	3	100.0	4
Toluene			0.500	4	2.000	0	5.000	-2	10.00	-3	20.00	-1	50.00	0	75.00	1	100.0	1
trans-1,3-Dichloropropene			0.500	1	2.000	-4	5.000	-4	10.00	-1	20.00	1	50.00	3	75.00	3	100.0	2
1,1,2-Trichloroethane			0.500	4	2.000	2	5.000	0	10.00	-3	20.00	-2	50.00	0	75.00	1	100.0	-1
2-Hexanone					2.000	-5	5.000	-2	10.00	-3	20.00	1	50.00	4	75.00	3	100.0	2
1,3-Dichloropropane			0.500	-1	2.000	0	5.000	-2	10.00	-2	20.00	0	50.00	2	75.00	2	100.0	1
Tetrachloroethene			0.500	-3	2.000	3	5.000	-2	10.00	-4	20.00	-3	50.00	0	75.00	4	100.0	5
Dibromochloromethane			0.500	-9	2.000	-8	5.000	-6	10.00	-5	20.00	1	50.00	7	75.00	9	100.0	10
1,2-Dibromoethane			0.500	1	2.000	-1	5.000	-3	10.00	-4	20.00	0	50.00	2	75.00	2	100.0	2
Chlorobenzene			0.500	3	2.000	-2	5.000	-4	10.00	-3	20.00	-2	50.00	2	75.00	3	100.0	3
1,1,1,2-Tetrachloroethane			0.500	-3	2.000	-6	5.000	-4	10.00	-4	20.00	1	50.00	3	75.00	6	100.0	7
Ethylbenzene			0.500	4	2.000	-5	5.000	-3	10.00	-4	20.00	-3	50.00	2	75.00	4	100.0	5

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	-5	1.000	-8	4.000	-7	10.00	-7	20.00	-5	40.00	-1	100.0	7	150.0	11	200.0	14
o-Xylene			0.500	-10	2.000	-8	5.000	-7	10.00	-5	20.00	0	50.00	7	75.00	11	100.0	12
Styrene			0.500	-14	2.000	-12	5.000	-11	10.00	-6	20.00	1	50.00	10	75.00	14	100.0	16
Bromoform			0.500	-19	2.000	-10	5.000	-8	10.00	-5	20.00	2	50.00	11	75.00	14	100.0	16
Isopropylbenzene			0.500	2	2.000	3	5.000	2	10.00	-1	20.00	-3	50.00	-3	75.00	-1	100.0	-1
1,1,2,2-Tetrachloroethane			0.500	15	2.000	7	5.000	5	10.00	-1	20.00	-1	50.00	-6	75.00	-9	100.0	-11
1,2,3-Trichloropropane			0.500	16	2.000	6	5.000	7	10.00	-1	20.00	-3	50.00	-7	75.00	-8	100.0	-10
Propylbenzene			0.500	5	2.000	1	5.000	-2	10.00	-4	20.00	-3	50.00	-1	75.00	2	100.0	2
Bromobenzene			0.500	1	2.000	6	5.000	4	10.00	-1	20.00	-1	50.00	-3	75.00	-3	100.0	-3
1,3,5-Trimethylbenzene			0.500	-3	2.000	-3	5.000	-4	10.00	-4	20.00	-1	50.00	4	75.00	6	100.0	5
2-Chlorotoluene			0.500	4	2.000	4	5.000	1	10.00	-2	20.00	-3	50.00	-2	75.00	-1	100.0	-2
4-Chlorotoluene			0.500	3	2.000	-1	5.000	0	10.00	-2	20.00	-1	50.00	-1	75.00	1	100.0	1
tert-Butylbenzene			0.500	-1	2.000	0	5.000	-3	10.00	-3	20.00	-4	50.00	1	75.00	5	100.0	5
1,2,4-Trimethylbenzene			0.500	-1	2.000	-6	5.000	-8	10.00	-6	20.00	0	50.00	7	75.00	8	100.0	8
sec-Butylbenzene			0.500	-4	2.000	-2	5.000	-3	10.00	-4	20.00	-3	50.00	2	75.00	7	100.0	7
para-Isopropyl Toluene			0.500	-9	2.000	-7	5.000	-8	10.00	-6	20.00	-3	50.00	7	75.00	12	100.0	13
1,3-Dichlorobenzene			0.500	3	2.000	0	5.000	0	10.00	-2	20.00	-2	50.00	0	75.00	1	100.0	1
1,4-Dichlorobenzene			0.500	4	2.000	1	5.000	-3	10.00	-4	20.00	-2	50.00	0	75.00	2	100.0	2
n-Butylbenzene			0.500	1	2.000	-5	5.000	-10	10.00	-9	20.00	-4	50.00	6	75.00	10	100.0	11
1,2-Dichlorobenzene			0.500	0	2.000	2	5.000	-1	10.00	-1	20.00	-1	50.00	0	75.00	0	100.0	0
1,2-Dibromo-3-Chloropropane					2.000	11	5.000	9	10.00	-2	20.00	-1	50.00	-3	75.00	-6	100.0	-7
1,2,4-Trichlorobenzene			0.500	2	2.000	-1	5.000	-6	10.00	-7	20.00	-1	50.00	5	75.00	3	100.0	4
Hexachlorobutadiene			0.500	-9	2.000	-1	5.000	-1	10.00	-1	20.00	-3	50.00	2	75.00	6	100.0	8
Naphthalene			0.500	20	2.000	16	5.000	0	10.00	-7	20.00	-2	50.00	-4	75.00	-11	100.0	-11
1,2,3-Trichlorobenzene			0.500	7	2.000	3	5.000	-3	10.00	-8	20.00	-1	50.00	2	75.00	0	100.0	0
Dibromofluoromethane	50.00	0	50.00	1	50.00	1	50.00	0	50.00	-1	50.00	0	50.00	0	50.00	1	50.00	-1
1,2-Dichloroethane-d4	50.00	0	50.00	1	50.00	0	50.00	0	50.00	-3	50.00	0	50.00	1	50.00	1	50.00	0
Toluene-d8	50.00	2	50.00	1	50.00	1	50.00	1	50.00	0	50.00	0	50.00	-1	50.00	-2	50.00	-2
Bromofluorobenzene	50.00	6	50.00	9	50.00	7	50.00	5	50.00	1	50.00	-3	50.00	-7	50.00	-9	50.00	-9

BJP 06/15/10 [Freon 12]: Combined split peak1PPB (kfe14).

BJP 06/15/10 [Chloroethane]: Combined split peak in multiple levels.

BJP 06/15/10 [Ethanol]: Combined split peak1PPB (kfe14).

Analyst: BJP

Date: 06/15/10

Reviewer: LW

Date: 06/17/10

m>manual integration

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

Page 5 of 5

830238218001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220658 MSVOA Water
EPA 8260B

Inst : MSVOA11
Calnum : 830238218001

Name : 8260GX11
Cal Date : 14-JUN-2010

Type : WATER

ICV 830238218023 (kfe23 15-JUN-2010) stds: S14688 (10000X), S14594 (10000X),
S14573 (10000X), S14746 (2500X)

ICV 830239803005 (kff05 15-JUN-2010) stds: S14843 (10000X), S14746 (2500X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	830239803005	25.00	26.11	ug/L	4	25	
Chloromethane	830239803005	25.00	26.56	ug/L	6	25	
Vinyl Chloride	830239803005	25.00	25.24	ug/L	1	25	
Bromomethane	830239803005	25.00	21.51	ug/L	-14	25	
Chloroethane	830239803005	25.00	27.83	ug/L	11	25	
Trichlorofluoromethane	830239803005	25.00	26.68	ug/L	7	25	
Acetone	830238218023	25.00	25.20	ug/L	1	25	
1,1-Dichloroethene	830238218023	25.00	24.97	ug/L	0	25	
Iodomethane	830238218023	25.00	9.264	ug/L	-63	25	v-
Methylene Chloride	830238218023	25.00	25.34	ug/L	1	25	
Carbon Disulfide	830238218023	25.00	20.84	ug/L	-17	25	
MTBE	830238218023	25.00	22.78	ug/L	-9	25	
trans-1,2-Dichloroethene	830238218023	25.00	25.04	ug/L	0	25	
Vinyl Acetate	830238218023	25.00	27.95	ug/L	12	25	
1,1-Dichloroethane	830238218023	25.00	25.76	ug/L	3	25	
2-Butanone	830238218023	25.00	25.05	ug/L	0	25	
2,2-Dichloropropane	830238218023	25.00	23.53	ug/L	-6	25	
cis-1,2-Dichloroethene	830238218023	25.00	25.81	ug/L	3	25	
Chloroform	830238218023	25.00	25.55	ug/L	2	25	
Bromochloromethane	830238218023	25.00	26.76	ug/L	7	25	
1,1,1-Trichloroethane	830238218023	25.00	25.41	ug/L	2	25	
1,1-Dichloropropene	830238218023	25.00	25.74	ug/L	3	25	
Carbon Tetrachloride	830238218023	25.00	26.79	ug/L	7	25	
1,2-Dichloroethane	830238218023	25.00	25.19	ug/L	1	25	
Benzene	830238218023	25.00	25.82	ug/L	3	25	
Trichloroethene	830238218023	25.00	25.57	ug/L	2	25	
1,2-Dichloropropane	830238218023	25.00	24.74	ug/L	-1	25	
Bromodichloromethane	830238218023	25.00	25.88	ug/L	4	25	
Dibromomethane	830238218023	25.00	25.69	ug/L	3	25	
4-Methyl-2-Pentanone	830238218023	25.00	25.96	ug/L	4	25	
cis-1,3-Dichloropropene	830238218023	25.00	25.31	ug/L	1	25	
Toluene	830238218023	25.00	25.80	ug/L	3	25	
trans-1,3-Dichloropropene	830238218023	25.00	23.76	ug/L	-5	25	
1,1,2-Trichloroethane	830238218023	25.00	25.00	ug/L	0	25	
2-Hexanone	830238218023	25.00	26.17	ug/L	5	25	
1,3-Dichloropropane	830238218023	25.00	25.27	ug/L	1	25	
Tetrachloroethene	830238218023	25.00	26.18	ug/L	5	25	
Dibromochloromethane	830238218023	25.00	26.11	ug/L	4	25	
1,2-Dibromoethane	830238218023	25.00	25.42	ug/L	2	25	
Chlorobenzene	830238218023	25.00	26.00	ug/L	4	25	
1,1,1,2-Tetrachloroethane	830238218023	25.00	25.75	ug/L	3	25	
Ethylbenzene	830238218023	25.00	26.07	ug/L	4	25	
m,p-Xylenes	830238218023	50.00	53.71	ug/L	7	25	
o-Xylene	830238218023	25.00	26.88	ug/L	8	25	
Styrene	830238218023	25.00	27.21	ug/L	9	25	
Bromoform	830238218023	25.00	27.07	ug/L	8	25	
Isopropylbenzene	830238218023	25.00	22.61	ug/L	-10	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	830238218023	25.00	23.79	ug/L	-5	25	
1,2,3-Trichloropropane	830238218023	25.00	24.37	ug/L	-3	25	
Propylbenzene	830238218023	25.00	25.45	ug/L	2	25	
Bromobenzene	830238218023	25.00	25.81	ug/L	3	25	
1,3,5-Trimethylbenzene	830238218023	25.00	26.52	ug/L	6	25	
2-Chlorotoluene	830238218023	25.00	26.04	ug/L	4	25	
4-Chlorotoluene	830238218023	25.00	25.75	ug/L	3	25	
tert-Butylbenzene	830238218023	25.00	26.59	ug/L	6	25	
1,2,4-Trimethylbenzene	830238218023	25.00	27.15	ug/L	9	25	
sec-Butylbenzene	830238218023	25.00	26.60	ug/L	6	25	
para-Isopropyl Toluene	830238218023	25.00	25.76	ug/L	3	25	
1,3-Dichlorobenzene	830238218023	25.00	25.78	ug/L	3	25	
1,4-Dichlorobenzene	830238218023	25.00	25.71	ug/L	3	25	
n-Butylbenzene	830238218023	25.00	26.58	ug/L	6	25	
1,2-Dichlorobenzene	830238218023	25.00	26.34	ug/L	5	25	
1,2-Dibromo-3-Chloropropane	830238218023	25.00	24.08	ug/L	-4	25	
1,2,4-Trichlorobenzene	830238218023	25.00	25.62	ug/L	2	25	
Hexachlorobutadiene	830238218023	25.00	25.87	ug/L	3	25	
Naphthalene	830238218023	25.00	25.03	ug/L	0	25	
1,2,3-Trichlorobenzene	830238218023	25.00	26.32	ug/L	5	25	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220658 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : QC549567 IDF : 1.0
 Seqnum : 470249763005.2 File : hfm05 Time : 22-JUN-2010 12:32
 Cal : 470241127001 Caldate : 16-JUN-2010 Caltype : WATER
 Standards: S14594 (10000X), S14688 (10000X), S14846 (10000X), S14573 (10000X),
 S14572 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.9832	1.2807	25.00	29.12	ug/L	16	20	0.0500	u
Chloromethane	1.4844	1.6675	25.00	28.08	ug/L	12	20	0.1000	u
Vinyl Chloride	1.1275	1.2284	25.00	27.24	ug/L	9	20	0.0500	u
Bromomethane	0.6785	0.7133	25.00	26.28	ug/L	5	20	0.0500	u
Chloroethane	0.5798	0.6762	25.00	29.16	ug/L	17	20	0.0500	u
Trichlorofluoromethane	1.0267	1.2181	25.00	29.66	ug/L	19	20	0.0500	u
Iodomethane	0.6588	0.7570	25.00	25.37	ug/L	1	20	0.0500	u
Acetone	0.1921	0.1856	25.00	25.93	ug/L	4	20	0.0500	u
1,1-Dichloroethene	0.5971	0.6543	25.00	27.39	ug/L	10	20	0.0500	u
Methylene Chloride	0.6920	0.6611	25.00	23.88	ug/L	-4	20	0.0500	u
Carbon Disulfide	3.1353	2.7630	25.00	22.03	ug/L	-12	20	0.0500	u
MTBE	1.0870	1.0383	25.00	23.88	ug/L	-4	20	0.0500	u
trans-1,2-Dichloroethene	0.7767	0.7859	25.00	25.30	ug/L	1	20	0.0500	u
Vinyl Acetate	0.6081	1.1636	25.00	47.84	ug/L	91	20	0.0500	c+ u v- ***
1,1-Dichloroethane	1.5849	1.7327	25.00	27.33	ug/L	9	20	0.1000	u
2-Butanone	0.2766	0.2807	25.00	25.38	ug/L	2	20	0.0500	u
cis-1,2-Dichloroethene	0.7152	0.7074	25.00	24.73	ug/L	-1	20	0.0500	u
2,2-Dichloropropane	0.9359	1.2144	25.00	32.44	ug/L	30	20	0.0500	c+ u ***
Chloroform	1.1337	1.2855	25.00	28.35	ug/L	13	20	0.0500	u
Bromochloromethane	0.2108	0.2244	25.00	26.61	ug/L	6	20	0.0500	u
1,1,1-Trichloroethane	0.9170	1.0889	25.00	29.69	ug/L	19	20	0.0500	u
1,1-Dichloropropene	0.6426	0.6818	25.00	26.53	ug/L	6	20	0.0500	u
Carbon Tetrachloride	0.3974	0.4511	25.00	28.38	ug/L	14	20	0.0500	u
1,2-Dichloroethane	0.3861	0.3950	25.00	25.58	ug/L	2	20	0.0500	u
Benzene	1.5548	1.6447	25.00	26.45	ug/L	6	20	0.0500	u
Trichloroethene	0.4506	0.4445	25.00	24.66	ug/L	-1	20	0.0500	u
1,2-Dichloropropane	0.4380	0.4210	25.00	24.03	ug/L	-4	20	0.0500	u
Bromodichloromethane	0.4031	0.4132	25.00	25.62	ug/L	2	20	0.0500	u
Dibromomethane	0.1635	0.1615	25.00	24.70	ug/L	-1	20	0.0500	u
4-Methyl-2-Pentanone	0.3188	0.3163	25.00	24.81	ug/L	-1	20	0.0500	u
cis-1,3-Dichloropropene	0.4825	0.4855	25.00	25.16	ug/L	1	20	0.0500	u
Toluene	1.2501	1.3144	25.00	26.29	ug/L	5	20	0.0500	u
trans-1,3-Dichloropropene	0.5309	0.5209	25.00	24.53	ug/L	-2	20	0.0500	u
1,1,2-Trichloroethane	0.1674	0.1608	25.00	24.00	ug/L	-4	20	0.0500	u
2-Hexanone	0.3057	0.3235	25.00	26.45	ug/L	6	20	0.0500	u
1,3-Dichloropropane	0.5313	0.5390	25.00	25.36	ug/L	1	20	0.0500	u
Tetrachloroethene	0.4432	0.4764	25.00	26.88	ug/L	8	20	0.0500	u
Dibromochloromethane	0.2762	0.2686	25.00	24.31	ug/L	-3	20	0.0500	u
1,2-Dibromoethane	0.2718	0.2720	25.00	25.02	ug/L	0	20	0.0500	u
Chlorobenzene	1.1495	1.2458	25.00	27.09	ug/L	8	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.2949	0.3137	25.00	26.59	ug/L	6	20	0.0500	u
Ethylbenzene	2.4645	2.7611	25.00	28.01	ug/L	12	20	0.0500	u
m,p-Xylenes	0.8525	0.9134	50.00	53.57	ug/L	7	20	0.0500	u
o-Xylene	0.7633	0.8252	25.00	27.03	ug/L	8	20	0.0500	u
Styrene	1.1500	1.2080	25.00	26.26	ug/L	5	20	0.0500	u
Bromoform	0.1340	0.1286	25.00	23.98	ug/L	-4	20	0.1000	u y
Isopropylbenzene	5.9119	5.9777	25.00	25.28	ug/L	1	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.8230	0.9930	25.00	30.16	ug/L	21	20	0.3000	c+ u ***
1,2,3-Trichloropropane	0.1979	0.2032	25.00	25.67	ug/L	3	20	0.0500	u y
Propylbenzene	8.1781	9.4401	25.00	28.86	ug/L	15	20	0.0500	u
Bromobenzene	0.9367	0.9768	25.00	26.07	ug/L	4	20	0.0500	u
1,3,5-Trimethylbenzene	4.6969	5.2989	25.00	28.20	ug/L	13	20	0.0500	u
2-Chlorotoluene	4.7727	5.4211	25.00	28.40	ug/L	14	20	0.0500	u
4-Chlorotoluene	4.3284	4.9450	25.00	28.56	ug/L	14	20	0.0500	u
tert-Butylbenzene	3.8104	4.3720	25.00	28.68	ug/L	15	20	0.0500	u
1,2,4-Trimethylbenzene	4.4422	5.2003	25.00	29.27	ug/L	17	20	0.0500	u
sec-Butylbenzene	6.7433	8.4071	25.00	31.17	ug/L	25	20	0.0500	c+ u ***
para-Isopropyl Toluene	4.8835	5.5699	25.00	28.51	ug/L	14	20	0.0500	u
1,3-Dichlorobenzene	1.9427	2.0913	25.00	26.91	ug/L	8	20	0.0500	u
1,4-Dichlorobenzene	1.9096	2.0374	25.00	26.67	ug/L	7	20	0.0500	u
n-Butylbenzene	5.5295	7.0701	25.00	31.97	ug/L	28	20	0.0500	c+ u ***
1,2-Dichlorobenzene	1.5815	1.7469	25.00	27.61	ug/L	10	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1394	0.1346	25.00	24.13	ug/L	-3	20	0.0500	u
1,2,4-Trichlorobenzene	0.8695	0.9485	25.00	27.27	ug/L	9	20	0.0500	u
Hexachlorobutadiene	0.5292	0.6688	25.00	31.59	ug/L	26	20	0.0500	c+ u ***
Naphthalene	1.5465	1.7676	25.00	28.57	ug/L	14	20	0.0500	u
1,2,3-Trichlorobenzene	0.7185	0.8058	25.00	28.04	ug/L	12	20	0.0500	u
Dibromofluoromethane	0.5173	0.5329	50.00	51.51	ug/L	3	20	0.0500	u
1,2-Dichloroethane-d4	0.2585	0.2555	50.00	49.42	ug/L	-1	20	0.0500	u
Toluene-d8	1.7005	1.7264	50.00	50.76	ug/L	2	20	0.0500	u
Bromofluorobenzene	1.3419	1.3668	50.00	50.93	ug/L	2	20	0.0500	u

ISTD (ICAL hfg14)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	300864	319818	6.30	9.81	9.81	0.00
1,4-Difluorobenzene	542097	592511	9.30	10.93	10.94	0.01
Chlorobenzene-d5	359798	398901	10.87	15.07	15.07	0.00
1,4-Dichlorobenzene-d4	140701	145564	3.46	17.79	17.80	0.01

5% spike rule

Analyst: BJP Date: 06/24/10 Reviewer: LW Date: 06/24/10

+ = high bias -- = low bias c = CCV u = use v = ICV y = RL raised

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220658 MSVOA Water
EPA 8260B

Inst : MSVOA11 Run Name : QC549403 IDF : 1.0
 Seqnum : 830248287014.2 File : kfl14 Time : 21-JUN-2010 15:25
 Cal : 830238218001 Caldate : 14-JUN-2010 Caltype : WATER
 Standards: S14573 (10000X), S14688 (10000X), S14846 (10000X), S14746 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.6143	0.6705	25.00	27.29	ug/L	9	20	0.0500	u
Chloromethane	0.5849	0.6552	25.00	28.00	ug/L	12	20	0.1000	u
Vinyl Chloride	0.7165	0.7373	25.00	25.73	ug/L	3	20	0.0500	u
Bromomethane	0.2439	0.3490	25.00	31.30	ug/L	25	20	0.0500	c+ u ***
Chloroethane	0.3509	0.4165	25.00	29.67	ug/L	19	20	0.0500	u
Trichlorofluoromethane	0.8685	0.9592	25.00	27.61	ug/L	10	20	0.0500	u
Iodomethane	0.2118	0.2585	25.00	27.32	ug/L	9	20	0.0500	u v- ***
Acetone	0.1378	0.1707	25.00	30.97	ug/L	24	20	0.0500	c+ u ***
1,1-Dichloroethene	0.4606	0.4814	25.00	26.13	ug/L	5	20	0.0500	u
Methylene Chloride	0.5399	0.6193	25.00	28.67	ug/L	15	20	0.0500	u
Carbon Disulfide	1.7188	1.5083	25.00	21.94	ug/L	-12	20	0.0500	u
MTBE	1.6914	1.8452	25.00	27.27	ug/L	9	20	0.0500	u
trans-1,2-Dichloroethene	0.5518	0.6243	25.00	28.29	ug/L	13	20	0.0500	u
Vinyl Acetate	0.7546	1.0377	25.00	34.38	ug/L	38	20	0.0500	c+ u ***
1,1-Dichloroethane	0.9139	1.0505	25.00	28.74	ug/L	15	20	0.1000	u
2-Butanone	0.1872	0.2328	25.00	31.09	ug/L	24	20	0.0500	c+ u ***
cis-1,2-Dichloroethene	0.6280	0.7391	25.00	29.42	ug/L	18	20	0.0500	u
2,2-Dichloropropane	0.7202	0.9552	25.00	33.16	ug/L	33	20	0.0500	c+ u ***
Chloroform	0.9693	1.1245	25.00	29.00	ug/L	16	20	0.0500	u
Bromochloromethane	0.2817	0.3371	25.00	29.91	ug/L	20	20	0.0500	u
1,1,1-Trichloroethane	0.8758	0.9855	25.00	28.13	ug/L	13	20	0.0500	u
1,1-Dichloropropene	0.4291	0.4374	25.00	25.48	ug/L	2	20	0.0500	u
Carbon Tetrachloride	0.4059	0.4275	25.00	26.33	ug/L	5	20	0.0500	u
1,2-Dichloroethane	0.4078	0.4352	25.00	26.68	ug/L	7	20	0.0500	u
Benzene	1.2827	1.3466	25.00	26.24	ug/L	5	20	0.0500	u
Trichloroethene	0.3349	0.3457	25.00	25.81	ug/L	3	20	0.0500	u
1,2-Dichloropropane	0.3106	0.3114	25.00	25.06	ug/L	0	20	0.0500	u
Bromodichloromethane	0.4140	0.4459	25.00	26.92	ug/L	8	20	0.0500	u
Dibromomethane	0.1932	0.2080	25.00	26.92	ug/L	8	20	0.0500	u
4-Methyl-2-Pentanone	0.2196	0.2421	25.00	27.56	ug/L	10	20	0.0500	u
cis-1,3-Dichloropropene	0.5029	0.5493	25.00	27.30	ug/L	9	20	0.0500	u
Toluene	0.8388	0.8023	25.00	23.91	ug/L	-4	20	0.0500	u
trans-1,3-Dichloropropene	0.4685	0.4314	25.00	23.02	ug/L	-8	20	0.0500	u
1,1,2-Trichloroethane	0.1578	0.1513	25.00	23.97	ug/L	-4	20	0.0500	u
2-Hexanone	0.1493	0.1575	25.00	26.37	ug/L	5	20	0.0500	u
1,3-Dichloropropane	0.4959	0.4782	25.00	24.11	ug/L	-4	20	0.0500	u
Tetrachloroethene	0.3465	0.3233	25.00	23.32	ug/L	-7	20	0.0500	u
Dibromochloromethane	0.3243	0.3162	25.00	24.37	ug/L	-3	20	0.0500	u
1,2-Dibromoethane	0.3050	0.2940	25.00	24.10	ug/L	-4	20	0.0500	u
Chlorobenzene	0.9650	0.9282	25.00	24.04	ug/L	-4	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3265	0.3089	25.00	23.65	ug/L	-5	20	0.0500	u
Ethylbenzene	1.5972	1.5312	25.00	23.97	ug/L	-4	20	0.0500	u
m,p-Xylenes	0.5841	0.5629	50.00	48.19	ug/L	-4	20	0.0500	u
o-Xylene	0.5625	0.5487	25.00	24.39	ug/L	-2	20	0.0500	u
Styrene	0.9318	0.9077	25.00	24.35	ug/L	-3	20	0.0500	u
Bromoform	0.2158	0.2193	25.00	25.40	ug/L	2	20	0.1000	u
Isopropylbenzene	3.3588	2.7597	25.00	20.54	ug/L	-18	20	0.0500	u
1,1,2,2-Tetrachloroethane	0.8091	0.7621	25.00	23.55	ug/L	-6	20	0.3000	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,2,3-Trichloropropane	0.8018	0.7464	25.00	23.27	ug/L	-7	20	0.0500	u
Propylbenzene	3.5702	3.2888	25.00	23.03	ug/L	-8	20	0.0500	u
Bromobenzene	0.8847	0.8361	25.00	23.63	ug/L	-5	20	0.0500	u
1,3,5-Trimethylbenzene	2.2628	2.0922	25.00	23.11	ug/L	-8	20	0.0500	u
2-Chlorotoluene	2.5055	2.3799	25.00	23.75	ug/L	-5	20	0.0500	u
4-Chlorotoluene	2.1690	2.0182	25.00	23.26	ug/L	-7	20	0.0500	u
tert-Butylbenzene	2.1070	2.0006	25.00	23.74	ug/L	-5	20	0.0500	u
1,2,4-Trimethylbenzene	1.9952	1.8633	25.00	23.35	ug/L	-7	20	0.0500	u
sec-Butylbenzene	3.0777	2.9452	25.00	23.92	ug/L	-4	20	0.0500	u
para-Isopropyl Toluene	2.3073	2.0983	25.00	22.74	ug/L	-9	20	0.0500	u
1,3-Dichlorobenzene	1.5000	1.3977	25.00	23.30	ug/L	-7	20	0.0500	u
1,4-Dichlorobenzene	1.4904	1.3837	25.00	23.21	ug/L	-7	20	0.0500	u
n-Butylbenzene	1.8321	1.7314	25.00	23.63	ug/L	-5	20	0.0500	u
1,2-Dichlorobenzene	1.4138	1.3417	25.00	23.73	ug/L	-5	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1488	0.1382	25.00	23.21	ug/L	-7	20	0.0500	u
1,2,4-Trichlorobenzene	0.6755	0.6349	25.00	23.50	ug/L	-6	20	0.0500	u
Hexachlorobutadiene	0.4275	0.3978	25.00	23.26	ug/L	-7	20	0.0500	u
Naphthalene	1.5330	1.5298	25.00	24.95	ug/L	0	20	0.0500	u
1,2,3-Trichlorobenzene	0.6323	0.6221	25.00	24.59	ug/L	-2	20	0.0500	u
Dibromofluoromethane	0.5239	0.5706	50.00	54.46	ug/L	9	20	0.0500	u
1,2-Dichloroethane-d4	0.3496	0.3520	50.00	50.34	ug/L	1	20	0.0500	u
Toluene-d8	1.3161	1.2233	50.00	46.47	ug/L	-7	20	0.0500	u
Bromofluorobenzene	1.0717	1.0514	50.00	49.05	ug/L	-2	20	0.0500	u

ISTD (ICAL kfe19)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	674857	643905	-4.59	10.45	10.45	0.00
1,4-Difluorobenzene	1199364	1257693	4.86	11.38	11.38	0.01
Chlorobenzene-d5	1205193	1399185	16.10	14.46	14.46	0.00
1,4-Dichlorobenzene-d4	579558	633468	9.30	16.69	16.69	0.00

Analyst: BJP Date: 06/24/10 Reviewer: LW Date: 06/24/10

+ = high bias - = low bias c = CCV u = use v = ICV

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 470249763

Date : 06/22/10
 Sequence : MSVOA08 hfm

Reference : hfg14
 Analyzed : 06/17/10 00:40

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	300864	9.81	542097	10.93	359798	15.07	140701	17.79
		LOWER LIMIT	150432	9.31	271049	10.43	179899	14.57	70351	17.29
		UPPER LIMIT	601728	10.31	1084194	11.43	719596	15.57	281402	18.29
004	CCV		319967	9.81	602877	10.94	406120	15.07	152544	17.80
005	CCV/BS	QC549567	319818	9.81	592511	10.94	398901	15.07	145564	17.80
006	BSD	QC549568	317840	9.81	573169	10.94	382865	15.07	146590	17.79
008	BLANK	QC549566	316865	9.80	592089	10.94	390235	15.07	141365	17.80
009	SAMPLE	220802-002	284601	9.81	517524	10.94	347764	15.07	124060	17.80
010	SAMPLE	220658-002	297430	9.80	546909	10.94	357392	15.07	127417	17.80
011	SAMPLE	220680-006	286507	9.80	527899	10.94	361681	15.07	120525	17.80
012	SAMPLE	220775-001	293760	9.80	534127	10.94	353767	15.07	128683	17.80
013	SAMPLE	220775-002	279807	9.80	524324	10.94	346493	15.07	121660	17.80
014	SAMPLE	220775-003	282505	9.80	544921	10.94	370007	15.07	125899	17.80
015	SAMPLE	220775-004	292606	9.81	539145	10.94	365989	15.07	127718	17.79
016	SAMPLE	220775-006	287355	9.80	545934	10.94	362368	15.07	129410	17.80
017	SAMPLE	220775-007	305953	9.81	572737	10.94	373697	15.07	138287	17.79
018	SAMPLE	220775-008	294572	9.80	551810	10.94	387920	15.07	132380	17.80
019	SAMPLE	220775-009	288504	9.80	562623	10.94	382734	15.07	135823	17.80
020	SAMPLE	220680-009	290688	9.81	535554	10.94	367945	15.07	128005	17.79
021	SAMPLE	220702-004	291277	9.81	539461	10.94	372431	15.07	124791	17.79
022	SAMPLE	220821-004	285633	9.80	524774	10.94	361940	15.07	125392	17.80
023	SAMPLE	220821-003	280454	9.81	527187	10.94	367436	15.07	127195	17.79

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 830248287

Date : 06/21/10
 Sequence : MSVOA11 kfl

Reference : kfe19
 Analyzed : 06/15/10 00:33

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	674857	10.45	1199364	11.38	1205193	14.46	579558	16.69
		LOWER LIMIT	337429	9.95	599682	10.88	602597	13.96	289779	16.19
		UPPER LIMIT	1349714	10.95	2398728	11.88	2410386	14.96	1159116	17.19
003	CCV		471022	10.45	952063	11.38	1048390	14.46	455312	16.69
004	CCV/BS	QC549403	480776	10.45	963040	11.38	1073473	14.46	487392	16.69
005	BSD	QC549404	492714	10.45	985743	11.38	1091279	14.46	495224	16.69
007	CCV		492464	10.45	971698	11.37	1082810	14.46	476007	16.69
008	CCV/BS	QC549403	500258	10.45	992683	11.38	1112364	14.46	503196	16.69
013	CCV		616799	10.45	1209305	11.38	1354393	14.46	610021	16.69
014	CCV/BS	QC549403	643905	10.45	1257693	11.38	1399185	14.46	633468	16.69
015	BSD	QC549404	636987	10.45	1243335	11.37	1390182	14.46	632962	16.69
017	BLANK	QC549402	598180	10.45	1202969	11.37	1324625	14.46	506745	16.69
018	SAMPLE	220821-006	591887	10.45	1187266	11.38	1319817	14.46	492369	16.69
019	SAMPLE	220658-001	573544	10.45	1165860	11.38	1300867	14.46	474159	16.69
020	SAMPLE	220658-002	566596	10.45	1152897	11.38	1292384	14.46	469900	16.69
021	SAMPLE	220657-020	576528	10.45	1176143	11.38	1329453	14.46	530955	16.69
022	MSS	220657-019	572110	10.45	1158792	11.38	1305366	14.46	504119	16.69
023	SAMPLE	220780-002	580371	10.45	1171476	11.38	1305453	14.46	479635	16.69
024	SAMPLE	220657-014	574414	10.45	1166690	11.38	1318191	14.46	548331	16.69
025	SAMPLE	220657-015	588805	10.45	1182074	11.38	1327229	14.46	534261	16.69
026	SAMPLE	220702-004	589863	10.45	1195568	11.38	1336015	14.46	495913	16.69
027	SAMPLE	220702-005	568403	10.45	1159569	11.38	1299125	14.46	496620	16.69
028	SAMPLE	220702-003	572219	10.45	1161673	11.37	1307014	14.46	494371	16.69
029	SAMPLE	220780-001	574596	10.45	1171210	11.38	1336399	14.46	489477	16.69
030	SAMPLE	220821-001	568532	10.45	1176489	11.38	1316703	14.46	534500	16.69
031	SAMPLE	220821-004	570743	10.45	1160915	11.38	1305499	14.46	478328	16.69
032	SAMPLE	220821-005	558480	10.45	1145303	11.38	1292141	14.46	498988	16.69
033	SAMPLE	220821-002	566932	10.45	1165084	11.38	1322048	14.46	529480	16.69
034	SAMPLE	220821-003	583564	10.45	1192525	11.38	1353476	14.46	569330	16.69
035	MS	QC549456	596134	10.45	1202335	11.38	1378387	14.46	619141	16.69
036	MSD	QC549457	599786	10.45	1201564	11.38	1368609	14.46	609830	16.69

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 470241127

Instrument : MSVOA08 Begun : 06/16/10 10:47
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	hfg01	X	IB			06/16/10 10:47	1.0	1	
002	hfg02	TUN	BFB			06/16/10 17:17	1.0	2	
003	hfg03	TUN	BFB			06/16/10 17:38	1.0	2	
004	hfg04	X	IB			06/16/10 18:27	1.0	1	
005	hfg05	X	IB			06/16/10 19:04	1.0	1	
006	hfg06	X	IB			06/16/10 19:42	1.0	1	
007	hfg07	IB	CALIB IB			06/16/10 20:19	1.0	1	
008	hfg08	ICAL	.25/.5PPB			06/16/10 20:57	1.0	3 4 5 6 1	
009	hfg09	ICAL	0.5/1PPB			06/16/10 21:34	1.0	3 4 5 6 1	
010	hfg10	ICAL	2PPB			06/16/10 22:11	1.0	3 4 5 6 1	
011	hfg11	ICAL	5PPB			06/16/10 22:49	1.0	3 4 5 6 1	
012	hfg12	ICAL	10PPB			06/16/10 23:26	1.0	3 4 5 6 1	
013	hfg13	ICAL	20PPB			06/17/10 00:03	1.0	7 8 9 10 1	
014	hfg14	ICAL	50PPB			06/17/10 00:40	1.0	7 8 9 10 1	
015	hfg15	ICAL	75PPB			06/17/10 01:18	1.0	7 8 9 10 1	
016	hfg16	ICAL	100PPB			06/17/10 01:55	1.0	7 8 9 10 1	
017	hfg17	ICV	25PPB			06/17/10 02:32	1.0	11 1	
018	hfg18	ICV	25PPB			06/17/10 03:08	1.0	12 13 14 1	1:CEVETH=100
019	hfg19	X	IB			06/17/10 03:45	1.0	1	
020	hfg20	X	IB			06/17/10 04:22	1.0	1	

BJP 06/22/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

Analyst: BJP Date: 06/22/10 Reviewer: LW Date: 06/22/10
 Standards used: 1=S14572 2=S13652 3=S14834 4=S14738 5=S14742 6=S14739 7=S14722 8=S14747 9=S14228 10=S14230 11=S14846
 12=S14688 13=S14573 14=S14594

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 470249763

Instrument : MSVOA08 Begun : 06/22/10 10:43
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	hfm01	X	IB			06/22/10 10:43	1.0	1	
002	hfm02	TUN	BFB			06/22/10 11:16	1.0	2	
003	hfm03	TUN	BFB			06/22/10 11:26	1.0	2	
004	hfm04	CCV				06/22/10 11:55	1.0	3 4 5 6 1	
005	hfm05	CCV/BS	QC549567	Water	164269	06/22/10 12:32	1.0	7 8 9 10 1	
006	hfm06	BSD	QC549568	Water	164269	06/22/10 13:09	1.0	7 8 9 10 1	
007	hfm07	X	IB			06/22/10 13:47	1.0	1	
008	hfm08	BLANK	QC549566	Water	164269	06/22/10 14:24	1.0	1	
009	hfm09	SAMPLE	220802-002	Water	164269	06/22/10 15:02	1.0	1	
010	hfm10	SAMPLE	220658-002	Water	164269	06/22/10 15:39	1.0	1	headspace <= 1 mL
011	hfm11	SAMPLE	220680-006	Water	164269	06/22/10 16:16	1.0	1	
012	hfm12	SAMPLE	220775-001	Water	164269	06/22/10 16:53	1.0	1	
013	hfm13	SAMPLE	220775-002	Water	164269	06/22/10 17:30	1.0	1	
014	hfm14	SAMPLE	220775-003	Water	164269	06/22/10 18:08	1.0	1	
015	hfm15	SAMPLE	220775-004	Water	164269	06/22/10 18:45	1.0	1	
016	hfm16	SAMPLE	220775-006	Water	164269	06/22/10 19:22	1.0	1	
017	hfm17	SAMPLE	220775-007	Water	164269	06/22/10 19:59	1.0	1	
018	hfm18	SAMPLE	220775-008	Water	164269	06/22/10 20:36	1.0	1	
019	hfm19	SAMPLE	220775-009	Water	164269	06/22/10 21:14	1.0	1	1:DCE12C=190
020	hfm20	SAMPLE	220680-009	Water	164269	06/22/10 21:51	7.143	1	
021	hfm21	SAMPLE	220702-004	Water	164269	06/22/10 22:28	10.0	1	
022	hfm22	SAMPLE	220821-004	Water	164269	06/22/10 23:05	6250	1	1:ACE=78
023	hfm23	SAMPLE	220821-003	Water	164269	06/22/10 23:43	1000	1	1:ACE=5900
024	hfm24	X	IB			06/23/10 00:20	1.0	1	
025	hfm25	X	IB			06/23/10 00:57	1.0	1	
026	hfm26	X	IB			06/23/10 01:34	1.0	1	
027	hfm27	X	IB			06/23/10 02:11	1.0	1	

MCT 06/23/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

BJP 06/23/10 : Matrix spikes were not performed for this analysis in batch 164269 due to insufficient sample amount.

Analyst: MCT Date: 06/23/10 Reviewer: LW Date: 06/24/10

Standards used: 1=S14572 2=S13652 3=S14747 4=S14228 5=S14722 6=S14230 7=S14594 8=S14688 9=S14846 10=S14573

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 830238218

Instrument : MSVOA11 Begun : 06/14/10 10:18
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	kfe01	X	IB			06/14/10 10:18	1.0	1
002	kfe02	X	IB			06/14/10 10:46	1.0	1
003	kfe03	X	STD 0.5 PPB			06/14/10 14:02	1.0	1
004	kfe04	TUN	BFB			06/14/10 16:24	1.0	2
005	kfe05	TUN	BFB			06/14/10 18:39	1.0	2
006	kfe06	TUN	BFB			06/14/10 18:58	1.0	2
007	kfe07	TUN	BFB			06/14/10 19:07	1.0	2
008	kfe08	TUN	BFB			06/14/10 19:19	1.0	2
009	kfe09	X	IB			06/14/10 19:52	1.0	1
010	kfe10	X	IB			06/14/10 20:20	1.0	1
011	kfe11	X	IB			06/14/10 20:48	1.0	1
012	kfe12	IB	CALIB			06/14/10 21:16	1.0	1
013	kfe13	ICAL	.25/.5PPB			06/14/10 21:45	1.0	3 4 5 6 1
014	kfe14	ICAL	0.5/1PPB			06/14/10 22:13	1.0	3 4 5 6 1
015	kfe15	ICAL	2PPB			06/14/10 22:41	1.0	3 4 5 6 1
016	kfe16	ICAL	5PPB			06/14/10 23:09	1.0	3 4 5 6 1
017	kfe17	ICAL	10PPB			06/14/10 23:37	1.0	3 4 5 6 1
018	kfe18	ICAL	20PPB			06/15/10 00:05	1.0	7 8 9 10 1
019	kfe19	ICAL	50PPB			06/15/10 00:33	1.0	7 8 9 10 1
020	kfe20	ICAL	75PPB			06/15/10 01:01	1.0	7 8 9 10 1
021	kfe21	ICAL	100PPB			06/15/10 01:29	1.0	7 8 9 10 1
022	kfe22	ICV	25PPB			06/15/10 01:57	1.0	11 1
023	kfe23	ICV	25PPB			06/15/10 02:25	1.0	12 13 14 1
024	kfe24	X	IB			06/15/10 02:53	1.0	1
025	kfe25	X	IB			06/15/10 03:21	1.0	1

BJP 06/15/10 : Adjusted tune for kfe06.

BJP 06/15/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Analyst: BJP Date: 06/15/10 Reviewer: LW Date: 06/17/10
 Standards used: 1=S14746 2=S13652 3=S14738 4=S14834 5=S14742 6=S14739 7=S14722 8=S14747 9=S14228 10=S14230 11=S14846
 12=S14688 13=S14594 14=S14573



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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220680
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 383868.US.60.61.QS
Location : Quarterly UST
Level : III

Table with 2 columns: Sample ID and Lab ID. Lists 13 sample entries with their corresponding lab IDs.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Desiree N. Tetrault

Signature: Project Manager

Date: 06/28/2010

CASE NARRATIVE

Laboratory number: 220680
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/11/10
Samples Received: 06/11/10

This data package contains sample and QC results for thirteen water samples, requested for the above referenced project on 06/11/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

TPH-Extractables by GC (EPA 8015B):

High responses were observed for motor oil C22-C32 in the CCV analyzed 06/22/10 04:38 and the CCV analyzed 06/22/10 10:35; this analyte was not detected at or above the RL in the associated sample.

High recoveries were observed for diesel C10-C22 in the MS/MSD of ASE-55A-GW-10Q2 (lab # 220680-003); the LCS was within limits, and the associated RPD was within limits.

High surrogate recovery was observed for o-terphenyl in EB-003-GW-10Q2 (lab # 220680-006); no target analytes were detected in the sample.

No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

Low response was observed for iodomethane in the ICV analyzed 04/28/10 01:25; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low response was observed for iodomethane in the ICV analyzed 05/21/10 18:24; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b". High response was observed for vinyl acetate; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low response was observed for bromomethane in the ICV analyzed 05/21/10 16:57; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low response was observed for vinyl acetate in the ICV analyzed 06/17/10 03:08; affected data was qualified with "b".

Low responses were observed for a number of analytes in the CCV analyzed 06/23/10 15:49; these analytes met minimum response criteria. High response was observed for hexachlorobutadiene; this analyte was not detected at or

CASE NARRATIVE

Laboratory number: 220680
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/11/10
Samples Received: 06/11/10

Volatile Organics by GC/MS (EPA 8260B):

above the RL in the associated samples.

High responses were observed for bromomethane, Freon 12, and iodomethane in the CCV analyzed 06/23/10 11:31; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low responses were observed for a number of analytes in the CCV analyzed 06/24/10 15:45; these analytes met minimum response criteria. High responses were observed for bromomethane, hexachlorobutadiene, and iodomethane; these analytes were not detected at or above the RL in the associated samples.

Low responses were observed for many analytes in the CCV analyzed 06/23/10 13:17; these analytes met minimum response criteria, and affected data was qualified with "b". High response was observed for carbon tetrachloride; affected data was qualified with "b".

Low responses were observed for carbon disulfide, iodomethane, and naphthalene in the CCV analyzed 06/23/10 09:07; these analytes met minimum response criteria, and affected data was qualified with "b". High responses were observed for acetone, Freon 12, and hexachlorobutadiene; affected data was qualified with "b".

Low responses were observed for a number of analytes in the CCV analyzed 06/24/10 08:58; these analytes met minimum response criteria, and affected data was qualified with "b". High responses were observed for iodomethane and tetrachloroethene; affected data was qualified with "b".

High responses were observed for 2,2-dichloropropane and vinyl acetate in the CCV analyzed 06/24/10 10:12; affected data was qualified with "b".

High response was observed for vinyl acetate in the CCV analyzed 06/24/10 17:26.

Low response was observed for acetone in the CCV analyzed 06/24/10 17:26; this analyte met minimum response criteria. High response was observed for 2,2-dichloropropane; this analyte was not detected at or above the RL in the associated samples.

High responses were observed for many analytes in the CCV analyzed 06/21/10 17:34 and the CCV analyzed 06/22/10 12:32; these analytes were not detected

CASE NARRATIVE

Laboratory number: 220680
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/11/10
Samples Received: 06/11/10

Volatile Organics by GC/MS (EPA 8260B):

at or above the RL in the associated samples, and affected data was qualified with "b".

High recoveries were observed for carbon tetrachloride in the BS/BSD for batch 164219; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. High RPD was observed for bromomethane; this analyte was not detected at or above the RL in the associated samples.

Low recoveries were observed for 1,1-dichloroethene and iodomethane in the MS/MSD for batch 164219; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPDs were within limits. High recoveries were observed for carbon tetrachloride; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples.

High recoveries were observed for a number of analytes in the MS/MSD of ASE-55A-GW-10Q2 (lab # 220680-003); the BS/BSD were within limits, and the associated RPDs were within limits.

High recoveries were observed for many analytes in the BS/BSD for batch 164352; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples. High RPD was observed for 1,2,3-trichlorobenzene; this analyte was not detected at or above the RL in the associated samples.

High recovery was observed for 1,2,3-trichlorobenzene in the MS for batch 164347; the parent sample was not a project sample, the BS/BSD were within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples.

Low recoveries were observed for iodomethane and vinyl acetate in the BS/BSD for batch 164300 and the BS/BSD for batch 164301; the associated RPDs were within limits. High recoveries were observed for acetone, carbon tetrachloride, and hexachlorobutadiene; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples.

High recoveries were observed for many analytes in the BS/BSD for batch 164269 and the BS/BSD for batch 164347; the associated RPDs were within

CASE NARRATIVE

Laboratory number: 220680
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/11/10
Samples Received: 06/11/10

Volatile Organics by GC/MS (EPA 8260B):

limits, and these analytes were not detected at or above the RL in the associated samples.

High surrogate recoveries were observed for 1,2-dichloroethane-d4 in EB-007-GW-10Q2 (lab # 220680-013) and the MS/MSD for batch 164219.

TB-003-GW-10Q2 (lab # 220680-001) was analyzed with more than 1 mL of headspace in the VOA vial.

No other analytical problems were encountered.

Chain of Custody

220680

37380-100610

Curtis & Tompkins Laboratories 2323 5th St. Berkeley, CA 94710 510-204-2221		Honeywell Chain Of Custody / Analysis Request		AESI Ref: 40336.60247 COC#: 37380	
Sampling Co.: CH2M-HILL		Site Name: Sky Harbor AZ		Lab Proj # (SDG):	
Client Contact: (name, co., address) CH2M HILL 2625 South Plaza Drive, Suite 300 Tempe, AZ 85282		Location of Site: PHOENIX, AZ		Lab ID	
Preliminary Data To Tuesday Powers, Critigen Melanie West, Critigen		Preservative: 8 1		Site ID	
Sample Receipt Acknowledgement To Tuesday Powers, Critigen Melanie West, Critigen		Field Filtered Sample ? Composite/Grab		Lab Job #	
Hard Copy To Tuesday Powers and Melanie West, Critigen		Units		Authorized User: Honeywell	
Invoice To: Honeywell/Copy Tuesday Powers		Sample Identification		Text & Excel File Drive Excel & Text File Order	
Sample Date		Sample Time		Copyright AESI: Version 10.0 (11-25-04) Users and use strictly prohibited.	
Sample Matrix		Sample Purpose		Sampling Method (code)	
Sample Type		Sample # of Cont.		Lab Sample Numbers	
Sample Date		Sample # of Cont.		MS/MSD	
Field Sample ID		Sample Purpose			
Start Depth (ft)		Sample Matrix			
End Depth (ft)		Sample Type			
		Sample Time			
		Sample Date			
		Sample Matrix			
		Sample Type			
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220680

37380-100610

Curtis & Tompkins Laboratories
 2323 5th St.
 Berkeley, CA 94710
 510-204-2221

Honeywell Chain Of Custody / Analysis Request

Privileged & Confidential

Site Name: Sky Harbor AZ
 Location of Site: PHOENIX, AZ
 Phase: Sampling Program
 Quaterly JST

Sample: *Donna Parabeck*
 PO # PO: 5101516, PN: 397664, CL: 90, DM: 02, CC: 6400
 Analysis Turnaround Time (TAT): 10
 Consultant

Laboratory Contact
 Report Tier Level
 Full Report TAT: 10

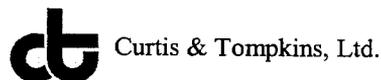
Preservatives: (Other, Specify):

Location ID	Sample Identification		Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Compositer/Grab	Field Filtered Sample ?	Total VOCs (SW8260B)	TRPH DRO C10-C22 -ORO C22-C32 (SW8015B)	Units	Sampling Method (code)	Lab Sample Numbers
	Start Depth (ft)	End Depth (ft)														
1	GW-1089	-	TB-007-GW-1092	6/10/10	00:00	Water	Water	TD	1		X			G		
2	ASE-180A	-	ASE-130A-GW-1089	6/10/10	01:06	GW-GWS	Water	REG	5		X			G		
3	ASE-38A	-	ASE-38A-GW-1082	6/10/10	01:58	GW-GWS	Water	REG	5		X			G		
4	1082-006	-	GW-1092-006	6/10/10	02:08	GW-GWS	Water	REG	5		X			G		
5	ASE-63A	-	ASE-63A-GW-1089	6/10/10	03:45	GW-GWS	Water	REG	5		X			G		
6	1092-002	-	GW-1092-002	6/10/10	03:55	GW-GWS	Water	REG	5		X			G		
7	GW-1082	-	EB-007-GW-1089	6/10/10	04:00	Water	Water	EB	5		X			G		
8																
9																
10																
11																
12																

Relinquished by: *[Signature]* Company: CH2M Hill Date/Time: 06/10/10 17:00
 Received by: *[Signature]* Company: *[Signature]* Date/Time: 6/10/10 17:00

Preservatives: (Other, Specify):
 0 (pH); 1 (4 Deg C); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, pH>12); 7 (H2SO4, pH<2, 4 Deg C); 8 (HCl, pH<2, 4 Deg C); 9 (HCl, 4 Deg C); 10 (HNO3, pH<2, 4 Deg C); 11 (NaOH, pH>12, 4 Deg C); 12 (H2SO4, pH<2, 4 Deg C, pH<2); 13 (Zn Acetate); 14 (1-MeOH, 4 Deg C and 2-NaHSO4, 4 Deg C); 15 (NaOH, pH>12, 4 Deg C); sp (special instructions)

COOLER RECEIPT CHECKLIST



Login # 20080 Date Received 6-11-10 Number of coolers 4
Client CH2M A2 Honeywell Project Emergency USF

Date Opened 6-11-10 By (print) S. EVANS (sign) [Signature]
Date Logged in 6 By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) Letter # YES NO
Shipping info 8726 5964 8317

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 1 EA Name SIGNATURE Date 6/11/10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____
 Bubble Wrap Foam blocks Bags None
 Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation:
Type of ice used: Wet Blue/Gel None Temp(°C) 1.5, 0, 11, 0.3

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO N/A

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

#007
- Sample #001: 1/1 vials HAVE BUBBLES

★ - SAMPLES # 009 + 010 LABEL IDs ARE SWITCHED ON 1/2 500ML AMBERS PER SAMPLE. TIMES ARE CORRECT. LOGGED IN SAMPLES BASED ON TIMES.

Laboratory Job Number 220680

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Total Extractable Hydrocarbons			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/10/10
Units:	ug/L	Received:	06/11/10
Diln Fac:	1.000	Prepared:	06/15/10
Batch#:	164046		

Field ID: ASE-62A-GW-10Q2 Lab ID: 220680-002
 Type: SAMPLE Analyzed: 06/17/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	88	50-120	

Field ID: ASE-55A-GW-10Q2 Lab ID: 220680-003
 Type: SAMPLE Analyzed: 06/17/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	9,900	1,000	M1
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	98	50-120	

Field ID: ASE-108A-GW-10Q2 Lab ID: 220680-004
 Type: SAMPLE Analyzed: 06/17/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	7,700	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	90	50-120	

Field ID: PL-105A-GW-10Q2 Lab ID: 220680-005
 Type: SAMPLE Analyzed: 06/17/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	7,400	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	93	50-120	

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit
 Page 1 of 3

Total Extractable Hydrocarbons			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/10/10
Units:	ug/L	Received:	06/11/10
Diln Fac:	1.000	Prepared:	06/15/10
Batch#:	164046		

Field ID: EB-003-GW-10Q2 Lab ID: 220680-006
 Type: SAMPLE Analyzed: 06/21/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	154 *	50-120	S3

Field ID: ASE-130A-GW-10Q2 Lab ID: 220680-008
 Type: SAMPLE Analyzed: 06/17/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	2,800	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	98	50-120	

Field ID: ASE-38A-GW-10Q2 Lab ID: 220680-009
 Type: SAMPLE Analyzed: 06/17/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	106	50-120	

Field ID: GW-10Q2-006 Lab ID: 220680-010
 Type: SAMPLE Analyzed: 06/21/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	99	50-120	

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	06/10/10
Units:	ug/L	Received:	06/11/10
Diln Fac:	1.000	Prepared:	06/15/10
Batch#:	164046		

Field ID: ASE-63A-GW-10Q2 Lab ID: 220680-011
 Type: SAMPLE Analyzed: 06/22/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	10,000	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	62	50-120	

Field ID: GW-10Q2-002 Lab ID: 220680-012
 Type: SAMPLE Analyzed: 06/22/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	15,000	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	92	50-120	

Field ID: EB-007-GW-10Q2 Lab ID: 220680-013
 Type: SAMPLE Analyzed: 06/22/10

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	V1

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	107	50-120	

Type: BLANK Analyzed: 06/17/10
 Lab ID: QC548683

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	91	50-120	

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC548684	Batch#:	164046
Matrix:	Water	Prepared:	06/15/10
Units:	ug/L	Analyzed:	06/17/10

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Diesel C10-C22	2,500	2,239	90	54-120	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	88	50-120	

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164046
MSS Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Prepared:	06/15/10
Diln Fac:	1.000	Analyzed:	06/18/10

Type: MS Lab ID: QC548687

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Diesel C10-C22	9,903	2,500	13,240	134 *	54-120	M1	

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	95	50-120		

Type: MSD Lab ID: QC548688

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Diesel C10-C22	2,500	14,880	199 *	54-120	12	31	M1	

Surrogate	%REC	Limits	ADEQ	Flags
o-Terphenyl	104	50-120		

*= Value outside of QC limits; see narrative

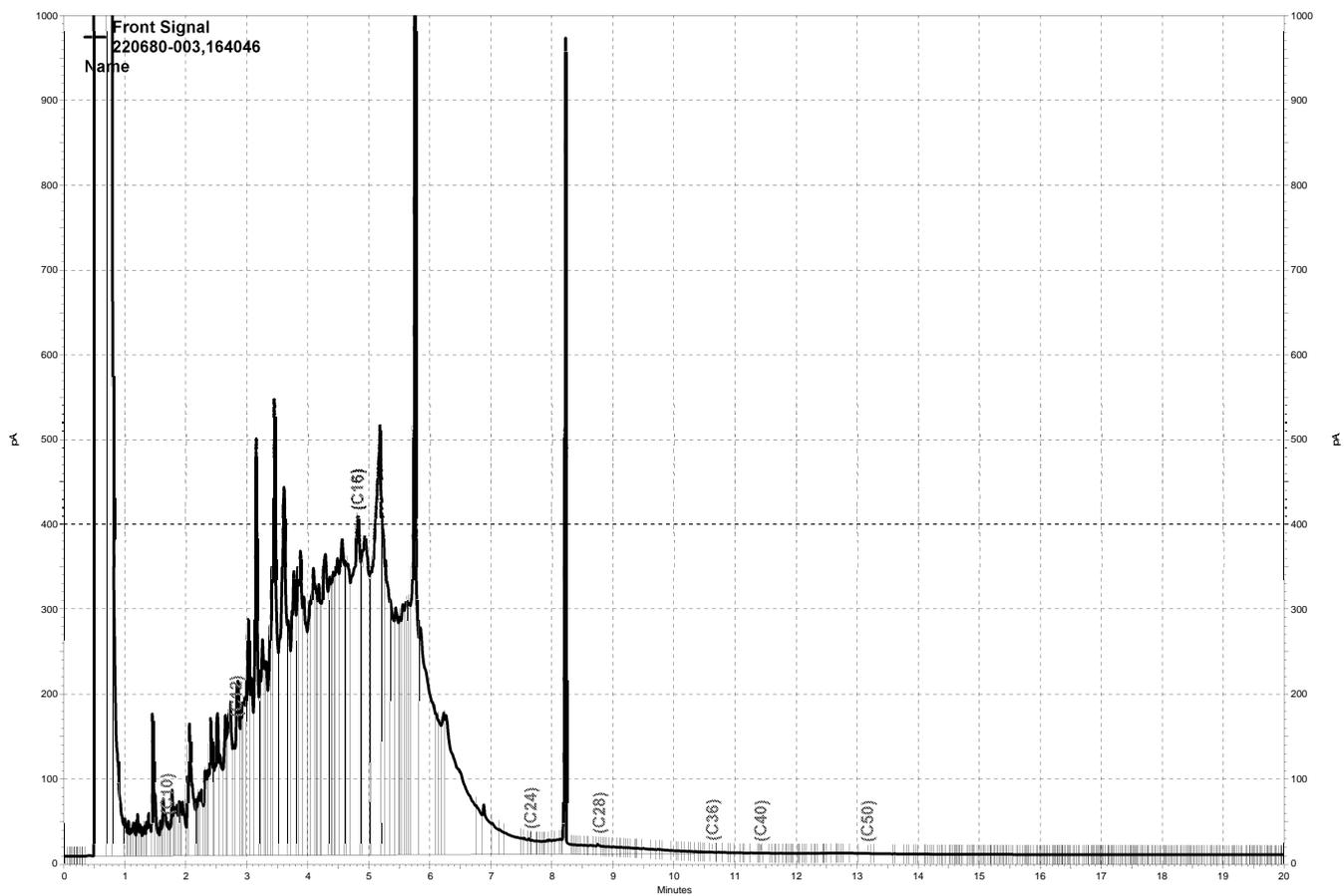
RPD= Relative Percent Difference

Batch QC Report

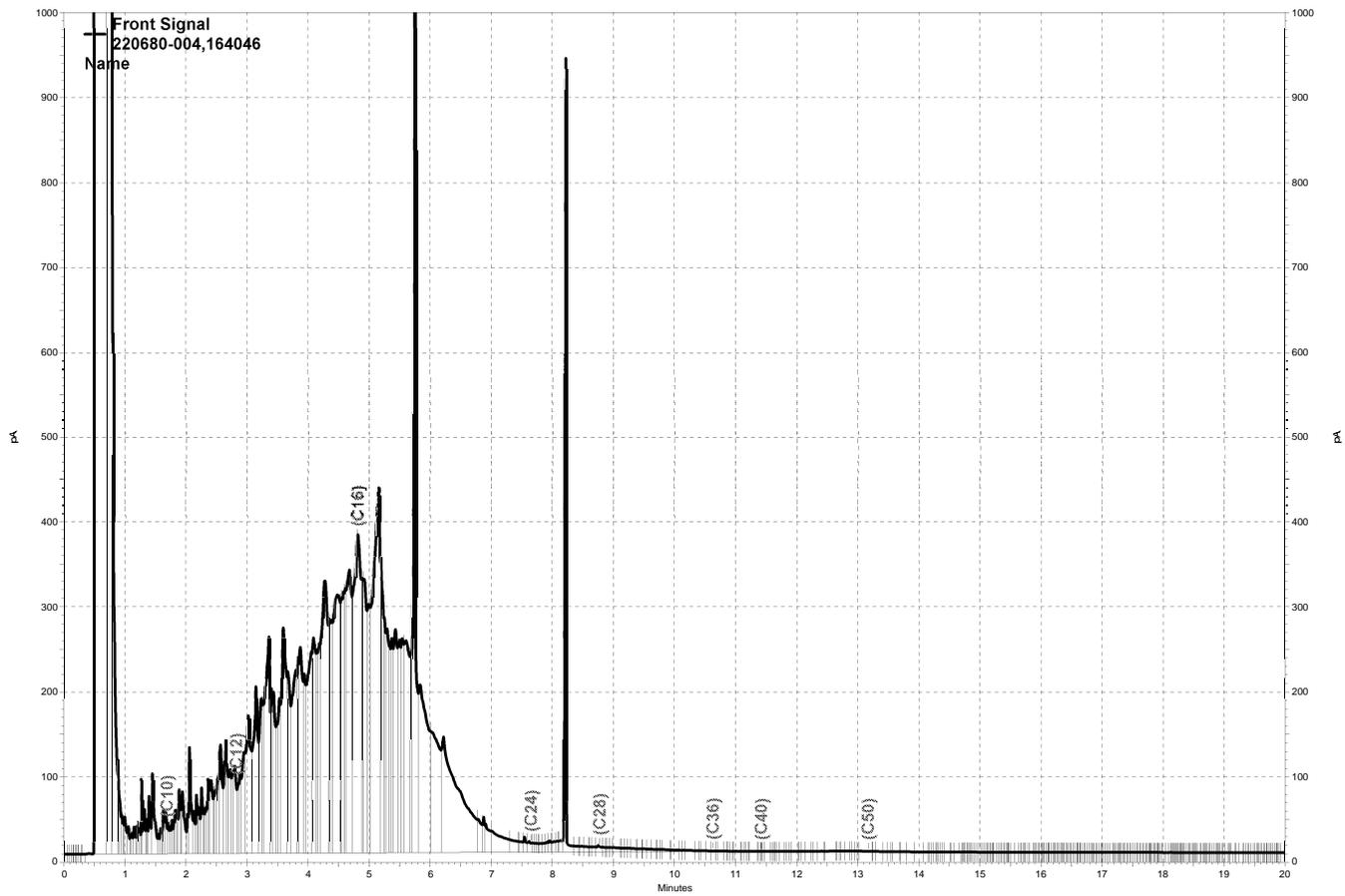
Total Extractable Hydrocarbons			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC548689	Batch#:	164046
Matrix:	Water	Prepared:	06/15/10
Units:	ug/L	Analyzed:	06/17/10

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Motor Oil C22-C32	2,500	2,487	99	75-138	

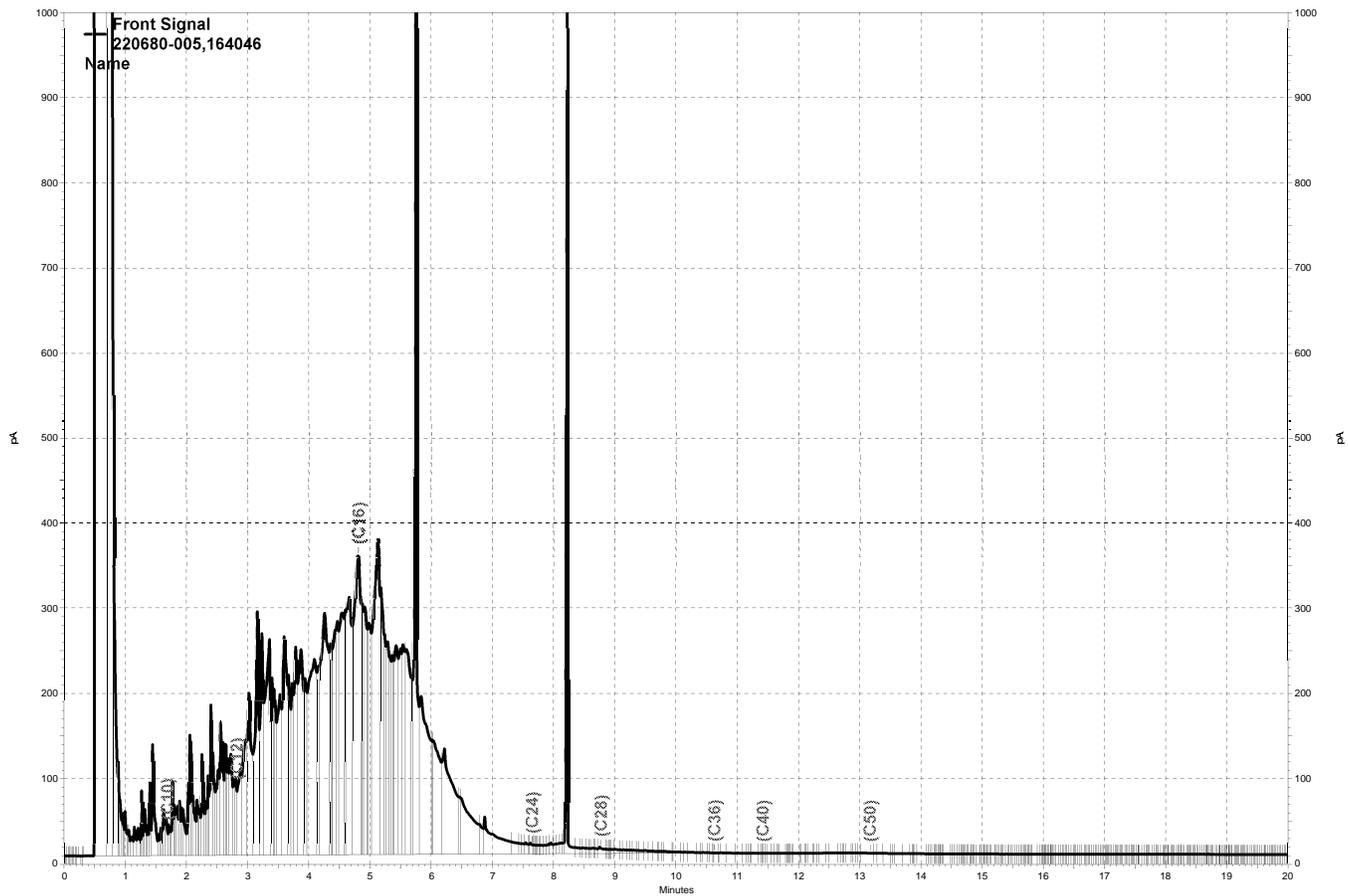
Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	83	50-120	



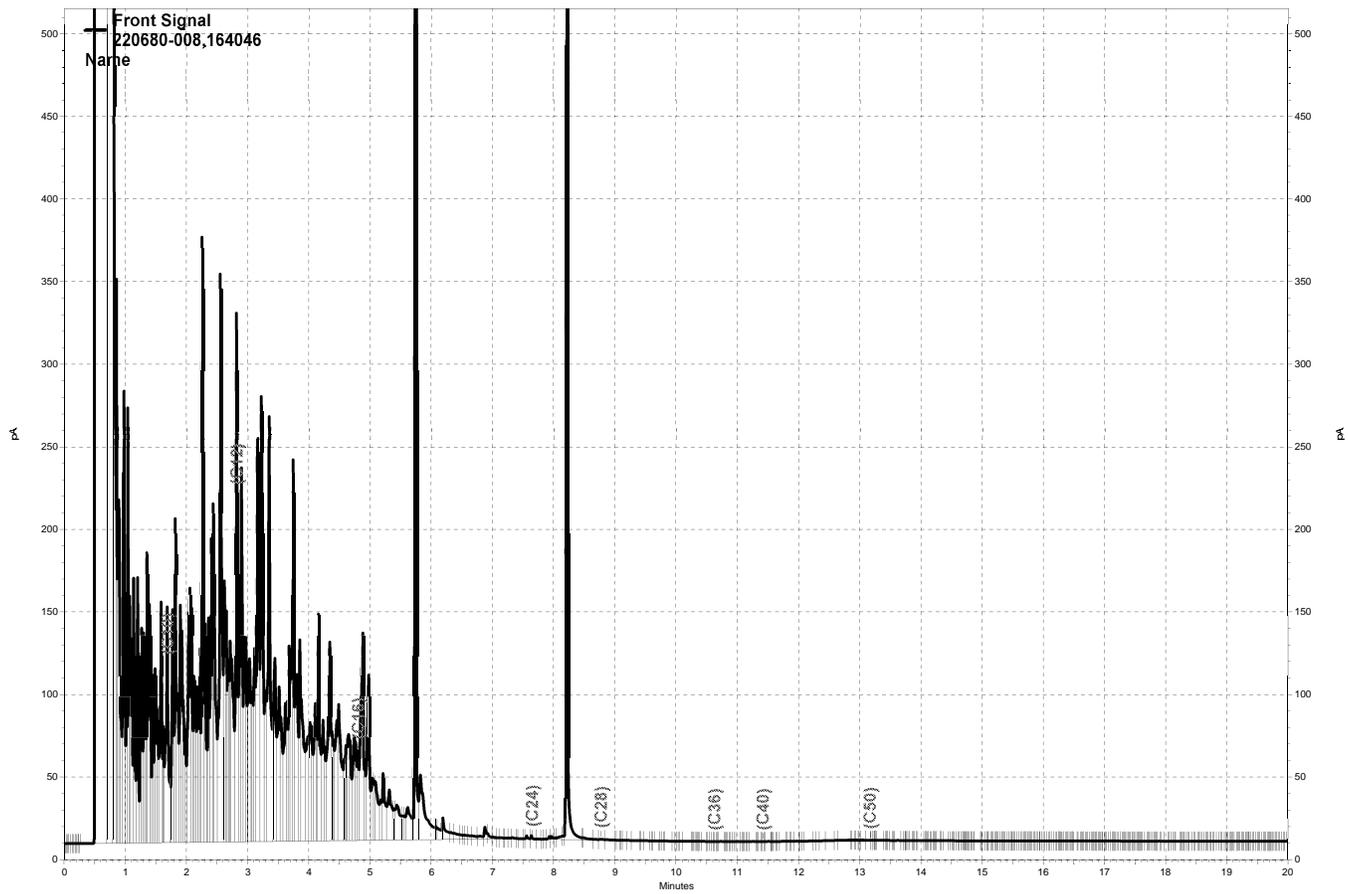
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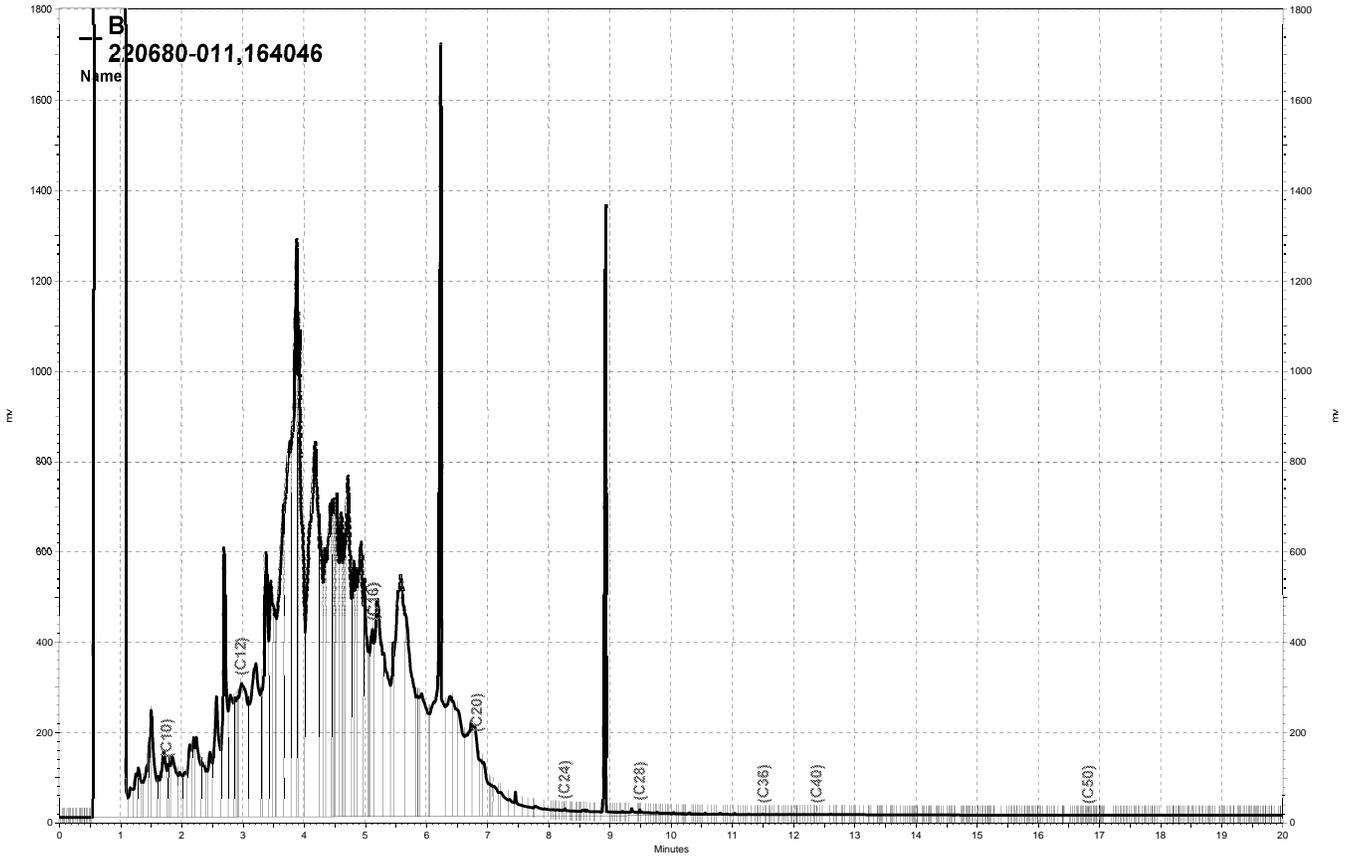
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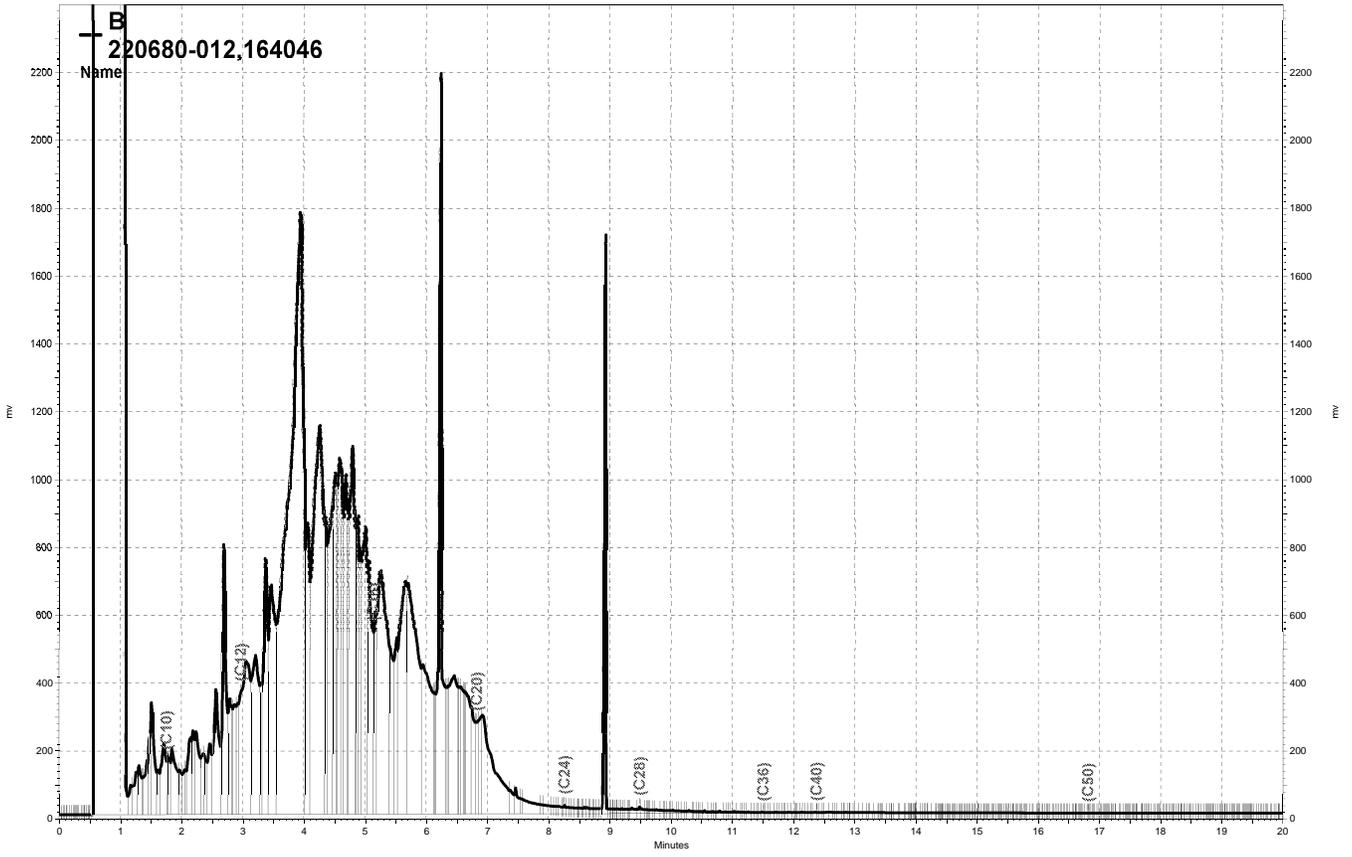
— G:\ezchrom\Projects\GC27\Data\168a018.dat, Front Signal



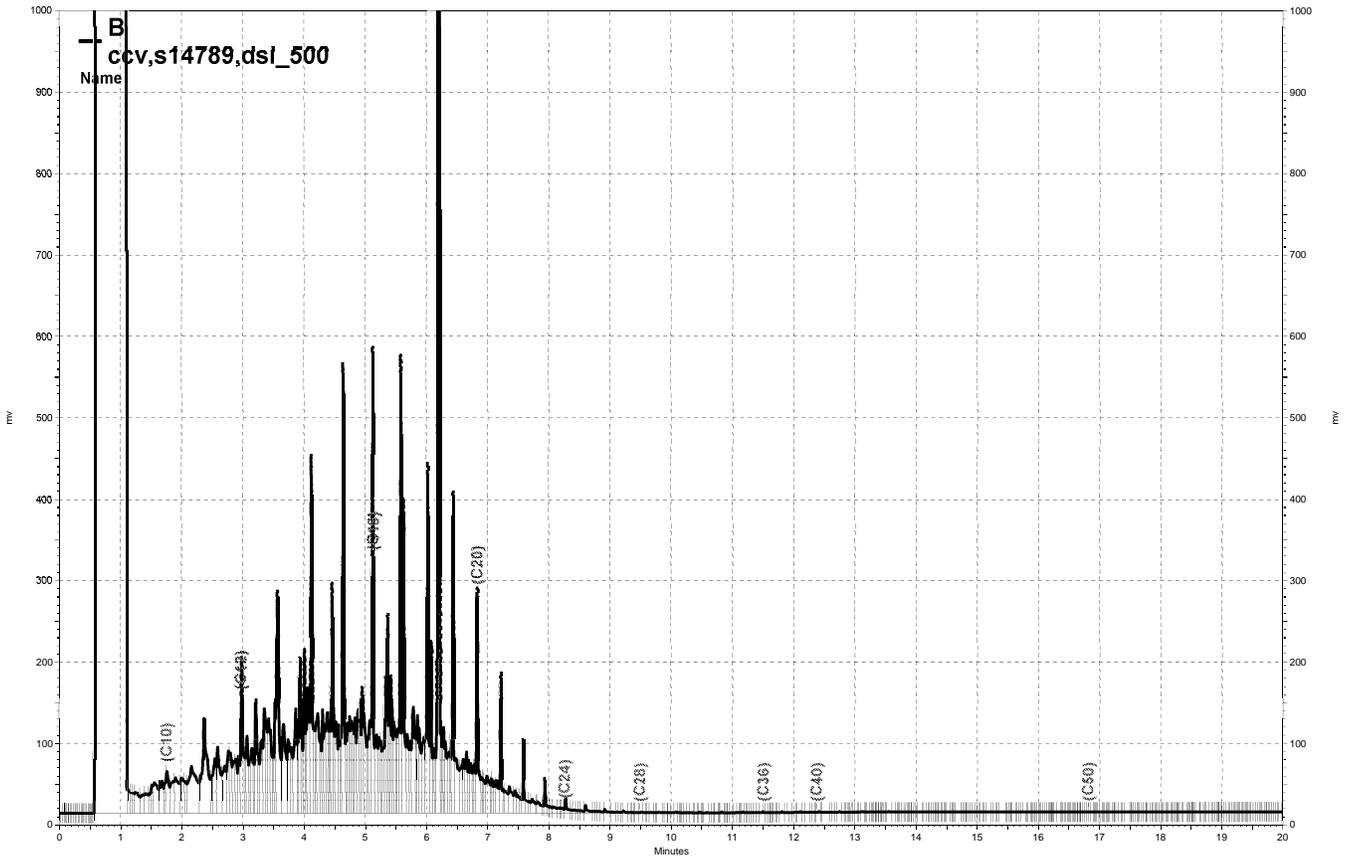
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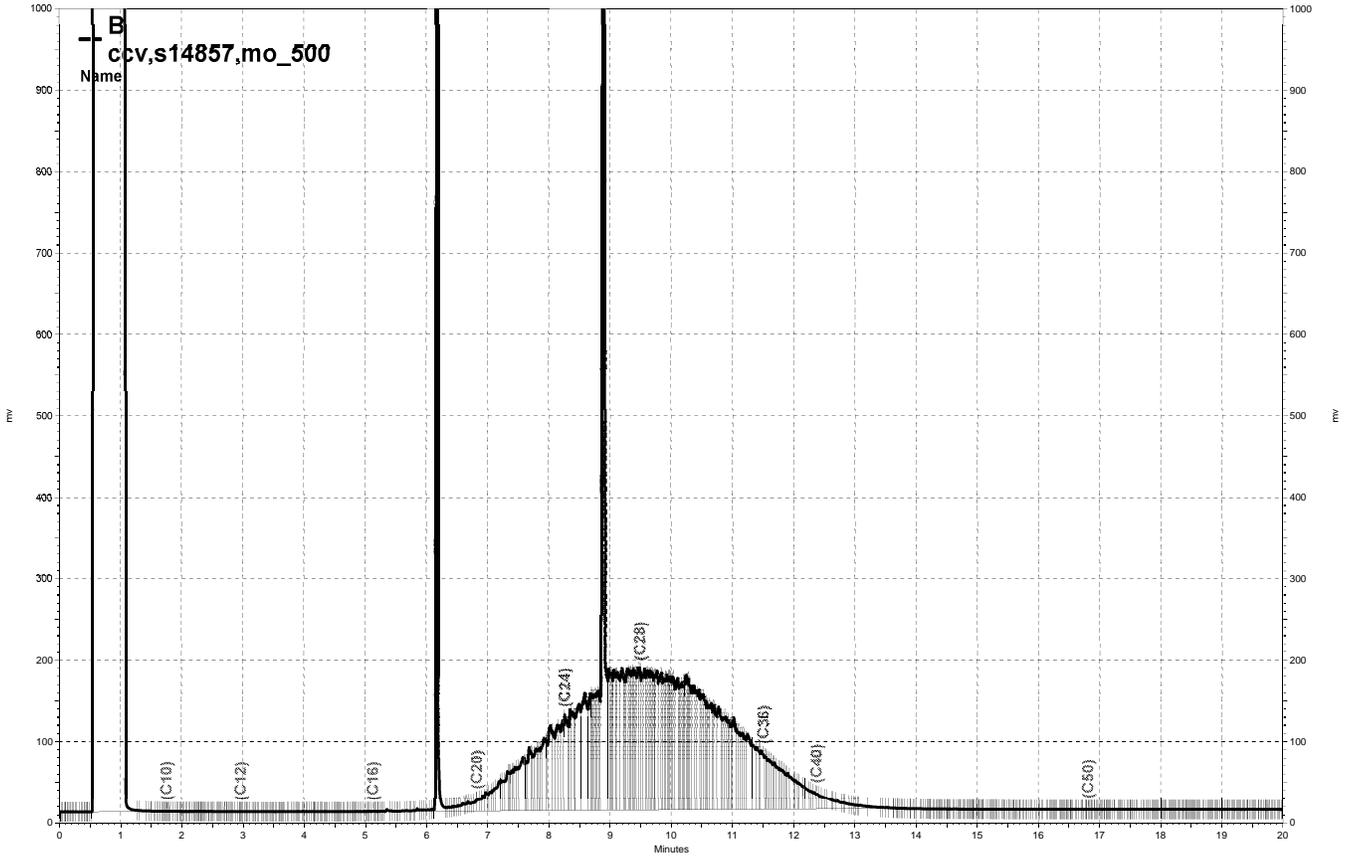
— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\173b011, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\173b012, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\169b005, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\172b018, B

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160015122002
 Units : mg/L

Name : DSL_010
 Date : 10-JAN-2010 16:41
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	010b011	160015122011	DSL_10	10-JAN-2010 16:41	S13230
L2	010b012	160015122012	DSL_100	10-JAN-2010 17:09	S13231
L3	010b013	160015122013	DSL_500	10-JAN-2010 17:37	S13232
L4	010b014	160015122014	DSL_1000	10-JAN-2010 18:05	S13233
L5	010b015	160015122015	DSL_5000	10-JAN-2010 18:33	S13229
L6	010b016	160015122016	DSL_7500	10-JAN-2010 19:01	S13234

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	46290	57423	63137	60591	59298	62684	AVRG		1.72E-5		58237	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-21	100.0	-1	500.0	8	1000	4	5000	2	7500	8

JDG 01/11/10 : Corrected automatically drawn baseline in DSL_10 (010b011).

Analyst: JDG

Date: 01/11/10

Reviewer: EAH

Date: 01/12/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B
Calnum : 160015122002

Name : DSL_010
Cal Date : 10-JAN-2010

ICV 160015122018 (010b018 10-JAN-2010) stds: S13457

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	514.5	mg/L	3	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160157409001
 Units : mg/L

Name : MO_109
 Date : 19-APR-2010 15:30
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	109b012	160157409012	MO_50	19-APR-2010 15:30	S13804
L2	109b013	160157409013	MO_250	19-APR-2010 15:58	S13805
L3	109b014	160157409014	MO_500	19-APR-2010 16:26	S13806
L4	109b015	160157409015	MO_1000	19-APR-2010 16:53	S13807
L5	109b016	160157409016	MO_5000	19-APR-2010 17:21	S13808
L6	109b017	160157409017	MO_7500	19-APR-2010 17:49	S13809

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	47660	46325	45753	44866	44598	42001	AVRG		2.21E-5		45200	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	50.00	5	250.0	2	500.0	1	1000	-1	5000	-1	7500	-7

JDG 04/20/10 : Levels 3-5: corrected automatically drawn baseline.

Analyst: JDG

Date: 04/20/10

Reviewer: EAH

Date: 04/20/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160167652002
 Units : mg/L

Name : hexotp_116
 Date : 26-APR-2010 20:24
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	116b015	160167652015	HEXOTP_5	26-APR-2010 20:24	S13690
L2	116b016	160167652016	HEXOTP_10	26-APR-2010 20:53	S13691
L3	116b017	160167652017	HEXOTP_25	26-APR-2010 21:20	S13692
L4	116b018	160167652018	HEXOTP_50	26-APR-2010 21:48	S13693
L5	116b019	160167652019	HEXOTP_100	26-APR-2010 22:15	S13694
L6	116b020	160167652020	HEXOTP_200	26-APR-2010 22:43	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71909	71114	69841	73261	73391	75657	AVRG		1.38E-5		72529	3	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-1	10.00	-2	25.00	-4	50.00	1	100.0	1	200.0	4

JDG 04/27/10 : Levels 4-6: corrected automatically drawn baseline

Analyst: JDG

Date: 04/27/10

Reviewer: CP

Date: 04/27/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170100399001
 Units : mg/L

Name : DSL_069
 Date : 10-MAR-2010 09:30
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	069a004	170100399004	DSL_10	10-MAR-2010 09:30	S14114
L2	069a005	170100399005	DSL_100	10-MAR-2010 09:58	S14115
L3	069a006	170100399006	DSL_500	10-MAR-2010 10:25	S14116
L4	069a007	170100399007	DSL_1000	10-MAR-2010 10:52	S14117
L5	069a008	170100399008	DSL_5000	10-MAR-2010 11:20	S14113
L6	069a009	170100399009	DSL_7500	10-MAR-2010 11:48	S14118

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	38992	57098	61023	62848	63686	64949	AVRG		1.72E-5		58099	17	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-33	100.0	-2	500.0	5	1000	8	5000	10	7500	12

JDG 03/11/10 : Corrected automatically baseline for: Levels 1-5.

Analyst: JDG

Date: 03/11/10

Reviewer: EAH

Date: 03/11/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A
Calnum : 170100399001

Name : DSL_069
Cal Date : 10-MAR-2010

ICV 170100399011 (069a011 10-MAR-2010) stds: S14077

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	542.9	mg/L	9	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170108447001
 Units : mg/L

Name : HEXOTP_075
 Date : 16-MAR-2010 15:35
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	075a012	170108447012	HEXOTP_5	16-MAR-2010 15:35	S13690
L2	075a013	170108447013	HEXOTP_10	16-MAR-2010 16:03	S13691
L3	075a014	170108447014	HEXOTP_25	16-MAR-2010 16:30	S13692
L4	075a015	170108447015	HEXOTP_50	16-MAR-2010 16:58	S13693
L5	075a016	170108447016	HEXOTP_100	16-MAR-2010 17:25	S13694
L6	075a017	170108447017	HEXOTP_200	16-MAR-2010 17:53	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	73067	76327	75701	75675	73539	74396	AVRG		1.34E-5		74784	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-2	10.00	2	25.00	1	50.00	1	100.0	-2	200.0	-1

JDG 03/17/10 : Corrected automatically drawn baseline for L1 & L2.

Analyst: JDG

Date: 03/17/10

Reviewer: EAH

Date: 03/17/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170157422001
 Units : mg/L

Name : MO_109
 Date : 19-APR-2010 15:03
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	109a010	170157422010	MO_50	19-APR-2010 15:03	S13804
L2	109a011	170157422011	MO_250	19-APR-2010 15:30	S13805
L3	109a012	170157422012	MO_500	19-APR-2010 15:58	S13806
L4	109a013	170157422013	MO_1000	19-APR-2010 16:25	S13807
L5	109a014	170157422014	MO_5000	19-APR-2010 16:53	S13808
L6	109a015	170157422015	MO_7500	19-APR-2010 17:20	S13809

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	46862	47770	48072	48307	48764	49608	AVRG		2.07E-5		48231	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	50.00	-3	250.0	-1	500.0	0	1000	0	5000	1	7500	3

JDG 04/20/10 : Manually integrated fuel hump in MO_50 (109a010).

JDG 04/20/10 : Manually integrated fuel hump in MO_5000 (109a014).

Analyst: JDG

Date: 04/20/10

Reviewer: CP

Date: 04/20/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170248145001
 Units : mg/L

Name : DSL_172
 Date : 21-JUN-2010 14:57
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	172a010	170248145010	DSL_10	21-JUN-2010 14:57	S14114
L2	172a011	170248145011	DSL_100	21-JUN-2010 15:24	S14115
L3	172a012	170248145012	DSL_500	21-JUN-2010 15:52	S14116
L4	172a013	170248145013	DSL_1000	21-JUN-2010 16:20	S14117
L5	172a014	170248145014	DSL_5000	21-JUN-2010 16:47	S14113
L6	172a015	170248145015	DSL_7500	21-JUN-2010 17:15	S14118

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	54710	72819	75908	77119	74312	76228	AVRG		1.39E-5		71849	12	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-24	100.0	1	500.0	6	1000	7	5000	3	7500	6

JDG 06/22/10 : Corrected automatically drawn baseline in all levels.

JDG: 06/22/10 * SFL: 06/22/10 EAH: 06/22/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A
Calnum : 170248145001

Name : DSL_172
Cal Date : 21-JUN-2010

ICV 170248145017 (172a017 21-JUN-2010) stds: S14789

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	509.4	mg/L	2	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970011942001
 Units : mg/L

Name : dsl_008
 Date : 08-JAN-2010 20:36
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	008a020	970011942020	DSL_10	08-JAN-2010 20:36	S13230
L2	008a021	970011942021	DSL_100	08-JAN-2010 21:02	S13231
L3	008a022	970011942022	DSL_500	08-JAN-2010 21:27	S13232
L4	008a023	970011942023	DSL_1000	08-JAN-2010 21:52	S13233
L5	008a024	970011942024	DSL_5000	08-JAN-2010 22:18	S13229
L6	008a025	970011942025	DSL_7500	08-JAN-2010 22:43	S13234

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	231276	286167	288481	286110	258602	263712	AVRG		3.72E-6		269058	8	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-14	100.0	6	500.0	7	1000	6	5000	-4	7500	-2

SFL 01/11/10 : Corrected automatically drawn baseline in all levels.

Analyst: SFL

Date: 01/11/10

Reviewer: EAH

Date: 01/11/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220680 GCSV Water
EPA 8015B

Inst : GC27A
Calnum : 970011942001

Name : dsl_008
Cal Date : 08-JAN-2010

ICV 970011942027 (008a027 08-JAN-2010) stds: S13457

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	529.7	mg/L	6	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970048088001
 Units : mg/L

Name : otphex_033
 Date : 02-FEB-2010 22:40
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	033a016	970048088016	HEXOTP_5	02-FEB-2010 22:40	S13690
L2	033a017	970048088017	HEXOTP_10	02-FEB-2010 23:05	S13691
L3	033a018	970048088018	HEXOTP_25	02-FEB-2010 23:30	S13692
L4	033a019	970048088019	HEXOTP_50	02-FEB-2010 23:55	S13693
L5	033a020	970048088020	HEXOTP_100	03-FEB-2010 00:21	S13694
L6	033a021	970048088021	HEXOTP_200	03-FEB-2010 00:46	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r ² %RSD	MnR ²	MxRSD	Flg
o-Terphenyl	267452	297547	281470	296034	284259	273149	AVRG		3.53E-6		283319	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-6	10.00	5	25.00	-1	50.00	4	100.0	0	200.0	-4

SFL 02/03/10 : Corrected automatically drawn baseline in all levels.

Analyst: SFL

Date: 02/03/10

Reviewer: EAH

Date: 02/04/10

Instrument amount = a0 + response * a1 + response² * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970199313001
 Units : mg/L

Name : MO_138
 Date : 18-MAY-2010 14:09
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	138a008	970199313008	MO_25	18-MAY-2010 14:09	S13804 (2X)
L2	138a009	970199313009	MO_50	18-MAY-2010 14:35	S13804
L3	138a010	970199313010	MO_250	18-MAY-2010 15:00	S13805
L4	138a011	970199313011	MO_500	18-MAY-2010 15:26	S13806
L5	138a012	970199313012	MO_1000	18-MAY-2010 15:52	S13807
L6	138a013	970199313013	MO_2500	18-MAY-2010 16:17	S13808 (2X)

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	105247	131455	132068	143278	138465	131049	AVRG		7.68E-6		130260	10	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	25.00	-19	50.00	1	250.0	1	500.0	10	1000	6	2500	1

Analyst: JDG

Date: 05/19/10

Reviewer: EAH

Date: 05/19/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
Seqnum : 160243836005 File : 169b005 Time : 18-JUN-2010 09:47
Standards: S14789

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	61043	500.0	524.1	mg/L	5	15	
o-Terphenyl	160167652002	26-APR-2010	72529	71321	50.00	49.17	mg/L	-2	15	

JDG 06/18/10 : Combined split peak.

Analyst: JDG Date: 06/18/10 Reviewer: PRW Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
 Seqnum : 160243836009 File : 169b009 Time : 18-JUN-2010 14:29
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	59431	1000	1021	mg/L	2	15	
o-Terphenyl	160167652002	26-APR-2010	72529	71895	50.00	49.56	mg/L	-1	15	

PRW 06/18/10 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/18/10 Reviewer: PRW Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
Seqnum : 160248142017 File : 172b017 Time : 21-JUN-2010 17:12
Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	59467	1000	1021	mg/L	2	15	
o-Terphenyl	160167652002	26-APR-2010	72529	71853	50.00	49.53	mg/L	-1	15	

JDG 06/22/10 [o-Terphenyl B]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/22/10 Reviewer: SFL Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
 Seqnum : 160248142018 File : 172b018 Time : 21-JUN-2010 17:40
 Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	160157409001	19-APR-2010	45200	48768	500.0	539.5	mg/L	8	15	
o-Terphenyl	160167652002	26-APR-2010	72529	70537	50.00	48.63	mg/L	-3	15	

Analyst: JDG Date: 06/22/10 Reviewer: SFL Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
 Seqnum : 160248142032 File : 172b032 Time : 22-JUN-2010 00:05
 Standards: S14789

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	58599	500.0	503.1	mg/L	1	15	
o-Terphenyl	160167652002	26-APR-2010	72529	67992	50.00	46.87	mg/L	-6	15	

JDG 06/22/10 [o-Terphenyl B]: Separated from coeluting peak.

Analyst: JDG Date: 06/22/10 Reviewer: TFB Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
 Seqnum : 160248142035 File : 172b035 Time : 22-JUN-2010 01:27
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	160157409001	19-APR-2010	45200	47528	500.0	525.7	mg/L	5	15	
o-Terphenyl	160167652002	26-APR-2010	72529	67982	50.00	46.87	mg/L	-6	15	

JDG 06/22/10 : Manually integrated fuel hump.

Analyst: JDG Date: 06/22/10 Reviewer: TFB Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
 Seqnum : 160249623008 File : 173b008 Time : 22-JUN-2010 15:00
 Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	160157409001	19-APR-2010	45200	45586	500.0	504.3	mg/L	1	15	
o-Terphenyl	160167652002	26-APR-2010	72529	63638	50.00	43.87	mg/L	-12	15	

Analyst: SFL Date: 06/22/10 Reviewer: EAH Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
 Seqnum : 160249623009 File : 173b009 Time : 22-JUN-2010 15:28
 Standards: S14788

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	53385	250.0	229.2	mg/L	-8	15	
o-Terphenyl	160167652002	26-APR-2010	72529	61233	50.00	42.21	mg/L	-16	15	c-

SFL 06/22/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/22/10 Reviewer: EAH Date: 06/22/10

--low bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
 Seqnum : 160249623023 File : 173b023 Time : 22-JUN-2010 23:26
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	160157409001	19-APR-2010	45200	49114	500.0	543.3	mg/L	9	15	
o-Terphenyl	160167652002	26-APR-2010	72529	68577	50.00	47.28	mg/L	-5	15	

Analyst: JDG Date: 06/23/10 Reviewer: SFL Date: 06/23/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
 Seqnum : 160249623024 File : 173b024 Time : 22-JUN-2010 23:53
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	56068	1000	962.8	mg/L	-4	15	
o-Terphenyl	160167652002	26-APR-2010	72529	67031	50.00	46.21	mg/L	-8	15	

JDG 06/23/10 [o-Terphenyl B]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/23/10 Reviewer: SFL Date: 06/23/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
 Seqnum : 170242436009 File : 168a009 Time : 17-JUN-2010 14:27
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	170100399001	10-MAR-2010	58099	64345	1000	1108	mg/L	11	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	77391	50.00	51.74	mg/L	3	15	

JDG 06/18/10 [o-Terphenyl A]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/18/10 Reviewer: PRW Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170242436010 File : 168a010 Time : 17-JUN-2010 14:54
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	50760	500.0	526.2	mg/L	5	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	74066	50.00	49.52	mg/L	-1	15	

JDG 06/18/10 [o-Terphenyl A]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/18/10 Reviewer: PRW Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
 Seqnum : 170242436021 File : 168a021 Time : 17-JUN-2010 20:13
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	170100399001	10-MAR-2010	58099	64840	1000	1116	mg/L	12	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	73635	50.00	49.23	mg/L	-2	15	

JDG 06/18/10 [o-Terphenyl A]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/18/10 Reviewer: PRW Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170242436022 File : 168a022 Time : 17-JUN-2010 20:41
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	50932	500.0	528.0	mg/L	6	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	75687	50.00	50.60	mg/L	1	15	

JDG 06/18/10 : Manually integrated fuel hump.

Analyst: JDG Date: 06/18/10 Reviewer: PRW Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
 Seqnum : 170248145039 File : 172a039 Time : 22-JUN-2010 04:10
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	170248145001	21-JUN-2010	71849	74780	1000	1041	mg/L	4	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	87719	50.00	58.65	mg/L	17	15	c+

SFL 06/23/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/23/10 Reviewer: EAH Date: 06/23/10

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170248145040 File : 172a040 Time : 22-JUN-2010 04:38
 Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	170157422001	19-APR-2010	48231	57579	500.0	596.9	mg/L	19	15	c+ ***
o-Terphenyl	170108447001	16-MAR-2010	74784	83850	50.00	56.06	mg/L	12	15	

SFL 06/23/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/23/10 Reviewer: EAH Date: 06/23/10

+ = high bias c = CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 170248145054 File : 172a054 Time : 22-JUN-2010 11:19
Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	170248145001	21-JUN-2010	71849	73555	1000	1024	mg/L	2	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	85618	50.00	57.24	mg/L	14	15	

SFL 06/23/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/23/10 Reviewer: EAH Date: 06/23/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170248145055 File : 172a055 Time : 22-JUN-2010 11:46
 Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	170157422001	19-APR-2010	48231	58417	500.0	605.6	mg/L	21	15	c+ ***
o-Terphenyl	170108447001	16-MAR-2010	74784	85883	50.00	57.42	mg/L	15	15	

SFL 06/23/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/23/10 Reviewer: EAH Date: 06/23/10

+=high bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 970242435009 File : 168a009 Time : 17-JUN-2010 11:59
Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	970199313001	18-MAY-2010	130260	140205	500.0	538.2	mg/L	8	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	248667	50.00	43.88	mg/L	-12	15	

SFL 06/18/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/18/10 Reviewer: JDG Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_250 IDF : 1.0
 Seqnum : 970242435010 File : 168a010 Time : 17-JUN-2010 12:24
 Standards: S14788

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	248733	250.0	231.1	mg/L	-8	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	245031	50.00	43.24	mg/L	-14	15	

SFL 06/18/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/18/10 Reviewer: JDG Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
 Seqnum : 970242435021 File : 168a021 Time : 17-JUN-2010 17:43
 Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	970199313001	18-MAY-2010	130260	139526	500.0	535.6	mg/L	7	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	250529	50.00	44.21	mg/L	-12	15	

SFL 06/18/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/18/10 Reviewer: JDG Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_500 IDF : 1.0
 Seqnum : 970242435022 File : 168a022 Time : 17-JUN-2010 18:08
 Standards: S14789

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	251101	500.0	466.6	mg/L	-7	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	258410	50.00	45.60	mg/L	-9	15	

SFL 06/18/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/18/10 Reviewer: JDG Date: 06/18/10

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160015122

Instrument : GC15B
 Method : EPA 8015B

Begun : 01/10/10 12:02
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	010b001	X	PRIMER			01/10/10 12:02	1.0	
002	010b002	X	IB			01/10/10 12:30	1.0	
003	010b003	X	IB			01/10/10 12:58	1.0	
004	010b004	ICAL	HEXOTP_5			01/10/10 13:26	1.0	1
005	010b005	ICAL	HEXOTP_10			01/10/10 13:54	1.0	2
006	010b006	ICAL	HEXOTP_25			01/10/10 14:21	1.0	3
007	010b007	ICAL	HEXOTP_50			01/10/10 14:49	1.0	4
008	010b008	ICAL	HEXOTP_100			01/10/10 15:17	1.0	5
009	010b009	ICAL	HEXOTP_200			01/10/10 15:45	1.0	6
010	010b010	IB	CALIB			01/10/10 16:13	1.0	
011	010b011	ICAL	DSL_10			01/10/10 16:41	1.0	7
012	010b012	ICAL	DSL_100			01/10/10 17:09	1.0	8
013	010b013	ICAL	DSL_500			01/10/10 17:37	1.0	9
014	010b014	ICAL	DSL_1000			01/10/10 18:05	1.0	10
015	010b015	ICAL	DSL_5000			01/10/10 18:33	1.0	11
016	010b016	ICAL	DSL_7500			01/10/10 19:01	1.0	12
017	010b017	IB	CALIB			01/10/10 19:29	1.0	
018	010b018	ICV	DSL_500			01/10/10 19:57	1.0	13
019	010b019	X	ICV			01/10/10 20:24	1.0	13
020	010b020	IB	CALIB			01/10/10 20:52	1.0	
021	010b021	ICAL	MO_50			01/10/10 21:20	1.0	14
022	010b022	ICAL	MO_250			01/10/10 21:47	1.0	15
023	010b023	ICAL	MO_500			01/10/10 22:15	1.0	16
024	010b024	ICAL	MO_1000			01/10/10 22:43	1.0	17
025	010b025	ICAL	MO_5000			01/10/10 23:10	1.0	18
026	010b026	ICAL	MO_7500			01/10/10 23:38	1.0	19
027	010b027	IB	CALIB			01/11/10 00:06	1.0	
028	010b028	ICAL	JET_10			01/11/10 00:33	1.0	20
029	010b029	ICAL	JET_100			01/11/10 01:01	1.0	21
030	010b030	ICAL	JET_500			01/11/10 01:28	1.0	22
031	010b031	ICAL	JET_1000			01/11/10 01:56	1.0	23
032	010b032	ICAL	JET_2000			01/11/10 02:24	1.0	24
033	010b033	ICAL	JET_3000			01/11/10 02:51	1.0	25
034	010b034	IB	CALIB			01/11/10 03:19	1.0	
035	010b035	ICAL	JP5_10			01/11/10 03:46	1.0	26
036	010b036	ICAL	JP5_100			01/11/10 04:14	1.0	27
037	010b037	ICAL	JP5_500			01/11/10 04:42	1.0	28
038	010b038	ICAL	JP5_1500			01/11/10 05:09	1.0	29
039	010b039	ICAL	JP5_2500			01/11/10 05:37	1.0	30
040	010b040	ICAL	JP5_5000			01/11/10 06:05	1.0	31
041	010b041	IB	CALIB			01/11/10 06:33	1.0	
042	010b042	ICAL	BUNK_50			01/11/10 07:01	1.0	32
043	010b043	ICAL	BUNK_250			01/11/10 07:28	1.0	33
044	010b044	ICAL	BUNK_500			01/11/10 07:56	1.0	34
045	010b045	ICAL	BUNK_1250			01/11/10 08:24	1.0	35
046	010b046	ICAL	BUNK_2500			01/11/10 08:52	1.0	36
047	010b047	ICAL	BUNK_5000			01/11/10 09:20	1.0	37
048	010b048	IB	CALIB			01/11/10 09:48	1.0	
049	010b049	CMARKER	C8_C50			01/11/10 10:16	1.0	38
050	010b050	IB	CALIB			01/11/10 10:44	1.0	

JDG 01/11/10 : I verified that the vials loaded on the instrument matched the

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160157409

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/19/10 07:29
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	109b001	X	IB				04/19/10 07:29	1.0	
002	109b002	X	CMARKER				04/19/10 07:56	1.0	1
003	109b003	X	IB				04/19/10 09:49	1.0	
004	109b004	X	IB				04/19/10 10:16	1.0	
005	109b005	X	CMARKER				04/19/10 10:44	1.0	1
006	109b006	X	MO_500				04/19/10 11:12	1.0	2
007	109b007	X	CCV				04/19/10 11:39	1.0	3
008	109b008	X	MO_500				04/19/10 12:18	1.0	2
009	109b009	X	MO_500				04/19/10 12:46	1.0	2
010	109b010	X	IB				04/19/10 14:35	1.0	
011	109b011	IB	CALIB				04/19/10 15:02	1.0	
012	109b012	ICAL	MO_50				04/19/10 15:30	1.0	4
013	109b013	ICAL	MO_250				04/19/10 15:58	1.0	5
014	109b014	ICAL	MO_500				04/19/10 16:26	1.0	6
015	109b015	ICAL	MO_1000				04/19/10 16:53	1.0	7
016	109b016	ICAL	MO_5000				04/19/10 17:21	1.0	8
017	109b017	ICAL	MO_7500				04/19/10 17:49	1.0	9
018	109b018	IB	CALIB				04/19/10 18:17	1.0	
019	109b019	CMARKER	C8-C50				04/19/10 18:44	1.0	1
020	109b020	IB	CALIB				04/19/10 19:12	1.0	
021	109b021	X	MO_500				04/19/10 19:40	1.0	2
022	109b022	X	DSL_1000				04/19/10 20:07	1.0	10
023	109b023	CCV	CREOSOTE_1250				04/19/10 20:35	1.0	11
024	109b024	CCV	MO_500				04/19/10 21:03	1.0	2
025	109b025	CCV	DSL_1000				04/19/10 21:30	1.0	10
026	109b026	X	CCV				04/19/10 21:58	1.0	11
027	109b027	BLANK	QC540857	S	Soil	162119	04/19/10 22:25	1.0	
028	109b028	LCS	QC540858	S	Soil	162119	04/19/10 22:53	1.0	
029	109b029	SAMPLE	219448-010		Water	162064	04/19/10 23:20	1.0	
030	109b030	SAMPLE	219448-009		Water	162064	04/19/10 23:48	1.0	
031	109b031	SAMPLE	219469-012		Soil	162058	04/20/10 00:15	10.0	
032	109b032	SAMPLE	219475-004	S	Soil	162058	04/20/10 00:43	10.0	
033	109b033	SAMPLE	219469-013		Soil	162058	04/20/10 01:10	25.0	
034	109b034	X	IB				04/20/10 01:38	1.0	
035	109b035	SAMPLE	219469-016		Soil	162058	04/20/10 02:06	25.0	
036	109b036	X	IB				04/20/10 02:33	1.0	
037	109b037	SAMPLE	219469-014		Soil	162058	04/20/10 03:00	10.0	
038	109b038	SAMPLE	219469-015		Soil	162058	04/20/10 03:28	10.0	
039	109b039	X	CMARKER				04/20/10 03:55	1.0	1
040	109b040	CCV	MO_500				04/20/10 04:23	1.0	2
041	109b041	CCV	DSL_500				04/20/10 04:51	1.0	12
042	109b042	CCV	CREOSOTE_1250				04/20/10 05:19	1.0	11
043	109b043	X	CCV				04/20/10 05:46	1.0	2
044	109b044	X	CCV				04/20/10 06:14	1.0	12
045	109b045	X	CCV				04/20/10 06:42	1.0	11

JDG 04/20/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 45.

Standards used: 1=S13646 2=S14243 3=S14076 4=S13804 5=S13805 6=S13806 7=S13807 8=S13808 9=S13809 10=S14078 11=S14244
 12=S14077

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160167652

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/26/10 10:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	116b001	X	PRIMER			04/26/10 10:12	1.0		
002	116b002	X	IB			04/26/10 10:40	1.0		
003	116b003	X	CMARKER			04/26/10 11:08	1.0	1	
004	116b004	X	MO_500			04/26/10 11:58	1.0	2	
005	116b005	X	IB			04/26/10 15:02	1.0		
006	116b006	X	IB			04/26/10 15:29	1.0		
007	116b007	X	IB			04/26/10 16:00	1.0		
008	116b008	X	CMARKER			04/26/10 17:12	1.0	1	
009	116b009	X	MO_500			04/26/10 17:39	1.0	2	
010	116b010	X	DSL_1000			04/26/10 18:07	1.0	3	
011	116b011	X	MO_500			04/26/10 18:34	1.0	2	
012	116b012	X	DSL_1000			04/26/10 19:02	1.0	3	
014	116b014	IB	CALIB			04/26/10 19:56	1.0		
015	116b015	ICAL	HEXOTP_5			04/26/10 20:24	1.0	4	
016	116b016	ICAL	HEXOTP_10			04/26/10 20:53	1.0	5	
017	116b017	ICAL	HEXOTP_25			04/26/10 21:20	1.0	6	
018	116b018	ICAL	HEXOTP_50			04/26/10 21:48	1.0	7	
019	116b019	ICAL	HEXOTP_100			04/26/10 22:15	1.0	8	
020	116b020	ICAL	HEXOTP_200			04/26/10 22:43	1.0	9	
021	116b021	IB	CALIB			04/26/10 23:10	1.0		
022	116b022	X	CMARKER			04/26/10 23:38	1.0	1	
023	116b023	CCV	MO_500			04/27/10 00:05	1.0	2	
024	116b024	CCV	DSL_1000			04/27/10 00:33	1.0	3	
025	116b025	X	CCV			04/27/10 01:01	1.0	2	
026	116b026	X	CCV			04/27/10 01:28	1.0	3	
027	116b027	BLANK	QC542108	Soil	162431	04/27/10 01:56	1.0		
028	116b028	LCS	QC542109	Soil	162431	04/27/10 02:23	1.0		
029	116b029	LCS	QC542112	Soil	162431	04/27/10 02:50	1.0		
030	116b030	SAMPLE	219732-002	Soil	162431	04/27/10 03:18	1.0		
031	116b031	SAMPLE	219732-004	Soil	162431	04/27/10 03:45	1.0		
032	116b032	SAMPLE	219732-006	Soil	162431	04/27/10 04:13	1.0		
033	116b033	SAMPLE	219732-007	Soil	162431	04/27/10 04:41	1.0		
034	116b034	SAMPLE	219732-001	Soil	162431	04/27/10 05:08	1.0		12:BUNKC:12-40=30000
035	116b035	X	IB			04/27/10 05:36	1.0		
036	116b036	SAMPLE	219732-005	Soil	162431	04/27/10 06:04	1.0		
037	116b037	SAMPLE	219732-003	Soil	162431	04/27/10 06:31	1.0		
038	116b038	CCV	MO_500			04/27/10 06:59	1.0	2	
039	116b039	CCV	DSL_500			04/27/10 07:27	1.0	10	
040	116b040	SAMPLE	219732-017	Soil	162431	04/27/10 08:19	1.0		
041	116b041	SAMPLE	219732-011	Soil	162431	04/27/10 08:47	1.0		
042	116b042	SAMPLE	219732-016	Soil	162431	04/27/10 09:14	1.0		
043	116b043	SAMPLE	219732-010	Soil	162431	04/27/10 09:42	1.0		
044	116b044	SAMPLE	219732-014	Soil	162431	04/27/10 10:11	1.0		
045	116b045	SAMPLE	219732-012	Soil	162431	04/27/10 10:38	1.0		2:BUNKC:12-40=13000
046	116b046	X	IB			04/27/10 11:06	1.0		
047	116b047	SAMPLE	219732-013	Soil	162431	04/27/10 11:33	1.0		
048	116b048	SAMPLE	219732-015	Soil	162431	04/27/10 12:01	1.0		
049	116b049	SAMPLE	219732-009	Soil	162431	04/27/10 12:28	1.0		
050	116b050	MSS	219732-008	Soil	162431	04/27/10 12:55	1.0		
051	116b051	X	CMARKER			04/27/10 13:23	1.0	1	
052	116b052	CCV	MO_500			04/27/10 13:51	1.0	2	
053	116b053	CCV	DSL_250			04/27/10 14:19	1.0	11	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160167652

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/26/10 10:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
054	116b054	SAMPLE	219732-001	Soil	162431	04/27/10 14:49	5.0		2:BUNKC:12-40=7300
055	116b055	CCV	MO_500			04/27/10 15:17	1.0	2	
056	116b056	X	DSL_1000			04/27/10 15:45	1.0	3	
057	116b057	SAMPLE	219732-018			04/27/10 16:13	1.0		
058	116b058	CCV	DSL_250			04/27/10 17:53	1.0	11	
059	116b059	SAMPLE	219478-002	Soil	162456	04/27/10 18:24	1.0		
060	116b060	X				04/27/10 18:51	1.0		
061	116b061	SAMPLE	219478-004	Soil	162456	04/27/10 19:20	1.0		
062	116b062	SAMPLE	219478-005	Soil	162456	04/27/10 19:48	1.0		
063	116b063	SAMPLE	219478-006	Soil	162456	04/27/10 20:16	1.0		
064	116b064	SAMPLE	219478-008	Soil	162456	04/27/10 20:44	1.0		
065	116b065	SAMPLE	219478-009	Soil	162456	04/27/10 21:12	1.0		
066	116b066	SAMPLE	219478-011	Soil	162456	04/27/10 21:40	1.0		
067	116b067	SAMPLE	219478-012	Soil	162456	04/27/10 22:08	1.0		
068	116b068	SAMPLE	219478-013	Soil	162456	04/27/10 22:36	1.0		
069	116b069	SAMPLE	219478-014	Soil	162456	04/27/10 23:04	1.0		
070	116b070	CCV	MO_500			04/27/10 23:32	1.0	2	
071	116b071	CCV	DSL_500			04/28/10 00:00	1.0	10	
072	116b072	X	CCV			04/28/10 00:28	1.0	2	
073	116b073	X	CCV			04/28/10 00:55	1.0	10	
075	116b075	LCS	QC542313	Soil	162482	04/28/10 01:24	1.0		
076	116b076	SAMPLE	219725-005	Soil	162482	04/28/10 01:51	1.0		
077	116b077	SAMPLE	219725-007	Soil	162482	04/28/10 02:19	1.0		
078	116b078	SAMPLE	219725-009	Soil	162482	04/28/10 02:47	1.0		2:BUNKC:12-40=5200
079	116b079	SAMPLE	219725-011	Soil	162482	04/28/10 03:15	1.0		
080	116b080	SAMPLE	219725-014	Soil	162482	04/28/10 03:43	1.0		
081	116b081	SAMPLE	219725-016	Soil	162482	04/28/10 04:10	1.0		
082	116b082	SAMPLE	219725-019	Soil	162482	04/28/10 04:38	1.0		
083	116b083	X	CMARKER			04/28/10 05:06	1.0	1	
084	116b084	CCV	MO_500			04/28/10 05:34	1.0	2	
085	116b085	CCV	DSL_250			04/28/10 06:02	1.0	11	
086	116b086	X	CCV			04/28/10 06:29	1.0	2	
087	116b087	X	CCV			04/28/10 06:56	1.0	11	
088	116b088	SAMPLE	219725-034	Soil	162482	04/28/10 07:24	1.0		
089	116b089	MSS	219725-035	Soil	162482	04/28/10 07:52	2.0		
090	116b090	X	QC542311	Soil	162482	04/28/10 08:22	2.0		
091	116b091	X	QC542312	Soil	162482	04/28/10 08:50	2.0		
092	116b092	CCV	MO_500			04/28/10 09:18	1.0	2	
093	116b093	CCV	DSL_500			04/28/10 09:46	1.0	10	

JDG 04/27/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 39.

JDG 04/28/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 40 through 90.

Standards used: 1=S13646 2=S14243 3=S14362 4=S13690 5=S13691 6=S13692 7=S13693 8=S13694 9=S13695 10=S14361 11=S14360

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160243836

Instrument : GC15B Begun : 06/18/10 07:56
 Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	169b001	X	PRIMER			06/18/10 07:56	1.0	
002	169b002	X	IB			06/18/10 08:23	1.0	
003	169b003	X	CMARKER			06/18/10 08:51	1.0	1
004	169b004	X	MO_500			06/18/10 09:19	1.0	2
005	169b005	CCV	DSL_500			06/18/10 09:47	1.0	3
006	169b006	CCV	MO_500			06/18/10 12:48	1.0	2
007	169b007	MS	QC548687	Water	164046	06/18/10 13:15	1.0	2:BUNKC:12-40=6500
008	169b008	MSD	QC548688	Water	164046	06/18/10 13:43	1.0	2:BUNKC:12-40=7400
009	169b009	CCV	DSL_1000			06/18/10 14:29	1.0	4
010	169b010	CCV	MO_500			06/18/10 15:04	1.0	2
011	169b011	MS	QC548687	Water	164046	06/18/10 15:48	1.0	2:BUNKC:12-40=6600
012	169b012	MSD	QC548688	Water	164046	06/18/10 16:16	1.0	2:BUNKC:12-40=6500
013	169b013	X	IB			06/18/10 17:50	1.0	
014	169b014	X	CMARKER			06/18/10 18:17	1.0	1
015	169b015	CCV	MO_500			06/18/10 18:45	1.0	2
016	169b016	CCV	DSL_250			06/18/10 19:12	1.0	5

JDG 06/18/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 10.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160248142

Instrument : GC15B
 Method : EPA 8015B

Begun : 06/21/10 07:42
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	172b001	X	PRIMER				06/21/10 07:42	1.0	
002	172b002	X	IB				06/21/10 08:57	1.0	
003	172b003	X	CMARKER				06/21/10 09:25	1.0	1
004	172b004	CCV	DSL_500				06/21/10 09:52	1.0	2
005	172b005	CCV	MO_500				06/21/10 10:21	1.0	3
006	172b006	SAMPLE	220619-011	S	Soil	163847	06/21/10 12:06	1.0	
007	172b007	SAMPLE	220619-012	S	Soil	163847	06/21/10 12:34	1.0	
008	172b008	SAMPLE	220619-014	S	Soil	163847	06/21/10 13:02	1.0	
009	172b009	SAMPLE	220619-015	S	Soil	163847	06/21/10 13:30	1.0	
010	172b010	SAMPLE	220619-013	S	Soil	163847	06/21/10 13:58	1.0	
011	172b011	SAMPLE	220750-004		Soil	164136	06/21/10 14:25	1.0	
012	172b012	SAMPLE	220619-016	S	Soil	163847	06/21/10 14:53	3.0	
013	172b013	SAMPLE	220619-017	S	Soil	163847	06/21/10 15:21	5.0	
014	172b014	X	IB				06/21/10 15:49	1.0	
015	172b015	SAMPLE	220765-001		Water	164145	06/21/10 16:16	1.0	
016	172b016	SAMPLE	220766-001		Water	164145	06/21/10 16:44	1.0	
017	172b017	CCV	DSL_1000				06/21/10 17:12	1.0	4
018	172b018	CCV	MO_500				06/21/10 17:40	1.0	3
019	172b019	X	CCV				06/21/10 18:08	1.0	4
020	172b020	X	CCV				06/21/10 18:35	1.0	3
021	172b021	SAMPLE	220750-005		Water	164145	06/21/10 19:03	1.0	
022	172b022	SAMPLE	220760-002	S	Water	164145	06/21/10 19:31	1.0	
023	172b023	SAMPLE	220760-003	S	Water	164145	06/21/10 19:58	1.0	
024	172b024	SAMPLE	220760-004	S	Water	164145	06/21/10 20:26	1.0	
025	172b025	SAMPLE	220760-006	S	Water	164145	06/21/10 20:53	1.0	
026	172b026	SAMPLE	220760-007	S	Water	164145	06/21/10 21:21	1.0	
027	172b027	SAMPLE	220760-010	S	Water	164145	06/21/10 21:49	1.0	
028	172b028	SAMPLE	220760-011	S	Water	164145	06/21/10 22:16	1.0	
029	172b029	SAMPLE	220680-006		Water	164046	06/21/10 22:43	1.0	
030	172b030	SAMPLE	220680-010		Water	164046	06/21/10 23:10	1.0	
031	172b031	X	CMARKER				06/21/10 23:38	1.0	1
032	172b032	CCV	DSL_500				06/22/10 00:05	1.0	2
033	172b033	X	MO_500				06/22/10 00:33	1.0	3
034	172b034	X	CCV				06/22/10 01:00	1.0	2
035	172b035	CCV	MO_500				06/22/10 01:27	1.0	3
036	172b036	BLANK	QC549190	S	Soil	164180	06/22/10 01:55	1.0	
037	172b037	BLANK	QC549190		Soil	164180	06/22/10 02:23	1.0	
038	172b038	LCS	QC549191	S	Soil	164180	06/22/10 02:50	1.0	
039	172b039	MSS	220770-003		Soil	164180	06/22/10 03:18	1.0	
040	172b040	MS	QC549192		Soil	164180	06/22/10 03:46	1.0	
041	172b041	MSD	QC549193		Soil	164180	06/22/10 04:13	1.0	
042	172b042	SAMPLE	220813-001		Soil	164180	06/22/10 04:41	20.0	
043	172b043	SAMPLE	220813-002		Soil	164180	06/22/10 05:09	10.0	
044	172b044	SAMPLE	220813-003		Soil	164180	06/22/10 05:36	10.0	
045	172b045	SAMPLE	220770-001		Soil	164180	06/22/10 06:04	5.0	
046	172b046	CCV	DSL_250				06/22/10 06:32	1.0	5
047	172b047	CCV	MO_500				06/22/10 06:59	1.0	3
048	172b048	X	CCV				06/22/10 07:27	1.0	5
049	172b049	X	CCV				06/22/10 07:55	1.0	3

JDG 06/22/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 49.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160249623

Instrument : GC15B
 Method : EPA 8015B

Begun : 06/22/10 08:23
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	173b001	X	PRIMER				06/22/10 08:23	1.0	
002	173b002	X	IB				06/22/10 08:51	1.0	
003	173b003	X	CMARKER				06/22/10 09:18	1.0	1
004	173b004	CCV	DSL_500				06/22/10 09:46	1.0	2
005	173b005	CCV	MO_500				06/22/10 10:14	1.0	3
006	173b006	SAMPLE	220750-005		Water	164145	06/22/10 14:01	1.0	
007	173b007	X	CCV				06/22/10 14:33	1.0	4
008	173b008	CCV	MO_500				06/22/10 15:00	1.0	3
009	173b009	CCV	DSL_250				06/22/10 15:28	1.0	4
010	173b010	X	CCV				06/22/10 15:56	1.0	2
011	173b011	SAMPLE	220680-011		Water	164046	06/22/10 17:56	1.0	
012	173b012	SAMPLE	220680-012		Water	164046	06/22/10 18:24	1.0	2:BUNKC:12-40=7100
013	173b013	SAMPLE	220769-004		Water	164145	06/22/10 18:51	5.0	2:BUNKC:12-40=12000
014	173b014	SAMPLE	220770-002		Soil	164180	06/22/10 19:19	5.0	2:BUNKC:12-40=6000
015	173b015	SAMPLE	220770-007		Soil	164180	06/22/10 19:46	40.0	2:BUNKC:12-40=7700
016	173b016	SAMPLE	220770-008		Soil	164180	06/22/10 20:13	20.0	2:BUNKC:12-40=8300
017	173b017	SAMPLE	220770-009		Soil	164180	06/22/10 20:41	10.0	2:BUNKC:12-40=9300
018	173b018	X	IB				06/22/10 21:08	1.0	
019	173b019	SAMPLE	220770-004		Soil	164180	06/22/10 21:36	1.0	
020	173b020	SAMPLE	220770-005		Soil	164180	06/22/10 22:04	1.0	
021	173b021	SAMPLE	220770-006		Soil	164180	06/22/10 22:31	1.0	
022	173b022	X	CMARKER				06/22/10 22:58	1.0	1
023	173b023	CCV	MO_500				06/22/10 23:26	1.0	3
024	173b024	CCV	DSL_1000				06/22/10 23:53	1.0	5
025	173b025	X	CCV				06/23/10 00:21	1.0	3
026	173b026	X	CCV				06/23/10 00:48	1.0	5
027	173b027	SAMPLE	220817-025		Soil	164180	06/23/10 01:16	1.0	
028	173b028	SAMPLE	220817-023		Soil	164180	06/23/10 01:43	1.0	
029	173b029	SAMPLE	220817-021		Soil	164180	06/23/10 02:11	5.0	
030	173b030	SAMPLE	220817-024		Soil	164180	06/23/10 02:38	1.0	
031	173b031	X	IB				06/23/10 03:06	1.0	
032	173b032	BLANK	QC549199	S	Water	164181	06/23/10 03:34	1.0	
033	173b033	BS	QC549200	S	Water	164181	06/23/10 04:01	1.0	
034	173b034	BSD	QC549201	S	Water	164181	06/23/10 04:29	1.0	
035	173b035	SAMPLE	220786-001	S	Water	164181	06/23/10 04:57	1.0	
036	173b036	SAMPLE	220786-002	S	Water	164181	06/23/10 05:24	1.0	
037	173b037	SAMPLE	220786-003	S	Water	164181	06/23/10 05:52	1.0	
038	173b038	CCV	MO_500				06/23/10 06:20	1.0	3
039	173b039	CCV	DSL_500				06/23/10 06:47	1.0	2
040	173b040	X	CCV				06/23/10 07:15	1.0	3
041	173b041	X	CCV				06/23/10 07:43	1.0	2

SFL 06/22/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 9.

JDG 06/23/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 10 through 41.

Standards used: 1=S14862 2=S14789 3=S14857 4=S14788 5=S14790

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170100399

Instrument : GC17A Begun : 03/10/10 08:00
 Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	069a001	X	PRIMER			03/10/10 08:00	1.0	
002	069a002	X	IB			03/10/10 08:28	1.0	
003	069a003	IB	CALIB			03/10/10 08:55	1.0	
004	069a004	ICAL	DSL_10			03/10/10 09:30	1.0	1
005	069a005	ICAL	DSL_100			03/10/10 09:58	1.0	2
006	069a006	ICAL	DSL_500			03/10/10 10:25	1.0	3
007	069a007	ICAL	DSL_1000			03/10/10 10:52	1.0	4
008	069a008	ICAL	DSL_5000			03/10/10 11:20	1.0	5
009	069a009	ICAL	DSL_7500			03/10/10 11:48	1.0	6
010	069a010	IB	CALIB			03/10/10 12:15	1.0	
011	069a011	ICV	DSL_500			03/10/10 12:42	1.0	7
012	069a012	X	ICV			03/10/10 13:09	1.0	7
013	069a013	IB	CALIB			03/10/10 13:37	1.0	
014	069a014	ICAL	MO_50			03/10/10 14:05	1.0	8
015	069a015	ICAL	MO_250			03/10/10 14:32	1.0	9
016	069a016	ICAL	MO_500			03/10/10 15:00	1.0	10
017	069a017	ICAL	MO_1000			03/10/10 15:27	1.0	11
018	069a018	ICAL	MO_5000			03/10/10 15:55	1.0	12
019	069a019	ICAL	MO_7500			03/10/10 16:23	1.0	13
020	069a020	IB	CALIB			03/10/10 16:51	1.0	
021	069a021	CMARKER	C8-C50			03/10/10 17:19	1.0	14
022	069a022	IB	CALIB			03/10/10 17:46	1.0	

JDG 03/11/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Standards used: 1=S14114 2=S14115 3=S14116 4=S14117 5=S14113 6=S14118 7=S14077 8=S13804 9=S13805 10=S13806 11=S13807
 12=S13808 13=S13809 14=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170108447

Instrument : GC17A
 Method : EPA 8015B

Begun : 03/16/10 07:27
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	075a001	X	PRIMER				03/16/10 07:27	1.0	
002	075a002	X	IB				03/16/10 07:55	1.0	
003	075a003	X	CMARKER				03/16/10 08:24	1.0	1
004	075a004	X	MO_500				03/16/10 08:52	1.0	2
005	075a005	X	DSL_500				03/16/10 09:19	1.0	3
006	075a006	X	JP5_250				03/16/10 09:47	1.0	4
007	075a007	X	IB				03/16/10 12:53	1.0	
008	075a008	X	CMARKER				03/16/10 13:21	1.0	1
009	075a009	X	MO_500				03/16/10 13:48	1.0	2
010	075a010	X	IB				03/16/10 14:40	1.0	
011	075a011	IB	CALIB				03/16/10 15:07	1.0	
012	075a012	ICAL	HEXOTP_5				03/16/10 15:35	1.0	5
013	075a013	ICAL	HEXOTP_10				03/16/10 16:03	1.0	6
014	075a014	ICAL	HEXOTP_25				03/16/10 16:30	1.0	7
015	075a015	ICAL	HEXOTP_50				03/16/10 16:58	1.0	8
016	075a016	ICAL	HEXOTP_100				03/16/10 17:25	1.0	9
017	075a017	ICAL	HEXOTP_200				03/16/10 17:53	1.0	10
018	075a018	IB	CALIB				03/16/10 18:20	1.0	
019	075a019	CMARKER	C8-C50				03/16/10 18:48	1.0	1
020	075a020	CCV	MO_500				03/16/10 19:15	1.0	2
021	075a021	CCV	DSL_250				03/16/10 19:42	1.0	11
022	075a022	X	CCV				03/16/10 20:10	1.0	2
023	075a023	X	CCV				03/16/10 20:37	1.0	11
024	075a024	BLANK	QC535926		Water	160891	03/16/10 21:05	1.0	
025	075a025	SAMPLE	218714-001	S	Water	160843	03/16/10 21:32	1.0	
026	075a026	BLANK	QC536089	S	Water	160933	03/16/10 22:00	1.0	
027	075a027	BLANK	QC536089		Water	160933	03/16/10 22:27	1.0	
028	075a028	BS	QC536090	S	Water	160933	03/16/10 22:54	1.0	
029	075a029	BSD	QC536091	S	Water	160933	03/16/10 23:22	1.0	
030	075a030	SAMPLE	218778-001		Water	160933	03/16/10 23:49	1.0	
031	075a031	SAMPLE	218778-002		Water	160933	03/17/10 00:17	1.0	
032	075a032	SAMPLE	218778-003		Water	160933	03/17/10 00:45	1.0	
033	075a033	SAMPLE	218778-004		Water	160933	03/17/10 01:12	1.0	
034	075a034	CCV	MO_500				03/17/10 01:39	1.0	2
035	075a035	CCV	DSL_1000				03/17/10 02:07	1.0	12
036	075a036	X	CCV				03/17/10 02:34	1.0	2
037	075a037	X	CCV				03/17/10 03:02	1.0	12
038	075a038	SAMPLE	218787-006	S	Water	160933	03/17/10 03:29	1.0	
039	075a039	SAMPLE	218787-007	S	Water	160933	03/17/10 03:56	1.0	
040	075a040	SAMPLE	218789-001	S	Water	160933	03/17/10 04:24	1.0	
041	075a041	SAMPLE	218789-002	S	Water	160933	03/17/10 04:52	1.0	
042	075a042	SAMPLE	218789-003	S	Water	160933	03/17/10 05:19	1.0	
043	075a043	X	CMARKER				03/17/10 05:47	1.0	1
044	075a044	X	MO_500				03/17/10 06:14	1.0	2
045	075a045	CCV	DSL_500				03/17/10 06:41	1.0	3
046	075a046	CCV	MO_500				03/17/10 07:09	1.0	2
047	075a047	X	CCV				03/17/10 07:36	1.0	3

JDG 03/17/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 47.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170157422

Instrument : GC17A
 Method : EPA 8015B

Begun : 04/19/10 07:42
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	109a001	X	IB				04/19/10 07:42	1.0	
002	109a002	X	CMARKER				04/19/10 08:10	1.0	1
003	109a003	X	IB				04/19/10 10:09	1.0	
004	109a004	X	IB				04/19/10 10:36	1.0	
005	109a005	X	CMARKER				04/19/10 11:04	1.0	1
006	109a006	X	MO_500				04/19/10 11:31	1.0	2
007	109a007	X	DSL_250				04/19/10 11:59	1.0	3
008	109a008	X	MO_500				04/19/10 12:36	1.0	2
009	109a009	IB	CALIB				04/19/10 14:35	1.0	
010	109a010	ICAL	MO_50				04/19/10 15:03	1.0	4
011	109a011	ICAL	MO_250				04/19/10 15:30	1.0	5
012	109a012	ICAL	MO_500				04/19/10 15:58	1.0	6
013	109a013	ICAL	MO_1000				04/19/10 16:25	1.0	7
014	109a014	ICAL	MO_5000				04/19/10 16:53	1.0	8
015	109a015	ICAL	MO_7500				04/19/10 17:20	1.0	9
016	109a016	IB	CALIB				04/19/10 17:47	1.0	
017	109a017	CMARKER	C8-C50				04/19/10 18:14	1.0	1
018	109a018	IB	CALIB				04/19/10 18:42	1.0	
019	109a019	CCV	MO_500				04/19/10 19:09	1.0	2
020	109a020	CCV	DSL_250				04/19/10 19:36	1.0	3
021	109a021	X	CCV				04/19/10 20:04	1.0	2
022	109a022	X	CCV				04/19/10 20:31	1.0	3
023	109a023	BLANK	QC540932		Soil	162140	04/19/10 20:58	1.0	
024	109a024	LCS	QC540936		Soil	162140	04/19/10 21:26	1.0	
025	109a025	SAMPLE	219555-004		Soil	162140	04/19/10 21:53	1.0	
026	109a026	MSS	219555-007		Soil	162140	04/19/10 22:20	5.0	
027	109a027	MS	QC540934		Soil	162140	04/19/10 22:47	5.0	
028	109a028	MSD	QC540935		Soil	162140	04/19/10 23:14	5.0	
029	109a029	SAMPLE	219555-001		Soil	162140	04/19/10 23:41	100.0	
030	109a030	X	IB				04/20/10 00:08	1.0	
031	109a031	SAMPLE	219555-005		Soil	162140	04/20/10 00:35	1.0	
032	109a032	SAMPLE	219555-008		Soil	162140	04/20/10 01:03	1.0	
033	109a033	SAMPLE	219555-003		Soil	162140	04/20/10 01:30	50.0	
034	109a034	CCV	MO_500				04/20/10 01:57	1.0	2
035	109a035	CCV	DSL_500				04/20/10 02:25	1.0	10
036	109a036	X	CCV				04/20/10 02:52	1.0	2
037	109a037	X	CCV				04/20/10 03:19	1.0	10
038	109a038	BLANK	QC540932	S	Soil	162140	04/20/10 03:47	1.0	
039	109a039	LCS	QC540933	S	Soil	162140	04/20/10 04:14	1.0	
040	109a040	SAMPLE	219555-011		Soil	162140	04/20/10 04:42	1.0	
041	109a041	SAMPLE	219555-009		Soil	162140	04/20/10 05:09	10.0	
042	109a042	SAMPLE	219555-010		Soil	162140	04/20/10 05:37	10.0	
043	109a043	X	IB				04/20/10 06:04	1.0	
044	109a044	SAMPLE	219555-002		Soil	162140	04/20/10 06:31	50.0	
045	109a045	X	IB				04/20/10 06:59	1.0	
046	109a046	SAMPLE	219555-006		Soil	162140	04/20/10 07:26	100.0	
047	109a047	X	IB				04/20/10 07:54	1.0	
048	109a048	SAMPLE	219358-007	S	Soil	162140	04/20/10 08:21	1.0	
049	109a049	SAMPLE	219358-008	S	Soil	162140	04/20/10 08:49	1.0	
050	109a050	SAMPLE	219413-001	S	Soil	162140	04/20/10 09:16	1.0	
051	109a051	X	CMARKER				04/20/10 09:43	1.0	1
052	109a052	CCV	MO_500				04/20/10 10:11	1.0	2

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170242436

Instrument : GC17A
 Method : EPA 8015B

Begun : 06/17/10 08:36
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Std's Used
001	168a001	X	PRIMER				06/17/10 08:36	1.0	
002	168a002	X	IB				06/17/10 09:03	1.0	
003	168a003	X	CMARKER				06/17/10 09:47	1.0	1
004	168a004	X	DSL_1000				06/17/10 10:15	1.0	2
005	168a005	X	MO_500				06/17/10 10:42	1.0	3
006	168a006	X	DSL_500				06/17/10 11:23	1.0	4
007	168a007	X	IB				06/17/10 13:31	1.0	
008	168a008	X	CMARKER				06/17/10 13:59	1.0	1
009	168a009	CCV	DSL_1000				06/17/10 14:27	1.0	2
010	168a010	CCV	MO_500				06/17/10 14:54	1.0	3
011	168a011	BLANK	QC548683	S	Water	164046	06/17/10 15:38	1.0	
012	168a012	LCS	QC548684	S	Water	164046	06/17/10 16:06	1.0	
013	168a013	MSS	220669-002	S	Water	164046	06/17/10 16:33	1.0	
014	168a014	MS	QC548685	S	Water	164046	06/17/10 17:01	1.0	
015	168a015	MSD	QC548686	S	Water	164046	06/17/10 17:28	1.0	
016	168a016	SAMPLE	220669-001	S	Water	164046	06/17/10 17:56	1.0	
017	168a017	SAMPLE	220700-001	S	Water	164046	06/17/10 18:23	1.0	
018	168a018	SAMPLE	220700-002	S	Water	164046	06/17/10 18:51	1.0	
019	168a019	SAMPLE	220733-011		Soil	164077	06/17/10 19:19	1.0	
020	168a020	SAMPLE	220680-009		Water	164046	06/17/10 19:46	1.0	
021	168a021	CCV	DSL_1000				06/17/10 20:13	1.0	2
022	168a022	CCV	MO_500				06/17/10 20:41	1.0	3
023	168a023	X	CCV				06/17/10 21:08	1.0	2
024	168a024	X	CCV				06/17/10 21:36	1.0	3
025	168a025	BLANK	QC548861		Water	164090	06/17/10 22:03	1.0	
026	168a026	LCS	QC548864		Water	164090	06/17/10 22:31	1.0	
027	168a027	SAMPLE	220736-001		Water	164090	06/17/10 22:59	1.0	
028	168a028	SAMPLE	220736-002		Water	164090	06/17/10 23:26	1.0	
029	168a029	SAMPLE	220736-003		Water	164090	06/17/10 23:54	1.0	
030	168a030	SAMPLE	220736-004		Water	164090	06/18/10 00:22	1.0	
031	168a031	SAMPLE	220736-005		Water	164090	06/18/10 00:50	1.0	
032	168a032	SAMPLE	220709-002		Water	164090	06/18/10 01:17	1.0	
033	168a033	SAMPLE	220709-003		Water	164090	06/18/10 01:45	1.0	
034	168a034	SAMPLE	220709-004		Water	164090	06/18/10 02:13	1.0	
035	168a035	X	CMARKER				06/18/10 02:40	1.0	1
036	168a036	CCV	DSL_500				06/18/10 03:08	1.0	4
037	168a037	CCV	MO_500				06/18/10 03:36	1.0	3
038	168a038	X	CCV				06/18/10 04:04	1.0	4
039	168a039	X	CCV				06/18/10 04:31	1.0	3

JDG 06/18/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 39.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170248145

Instrument : GC17A
 Method : EPA 8015B

Begun : 06/21/10 07:45
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	172a001	X	PRIMER				06/21/10 07:45	1.0		
002	172a002	X	IB				06/21/10 08:57	1.0		
003	172a003	X	CMARKER				06/21/10 09:24	1.0	1	
004	172a004	X	DSL_500				06/21/10 09:52	1.0	2	
005	172a005	X	MO_500				06/21/10 10:20	1.0	3	
006	172a006	X	DSL_500				06/21/10 10:48	1.0	2	
007	172a007	X	DSL_250				06/21/10 11:25	1.0	4	
008	172a008	X	IB				06/21/10 14:02	1.0		
009	172a009	IB	CALIB				06/21/10 14:29	1.0		
010	172a010	ICAL	DSL_10				06/21/10 14:57	1.0	5	
011	172a011	ICAL	DSL_100				06/21/10 15:24	1.0	6	
012	172a012	ICAL	DSL_500				06/21/10 15:52	1.0	7	
013	172a013	ICAL	DSL_1000				06/21/10 16:20	1.0	8	
014	172a014	ICAL	DSL_5000				06/21/10 16:47	1.0	9	
015	172a015	ICAL	DSL_7500				06/21/10 17:15	1.0	10	
016	172a016	IB	CALIB				06/21/10 17:42	1.0		
017	172a017	ICV	DSL_500				06/21/10 18:10	1.0	2	
018	172a018	X	ICV				06/21/10 18:37	1.0	4	
020	172a020	CMARKER	C8-C50				06/21/10 19:32	1.0	1	
021	172a021	IB	CALIB				06/21/10 20:00	1.0		
022	172a022	CCV	DSL_500				06/21/10 20:27	1.0	2	
023	172a023	CCV	MO_500				06/21/10 20:54	1.0	3	
024	172a024	X	CCV				06/21/10 21:22	1.0	2	
025	172a025	X	CCV				06/21/10 21:49	1.0	3	
026	172a026	SAMPLE	220770-002		Soil	164180	06/21/10 22:16	5.0		2:BUNKC:12-40=7100
027	172a027	SAMPLE	220770-009		Soil	164180	06/21/10 22:43	10.0		2:BUNKC:12-40=11000
028	172a028	SAMPLE	220770-007		Soil	164180	06/21/10 23:10	10.0		15:BUNKC:12-40=43000
029	172a029	SAMPLE	220770-008		Soil	164180	06/21/10 23:37	10.0		8:BUNKC:12-40=23000
030	172a030	X	IB				06/22/10 00:04	1.0		
031	172a031	SAMPLE	220770-004		Soil	164180	06/22/10 00:31	1.0		
032	172a032	SAMPLE	220770-005		Soil	164180	06/22/10 00:59	1.0		
033	172a033	SAMPLE	220770-006		Soil	164180	06/22/10 01:26	1.0		
034	172a034	SAMPLE	220806-001	S	Soil	164180	06/22/10 01:53	1.0		2:BUNKC:12-40=11000
035	172a035	SAMPLE	220738-001		Soil	164180	06/22/10 02:21	1.0		2:BUNKC:12-40=10000
036	172a036	SAMPLE	220738-002		Soil	164180	06/22/10 02:48	1.0		2:BUNKC:12-40=12000
037	172a037	X	DSL_1000				06/22/10 03:15	1.0	11	
038	172a038	X	MO_500				06/22/10 03:42	1.0	3	
039	172a039	CCV	DSL_1000				06/22/10 04:10	1.0	11	
040	172a040	CCV	MO_500				06/22/10 04:38	1.0	3	
041	172a041	SAMPLE	220680-011		Water	164046	06/22/10 05:06	1.0		2:BUNKC:12-40=6200
042	172a042	SAMPLE	220680-012		Water	164046	06/22/10 05:33	1.0		2:BUNKC:12-40=9100
043	172a043	SAMPLE	220680-013		Water	164046	06/22/10 06:01	1.0		
044	172a044	SAMPLE	220709-005		Water	164090	06/22/10 06:28	1.0		
045	172a045	SAMPLE	220709-006		Water	164090	06/22/10 06:56	1.0		
046	172a046	SAMPLE	220817-022		Soil	164180	06/22/10 07:23	1.0		
047	172a047	SAMPLE	220817-023		Soil	164180	06/22/10 07:51	1.0		
048	172a048	SAMPLE	220817-025		Soil	164180	06/22/10 08:18	1.0		
049	172a049	SAMPLE	220817-024		Soil	164180	06/22/10 08:45	1.0		
050	172a050	SAMPLE	220817-021		Soil	164180	06/22/10 09:13	5.0		
051	172a051	X	CMARKER				06/22/10 09:41	1.0	1	
052	172a052	X	DSL_1000				06/22/10 10:08	1.0	11	
053	172a053	X	MO_500				06/22/10 10:35	1.0	3	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970011942

Instrument : GC27A
 Method : EPA 8015B

Begun : 01/08/10 07:02
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	008a001	X	PRIMER			01/08/10 07:02	1.0	
002	008a002	X	IB			01/08/10 07:27	1.0	
003	008a003	X	IB			01/08/10 07:52	1.0	
004	008a004	X	CMARKER			01/08/10 08:18	1.0	1
005	008a005	CCV	DSL_250			01/08/10 08:43	1.0	2
006	008a006	X	CMARKER			01/08/10 10:52	1.0	1
007	008a007	CCV	DSL_250			01/08/10 11:18	1.0	2
008	008a008	X	IB			01/08/10 13:49	1.0	
009	008a009	X	CMARKER			01/08/10 14:14	1.0	1
010	008a010	CCV	DSL_1000			01/08/10 14:40	1.0	3
011	008a011	CCV	DSL_500			01/08/10 15:16	1.0	4
012	008a012	IB	CALIB			01/08/10 17:12	1.0	
013	008a013	ICAL	HEXOPT_5			01/08/10 17:38	1.0	5
014	008a014	ICAL	HEXOPT_10			01/08/10 18:03	1.0	6
015	008a015	ICAL	HEXOPT_25			01/08/10 18:29	1.0	7
016	008a016	ICAL	HEXOPT_50			01/08/10 18:54	1.0	8
017	008a017	ICAL	HEXOPT_100			01/08/10 19:20	1.0	9
018	008a018	ICAL	HEXOPT_200			01/08/10 19:45	1.0	10
019	008a019	IB	CALIB			01/08/10 20:11	1.0	
020	008a020	ICAL	DSL_10			01/08/10 20:36	1.0	11
021	008a021	ICAL	DSL_100			01/08/10 21:02	1.0	12
022	008a022	ICAL	DSL_500			01/08/10 21:27	1.0	13
023	008a023	ICAL	DSL_1000			01/08/10 21:52	1.0	14
024	008a024	ICAL	DSL_5000			01/08/10 22:18	1.0	15
025	008a025	ICAL	DSL_7500			01/08/10 22:43	1.0	16
026	008a026	IB	CALIB			01/08/10 23:09	1.0	
027	008a027	ICV	DSL_500			01/08/10 23:34	1.0	4
028	008a028	X	ICV			01/09/10 00:00	1.0	4
029	008a029	IB	CALIB			01/09/10 00:25	1.0	
030	008a030	CMARKER	C8-C50			01/09/10 00:50	1.0	17
031	008a031	IB	CALIB			01/09/10 01:15	1.0	

SFL 01/11/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S12636 2=S13456 3=S13458 4=S13457 5=S13690 6=S13691 7=S13692 8=S13693 9=S13694 10=S13695 11=S13230
 12=S13231 13=S13232 14=S13233 15=S13229 16=S13234 17=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970048088

Instrument : GC27A
 Method : EPA 8015B

Begun : 02/02/10 09:28
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	033a001	X	PRIMER			02/02/10 09:28	1.0	
002	033a002	X	IB			02/02/10 09:53	1.0	
003	033a003	X	IB			02/02/10 10:19	1.0	
004	033a004	X	CMARKER			02/02/10 10:44	1.0	1
005	033a005	CCV	DSL_1000			02/02/10 11:10	1.0	2
006	033a006	CCV	MO_500			02/02/10 11:36	1.0	3
007	033a007	CCV	DSL_250			02/02/10 13:11	1.0	4
008	033a008	CCV	MO_500			02/02/10 13:37	1.0	3
009	033a009	X	IB			02/02/10 19:36	1.0	
010	033a010	X	IB			02/02/10 20:01	1.0	
011	033a011	X	CMARKER			02/02/10 20:27	1.0	1
012	033a012	CCV	DSL_500			02/02/10 20:53	1.0	5
013	033a013	CCV	MO_500			02/02/10 21:18	1.0	3
014	033a014	X	IB			02/02/10 21:48	1.0	
015	033a015	IB	CALIB			02/02/10 22:14	1.0	
016	033a016	ICAL	HEXOTP_5			02/02/10 22:40	1.0	6
017	033a017	ICAL	HEXOTP_10			02/02/10 23:05	1.0	7
018	033a018	ICAL	HEXOTP_25			02/02/10 23:30	1.0	8
019	033a019	ICAL	HEXOTP_50			02/02/10 23:55	1.0	9
020	033a020	ICAL	HEXOTP_100			02/03/10 00:21	1.0	10
021	033a021	ICAL	HEXOTP_200			02/03/10 00:46	1.0	11
022	033a022	IB	CALIB			02/03/10 01:12	1.0	
023	033a023	ICAL	MO_25			02/03/10 01:37	1.0	12
024	033a024	ICAL	MO_50			02/03/10 02:03	1.0	12
025	033a025	ICAL	MO_250			02/03/10 02:28	1.0	13
026	033a026	ICAL	MO_500			02/03/10 02:54	1.0	14
027	033a027	ICAL	MO_1000			02/03/10 03:19	1.0	15
028	033a028	ICAL	MO_2500			02/03/10 03:45	1.0	16
029	033a029	IB	CALIB			02/03/10 04:10	1.0	
030	033a030	CMARKER	C8-C50			02/03/10 04:36	1.0	1
031	033a031	IB	CALIB			02/03/10 05:02	1.0	

SFL 02/03/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S13646 2=S13458 3=S13744 4=S13456 5=S13457 6=S13690 7=S13691 8=S13692 9=S13693 10=S13694 11=S13695
 12=S13804 13=S13805 14=S13806 15=S13807 16=S13808

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970199313

Instrument : GC27A
 Method : EPA 8015B

Begun : 05/18/10 09:53
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	138a001	X	PRIMER			05/18/10 09:53	1.0	
002	138a002	X	IB			05/18/10 10:19	1.0	
003	138a003	X	IB			05/18/10 10:44	1.0	
004	138a004	X	CMARKER			05/18/10 11:10	1.0	1
005	138a005	CCV	DSL_500			05/18/10 11:35	1.0	2
006	138a006	X	IB			05/18/10 13:18	1.0	
007	138a007	IB	CALIB			05/18/10 13:44	1.0	
008	138a008	ICAL	MO_25			05/18/10 14:09	1.0	3
009	138a009	ICAL	MO_50			05/18/10 14:35	1.0	3
010	138a010	ICAL	MO_250			05/18/10 15:00	1.0	4
011	138a011	ICAL	MO_500			05/18/10 15:26	1.0	5
012	138a012	ICAL	MO_1000			05/18/10 15:52	1.0	6
013	138a013	ICAL	MO_2500			05/18/10 16:17	1.0	7
014	138a014	IB	CALIB			05/18/10 16:43	1.0	
015	138a015	CMARKER	C8-C50			05/18/10 17:09	1.0	1
016	138a016	IB	CALIB			05/18/10 17:34	1.0	
017	138a017	CCV	MO_500			05/18/10 18:00	1.0	8
018	138a018	X	CCV			05/18/10 18:25	1.0	8
019	138a019	LOD	212266-011	Water	162210	05/18/10 18:51	1.0	
020	138a020	LOD	207488-011	Soil	162228	05/18/10 19:16	1.0	
021	138a021	LOD	213039-011	Soil	162920	05/18/10 19:42	1.0	
022	138a022	CCV	MO_500			05/18/10 20:07	1.0	8
023	138a023	X	CCV			05/18/10 20:33	1.0	8

JDG 05/19/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 23.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970242435

Instrument : GC27A
 Method : EPA 8015B

Begun : 06/17/10 08:35
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	168a001	X	PRIMER			06/17/10 08:35	1.0		
002	168a002	X	IB			06/17/10 09:00	1.0		
003	168a003	X	IB			06/17/10 09:26	1.0		
004	168a004	X	IB			06/17/10 09:51	1.0		
005	168a005	X	IB			06/17/10 10:17	1.0		
006	168a006	X	IB			06/17/10 10:42	1.0		
007	168a007	X	IB			06/17/10 11:08	1.0		
008	168a008	X	CMARKER			06/17/10 11:33	1.0	1	
009	168a009	CCV	MO_500			06/17/10 11:59	1.0	2	
010	168a010	CCV	DSL_250			06/17/10 12:24	1.0	3	
011	168a011	BLANK	QC548683	Water	164046	06/17/10 13:26	1.0		
012	168a012	LCS	QC548689	Water	164046	06/17/10 13:52	1.0		
013	168a013	MSS	220680-003	Water	164046	06/17/10 14:17	1.0		
014	168a014	MS	QC548687	Water	164046	06/17/10 14:43	1.0		
015	168a015	MSD	QC548688	Water	164046	06/17/10 15:09	1.0		
016	168a016	SAMPLE	220680-002	Water	164046	06/17/10 15:34	1.0		
017	168a017	SAMPLE	220680-004	Water	164046	06/17/10 16:00	1.0		
018	168a018	SAMPLE	220680-005	Water	164046	06/17/10 16:26	1.0		
019	168a019	SAMPLE	220680-006	Water	164046	06/17/10 16:51	1.0		
020	168a020	SAMPLE	220680-008	Water	164046	06/17/10 17:17	1.0		
021	168a021	CCV	MO_500			06/17/10 17:43	1.0	2	
022	168a022	CCV	DSL_500			06/17/10 18:08	1.0	4	
023	168a023	X	CCV			06/17/10 18:34	1.0	2	
024	168a024	X	CCV			06/17/10 19:00	1.0	4	
025	168a025	SAMPLE	220709-005	Water	164090	06/17/10 19:25	1.0		
026	168a026	SAMPLE	220709-006	Water	164090	06/17/10 19:51	1.0		
027	168a027	SAMPLE	220709-007	Water	164090	06/17/10 20:16	1.0		
028	168a028	SAMPLE	220709-008	Water	164090	06/17/10 20:42	1.0		
029	168a029	SAMPLE	220709-009	Water	164090	06/17/10 21:07	1.0		
030	168a030	SAMPLE	220709-012	Water	164090	06/17/10 21:33	1.0		
031	168a031	SAMPLE	220709-013	Water	164090	06/17/10 21:58	1.0		
032	168a032	SAMPLE	220709-014	Water	164090	06/17/10 22:24	1.0		
033	168a033	SAMPLE	220709-015	Water	164090	06/17/10 22:50	1.0		
034	168a034	SAMPLE	220709-016	Water	164090	06/17/10 23:15	1.0		
035	168a035	X	CMARKER			06/17/10 23:41	1.0	1	
036	168a036	X	MO_500			06/18/10 00:07	1.0	2	
037	168a037	CCV	DSL_250			06/18/10 00:32	1.0	3	
038	168a038	CCV	MO_500			06/18/10 00:58	1.0	2	
039	168a039	SAMPLE	220750-004	Soil	164136	06/18/10 01:24	1.0		
040	168a040	SAMPLE	220750-002	Soil	164136	06/18/10 01:49	5.0		20:DSL:12-32=12000
041	168a041	SAMPLE	220750-003	Soil	164136	06/18/10 02:15	20.0		8:TROIL:12-40=5500
042	168a042	X	IB			06/18/10 02:41	1.0		
043	168a043	X	DSL_1000			06/18/10 03:06	1.0	5	
044	168a044	SAMPLE	220680-010	Water	164046	06/18/10 03:32	1.0		
045	168a045	SAMPLE	220680-011	Water	164046	06/18/10 03:57	1.0		
046	168a046	SAMPLE	220680-012	Water	164046	06/18/10 04:23	1.0		
047	168a047	SAMPLE	220680-013	Water	164046	06/18/10 04:49	1.0		
048	168a048	X	MO_500			06/18/10 05:14	1.0	2	
049	168a049	X	DSL_250			06/18/10 05:40	1.0	3	
050	168a050	CCV	MO_500			06/18/10 06:05	1.0	2	
051	168a051	CCV	DSL_1000			06/18/10 06:31	1.0	5	

SAMPLE PREPARATION SUMMARY

Batch # : 164046
 Started By : KKM
 Method : 3520C
 Spike #1 ID : S14657

Prep Date : 15-JUN-2010 14:30
 Spike #2 ID : S14835

Analysis : TEHM
 Finished By : NAV
 Units : mL
 Spike #3 ID : S14251

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
220669-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
220669-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	MSS-1
220680-002		Water	500	2.5	1	0.005	7	.5				TEHM	
220680-003		Water	500	2.5	1	0.005	7	.5				TEHM	MSS-2
220680-004		Water	500	2.5	1	0.005	7	.5				TEHM	
220680-005		Water	500	2.5	1	0.005	7	.5				TEHM	
220680-006		Water	500	2.5	1	0.005	5	.5				TEHM	poss dbl surr
220680-008		Water	500	2.5	1	0.005	7	.5				TEHM	
220680-009		Water	500	2.5	1	0.005	7	.5				TEHM	
220680-010		Water	500	2.5	1	0.005	7	.5				TEHM	
220680-011		Water	500	2.5	1	0.005	7	.5				TEHM	
220680-012		Water	500	2.5	1	0.005	7	.5				TEHM	
220680-013		Water	500	2.5	1	0.005	5	.5				TEHM	
220700-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
220700-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
220727-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
220727-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
QC548683	BLANK	Water	500	2.5	1	0.005		.5			3630C	TEHM	
QC548684	LCS	Water	500	2.5	1	0.005		.5	.5		3630C	TEHM	
QC548685	MS	Water	500	2.5	1	0.005	7	.5	.5		3630C	TEHM	
QC548686	MSD	Water	500	2.5	1	0.005	7	.5	.5		3630C	TEHM	
QC548687	MS	Water	500	2.5	1	0.005	7	.5	.5			TEHM	
QC548688	MSD	Water	500	2.5	1	0.005	7	.5	.5			TEHM	
QC548689	LCS	Water	500	2.5	1	0.005		.5		.5		TEHM	

Analyst: JDG

Date: 06/18/10

Reviewer: PRW

Date: 06/18/10

Prep Chemist: NAV
 Cleanup Date: 6/16/10

Benchbook # **BK 3035**
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Sample #	Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
220669-001	164046	1.0	1.0	
↓ -002				MSS
220700-001				
↓ -002				
220727-001				
↓ -002				
MBQ-548683				
ICS ↓ 4				
MS ↓ 5				
MSD ↓ 6				

Extracts were cleaned up using C&T assembled _____ g columns

Extracts were cleaned up using 1.0 g cartridges

Extracts were eluted with 4.0 mL CH₂Cl₂

Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
N/A	NAV 6/16/10
SP 1524901	
EM50022	

Michael J. Taylor
 Extraction Chemist / Date 6/16/10

Continued from page 1
 Continued on page 1

JR 6/16/10
 Reviewed by / Date

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

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BK 3015

LIMS Batch No:

164416

Extraction Method:

LIMS Analysis:

TEHM

mod. EPA 3510c sep. funnel

Cleanup Method (if needed):

Date Extracted:

6/15/10

mod. EPA 3520c cont. L/L

EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
220609	CU1	500	7	2.5	X	
	CU2				↓	MFS-1
220690	CU2					
	CU3					MFS-2
	CU4					
	CU5					
	CU6		5			PSS 2x SUPA
	CU8		7			
	CU9					
	CU10					
	CU11					Relieves loose partial sample loss.
	CU12					
	CU13		5			
220700	CU1		7		X	
	CU2				↓	
220727	CU1				X	
	CU2				↓	
MB	Q0549083	500	NA		X	
LCS	4				↓	
MS	5	500	7			
MSD	6				↓	
MS	7					
MSD	8					
* LCS-MO	9	500	NA			

0.5 mL of TEH_SURR was added to all samples
 0.5 mL of TEH_SP was added to all spikes
 pH of all samples adjusted to pH ≤ 2 with H₂SO₄

3520c: Samples were continually extracted about 450 mL of CH₂Cl₂

Extraction Start Time: 1430
 Extraction End Time: 830

3510c: Samples were extracted 3 times with 60 mL of CH₂Cl₂
 Extracts filtered through baked, CH₂Cl₂-rinsed granular Na₂SO₄
 Concentrated to final volume at temperature (degrees C) 160
 Relinquished to TEH Department

Mfg & Lot# / LIMS # / Time	Date/ Initials
S14457A	KM 6/15/10
S14835A / S14251C	
FS100311	
EM50022	
1430	
830	DDX 6/15/10
N/A	NAEV 6/16/10
EM5002015	
160	
✓	

KRM 6/15/10
 Extraction Chemist Date

Continued from Page _____
 Continued on Page _____

JDO 6/15/10
 Reviewed by Date

Laboratory Job Number 220680

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-003-GW-10Q2	Batch#:	164301
Lab ID:	220680-001	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V9
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L2 V9
Acetone	ND	10	L1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-003-GW-10Q2	Batch#:	164301
Lab ID:	220680-001	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1 V1
Naphthalene	ND	2.0	V9
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	102	77-120	
1,2-Dichloroethane-d4	124	70-127	
Toluene-d8	101	83-125	
Bromofluorobenzene	98	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-62A-GW-10Q2	Batch#:	164302
Lab ID:	220680-002	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	1.5	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	21	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	11	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	0.7	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	1.6	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-62A-GW-10Q2	Batch#:	164302
Lab ID:	220680-002	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	0.6	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	96	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	93	83-125	
Bromofluorobenzene	93	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	1.7	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	2.3	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	49	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	13	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	0.9	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	18	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	M1
Isopropylbenzene	2.3	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	2.0	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	1.1	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	M1
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	3.3	2.0	M1
1,2,3-Trichlorobenzene	ND	0.5	M1
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	95	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	96	83-125	
Bromofluorobenzene	93	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-108A-GW-10Q2	Batch#:	164347
Lab ID:	220680-004	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	0.9	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	2.9	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	
1,1-Dichloroethene	0.9	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	74	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V9
1,1-Dichloroethane	12	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	0.7	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	45	0.5	
Trichloroethene	1.1	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	V9
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	L1

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-108A-GW-10Q2	Batch#:	164347
Lab ID:	220680-004	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	15	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	5.6	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	0.8	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	5.3	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	2.5	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	V1
Naphthalene	3.1	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	93	77-120	
1,2-Dichloroethane-d4	95	70-127	
Toluene-d8	92	83-125	
Bromofluorobenzene	92	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	PL-105A-GW-10Q2	Batch#:	164302
Lab ID:	220680-005	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	1.2	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	3.7	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	62	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	14	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	34	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	PL-105A-GW-10Q2	Batch#:	164302
Lab ID:	220680-005	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	0.6	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	11	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	10	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	0.6	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	3.7	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	5.3	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	12	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	0.6	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	93	77-120	
1,2-Dichloroethane-d4	94	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	93	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-003-GW-10Q2	Diln Fac:	1.000
Lab ID:	220680-006	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
Freon 12	ND	1.0	164219	06/21/10	V1
Chloromethane	ND	1.0	164219	06/21/10	
Vinyl Chloride	ND	0.5	164219	06/21/10	
Bromomethane	ND	1.0	164269	06/22/10	
Chloroethane	ND	1.0	164219	06/21/10	
Trichlorofluoromethane	ND	1.0	164219	06/21/10	V1
Iodomethane	ND	10	164269	06/22/10	
Acetone	11	10	164269	06/22/10	
1,1-Dichloroethene	ND	0.5	164219	06/21/10	
Methylene Chloride	ND	10	164219	06/21/10	
Carbon Disulfide	ND	0.5	164219	06/21/10	
MTBE	ND	0.5	164219	06/21/10	
trans-1,2-Dichloroethene	ND	0.5	164219	06/21/10	
Vinyl Acetate	ND	10	164219	06/21/10	
1,1-Dichloroethane	ND	0.5	164219	06/21/10	
2-Butanone	ND	10	164219	06/21/10	
cis-1,2-Dichloroethene	ND	0.5	164219	06/21/10	
2,2-Dichloropropane	ND	0.5	164219	06/21/10	
Chloroform	6.6	0.5	164219	06/21/10	
Bromochloromethane	ND	0.5	164219	06/21/10	
1,1,1-Trichloroethane	ND	0.5	164219	06/21/10	
1,1-Dichloropropene	ND	0.5	164219	06/21/10	
Carbon Tetrachloride	ND	0.5	164219	06/21/10	L1 V1
1,2-Dichloroethane	ND	0.5	164219	06/21/10	V1
Benzene	ND	0.5	164219	06/21/10	
Trichloroethene	ND	0.5	164219	06/21/10	
1,2-Dichloropropane	ND	0.5	164219	06/21/10	
Bromodichloromethane	5.9	0.5	164219	06/21/10	
Dibromomethane	ND	0.5	164219	06/21/10	
4-Methyl-2-Pentanone	ND	10	164219	06/21/10	
cis-1,3-Dichloropropene	ND	0.5	164219	06/21/10	
Toluene	ND	0.5	164219	06/21/10	
trans-1,3-Dichloropropene	ND	0.5	164219	06/21/10	
1,1,2-Trichloroethane	ND	0.5	164219	06/21/10	
2-Hexanone	ND	10	164219	06/21/10	
1,3-Dichloropropane	ND	0.5	164219	06/21/10	
Tetrachloroethene	ND	0.5	164219	06/21/10	
Dibromochloromethane	3.4	0.5	164219	06/21/10	
1,2-Dibromoethane	ND	0.5	164219	06/21/10	
Chlorobenzene	ND	0.5	164219	06/21/10	
1,1,1,2-Tetrachloroethane	ND	0.5	164219	06/21/10	
Ethylbenzene	ND	0.5	164219	06/21/10	
m,p-Xylenes	ND	0.5	164219	06/21/10	
o-Xylene	ND	0.5	164219	06/21/10	
Styrene	ND	0.5	164219	06/21/10	
Bromoform	ND	1.0	164219	06/21/10	
Isopropylbenzene	ND	0.5	164219	06/21/10	
1,1,2,2-Tetrachloroethane	ND	0.5	164219	06/21/10	
1,2,3-Trichloropropane	ND	0.5	164219	06/21/10	
Propylbenzene	ND	0.5	164219	06/21/10	
Bromobenzene	ND	0.5	164219	06/21/10	
1,3,5-Trimethylbenzene	ND	0.5	164219	06/21/10	
2-Chlorotoluene	ND	0.5	164219	06/21/10	
4-Chlorotoluene	ND	0.5	164219	06/21/10	
tert-Butylbenzene	ND	0.5	164219	06/21/10	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-003-GW-10Q2	Diln Fac:	1.000
Lab ID:	220680-006	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	ND	0.5	164219	06/21/10	
sec-Butylbenzene	ND	0.5	164219	06/21/10	
para-Isopropyl Toluene	ND	0.5	164219	06/21/10	
1,3-Dichlorobenzene	ND	0.5	164219	06/21/10	
1,4-Dichlorobenzene	ND	0.5	164219	06/21/10	
n-Butylbenzene	ND	0.5	164219	06/21/10	
1,2-Dichlorobenzene	ND	0.5	164219	06/21/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	164219	06/21/10	
1,2,4-Trichlorobenzene	ND	0.5	164219	06/21/10	
Hexachlorobutadiene	ND	2.0	164219	06/21/10	V1
Naphthalene	ND	2.0	164219	06/21/10	
1,2,3-Trichlorobenzene	ND	0.5	164219	06/21/10	
Xylene (total)	ND	0.5	164219	06/21/10	

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	100	77-120	164219	06/21/10	
Dibromofluoromethane	103	77-120	164269	06/22/10	
1,2-Dichloroethane-d4	126	70-127	164219	06/21/10	
1,2-Dichloroethane-d4	103	70-127	164269	06/22/10	
Toluene-d8	100	83-125	164219	06/21/10	
Toluene-d8	103	83-125	164269	06/22/10	
Bromofluorobenzene	99	78-120	164219	06/21/10	
Bromofluorobenzene	107	78-120	164269	06/22/10	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-007-GW-10Q2	Batch#:	164219
Lab ID:	220680-007	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	R7
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1 V1
1,2-Dichloroethane	ND	0.5	V1
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-007-GW-10Q2	Batch#:	164219
Lab ID:	220680-007	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	V1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	101	77-120	
1,2-Dichloroethane-d4	126	70-127	
Toluene-d8	100	83-125	
Bromofluorobenzene	100	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-130A-GW-10Q2	Units:	ug/L
Lab ID:	220680-008	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	ADEQ Flags
Freon 12	ND	4.0	4.000	164301	06/24/10	D2
Chloromethane	ND	4.0	4.000	164301	06/24/10	D2
Vinyl Chloride	ND	2.0	4.000	164301	06/24/10	D2
Bromomethane	ND	4.0	4.000	164301	06/24/10	D2 V9
Chloroethane	ND	4.0	4.000	164301	06/24/10	D2
Trichlorofluoromethane	ND	4.0	4.000	164301	06/24/10	D2
Iodomethane	ND	40	4.000	164301	06/24/10	D2 L2 V9
Acetone	ND	40	4.000	164301	06/24/10	D2 L1
1,1-Dichloroethene	ND	2.0	4.000	164301	06/24/10	D2
Methylene Chloride	ND	40	4.000	164301	06/24/10	D2
Carbon Disulfide	ND	2.0	4.000	164301	06/24/10	D2 V9
MTBE	250	2.0	4.000	164301	06/24/10	D2
trans-1,2-Dichloroethene	ND	2.0	4.000	164301	06/24/10	D2
Vinyl Acetate	ND	40	4.000	164301	06/24/10	D2
1,1-Dichloroethane	4.9	2.0	4.000	164301	06/24/10	D2
2-Butanone	ND	40	4.000	164301	06/24/10	D2
cis-1,2-Dichloroethene	ND	2.0	4.000	164301	06/24/10	D2
2,2-Dichloropropane	ND	2.0	4.000	164301	06/24/10	D2
Chloroform	ND	2.0	4.000	164301	06/24/10	D2
Bromochloromethane	ND	2.0	4.000	164301	06/24/10	D2
1,1,1-Trichloroethane	ND	2.0	4.000	164301	06/24/10	D2
1,1-Dichloropropene	ND	2.0	4.000	164301	06/24/10	D2
Carbon Tetrachloride	ND	2.0	4.000	164301	06/24/10	D2
1,2-Dichloroethane	ND	2.0	4.000	164301	06/24/10	D2
Benzene	210	2.0	4.000	164301	06/24/10	D2
Trichloroethene	ND	2.0	4.000	164301	06/24/10	D2
1,2-Dichloropropane	ND	2.0	4.000	164301	06/24/10	D2
Bromodichloromethane	ND	2.0	4.000	164301	06/24/10	D2
Dibromomethane	ND	2.0	4.000	164301	06/24/10	D2
4-Methyl-2-Pentanone	ND	40	4.000	164301	06/24/10	D2
cis-1,3-Dichloropropene	ND	2.0	4.000	164301	06/24/10	D2
Toluene	ND	2.0	4.000	164301	06/24/10	D2
trans-1,3-Dichloropropene	ND	2.0	4.000	164301	06/24/10	D2
1,1,2-Trichloroethane	ND	2.0	4.000	164301	06/24/10	D2
2-Hexanone	ND	40	4.000	164301	06/24/10	D2
1,3-Dichloropropane	ND	2.0	4.000	164301	06/24/10	D2
Tetrachloroethene	ND	2.0	4.000	164301	06/24/10	D2
Dibromochloromethane	ND	2.0	4.000	164301	06/24/10	D2
1,2-Dibromoethane	ND	2.0	4.000	164301	06/24/10	D2
Chlorobenzene	ND	2.0	4.000	164301	06/24/10	D2
1,1,1,2-Tetrachloroethane	ND	2.0	4.000	164301	06/24/10	D2
Ethylbenzene	19	2.0	4.000	164301	06/24/10	D2
m,p-Xylenes	5.8	2.0	4.000	164301	06/24/10	D2
o-Xylene	ND	2.0	4.000	164301	06/24/10	D2
Styrene	ND	2.0	4.000	164301	06/24/10	D2
Bromoform	ND	4.0	4.000	164301	06/24/10	D2
Isopropylbenzene	8.6	2.0	4.000	164301	06/24/10	D2
1,1,2,2-Tetrachloroethane	ND	2.0	4.000	164301	06/24/10	D2
1,2,3-Trichloropropane	ND	2.0	4.000	164301	06/24/10	D2
Propylbenzene	9.3	2.0	4.000	164301	06/24/10	D2
Bromobenzene	ND	2.0	4.000	164301	06/24/10	D2
1,3,5-Trimethylbenzene	ND	2.0	4.000	164301	06/24/10	D2
2-Chlorotoluene	ND	2.0	4.000	164301	06/24/10	D2
4-Chlorotoluene	ND	2.0	4.000	164301	06/24/10	D2
tert-Butylbenzene	ND	2.0	4.000	164301	06/24/10	D2

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-130A-GW-10Q2	Units:	ug/L
Lab ID:	220680-008	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	9.9	2.0	4.000	164301	06/24/10	D2
sec-Butylbenzene	2.9	2.0	4.000	164301	06/24/10	D2
para-Isopropyl Toluene	ND	2.0	4.000	164301	06/24/10	D2
1,3-Dichlorobenzene	ND	2.0	4.000	164301	06/24/10	D2
1,4-Dichlorobenzene	ND	2.0	4.000	164301	06/24/10	D2
n-Butylbenzene	3.9	2.0	4.000	164301	06/24/10	D2
1,2-Dichlorobenzene	ND	2.0	4.000	164301	06/24/10	D2
1,2-Dibromo-3-Chloropropane	ND	8.0	4.000	164301	06/24/10	D2
1,2,4-Trichlorobenzene	ND	2.0	4.000	164301	06/24/10	D2
Hexachlorobutadiene	ND	8.0	4.000	164301	06/24/10	D2 L1 V1
Naphthalene	30	13	6.250	164219	06/22/10	D1
1,2,3-Trichlorobenzene	ND	2.0	4.000	164301	06/24/10	D2
Xylene (total)	5.8	2.0	4.000	164301	06/24/10	D2

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	107	77-120	6.250	164219	06/22/10	
Dibromofluoromethane	100	77-120	4.000	164301	06/24/10	
1,2-Dichloroethane-d4	132 *	70-127	6.250	164219	06/22/10	
1,2-Dichloroethane-d4	116	70-127	4.000	164301	06/24/10	
Toluene-d8	102	83-125	6.250	164219	06/22/10	
Toluene-d8	99	83-125	4.000	164301	06/24/10	
Bromofluorobenzene	99	78-120	6.250	164219	06/22/10	
Bromofluorobenzene	101	78-120	4.000	164301	06/24/10	

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit
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Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-38A-GW-10Q2	Diln Fac:	7.143
Lab ID:	220680-009	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/22/10

Analyte	Result	RL	Batch#	ADEQ	Flags
Freon 12	ND	7.1	164269	D2	
Chloromethane	ND	7.1	164269	D2	
Vinyl Chloride	ND	3.6	164269	D2	
Bromomethane	ND	7.1	164269	D2	
Chloroethane	ND	7.1	164269	D2	
Trichlorofluoromethane	ND	7.1	164269	D2	
Iodomethane	ND	71	164269	D2	
Acetone	ND	71	164269	D2	
1,1-Dichloroethene	ND	3.6	164269	D2	
Methylene Chloride	ND	71	164269	D2	
Carbon Disulfide	ND	3.6	164269	D2	
MTBE	4.8	3.6	164269	D2	
trans-1,2-Dichloroethene	ND	3.6	164269	D2	
Vinyl Acetate	ND	71	164219	D2	
1,1-Dichloroethane	ND	3.6	164269	D2	
2-Butanone	ND	71	164269	D2	
cis-1,2-Dichloroethene	ND	3.6	164269	D2	
2,2-Dichloropropane	ND	3.6	164269	D2	L1 V1
Chloroform	ND	3.6	164269	D2	
Bromochloromethane	ND	3.6	164269	D2	
1,1,1-Trichloroethane	ND	3.6	164269	D2	
1,1-Dichloropropene	ND	3.6	164269	D2	
Carbon Tetrachloride	ND	3.6	164269	D2	
1,2-Dichloroethane	ND	3.6	164269	D2	
Benzene	410	3.6	164269	D2	
Trichloroethene	ND	3.6	164269	D2	
1,2-Dichloropropane	ND	3.6	164269	D2	
Bromodichloromethane	ND	3.6	164269	D2	
Dibromomethane	ND	3.6	164269	D2	
4-Methyl-2-Pentanone	ND	71	164269	D2	
cis-1,3-Dichloropropene	ND	3.6	164269	D2	
Toluene	ND	3.6	164269	D2	
trans-1,3-Dichloropropene	ND	3.6	164269	D2	
1,1,2-Trichloroethane	ND	3.6	164269	D2	
2-Hexanone	ND	71	164269	D2	
1,3-Dichloropropane	ND	3.6	164269	D2	
Tetrachloroethene	ND	3.6	164269	D2	
Dibromochloromethane	ND	3.6	164269	D2	
1,2-Dibromoethane	ND	3.6	164269	D2	
Chlorobenzene	ND	3.6	164269	D2	
1,1,1,2-Tetrachloroethane	ND	3.6	164269	D2	
Ethylbenzene	47	3.6	164269	D2	
m,p-Xylenes	ND	3.6	164269	D2	
o-Xylene	ND	3.6	164269	D2	
Styrene	ND	3.6	164269	D2	
Bromoform	ND	7.1	164219	D2	
Isopropylbenzene	11	3.6	164269	D2	
1,1,2,2-Tetrachloroethane	ND	3.6	164269	D2	L1 V1
1,2,3-Trichloropropane	ND	3.6	164219	D2	
Propylbenzene	8.9	3.6	164269	D2	
Bromobenzene	ND	3.6	164269	D2	
1,3,5-Trimethylbenzene	ND	3.6	164269	D2	
2-Chlorotoluene	ND	3.6	164269	D2	
4-Chlorotoluene	ND	3.6	164269	D2	

*= Value outside of QC limits; see narrative

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-38A-GW-10Q2	Diln Fac:	7.143
Lab ID:	220680-009	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/22/10

Analyte	Result	RL	Batch#	ADEQ	Flags
tert-Butylbenzene	ND	3.6	164269	D2	L1
1,2,4-Trimethylbenzene	ND	3.6	164269	D2	
sec-Butylbenzene	ND	3.6	164269	D2	L1 V1
para-Isopropyl Toluene	ND	3.6	164269	D2	
1,3-Dichlorobenzene	ND	3.6	164269	D2	
1,4-Dichlorobenzene	ND	3.6	164269	D2	
n-Butylbenzene	ND	3.6	164269	D2	L1 V1
1,2-Dichlorobenzene	ND	3.6	164269	D2	
1,2-Dibromo-3-Chloropropane	ND	14	164269	D2	
1,2,4-Trichlorobenzene	ND	3.6	164269	D2	
Hexachlorobutadiene	ND	14	164269	D2	L1 V1
Naphthalene	30	14	164269	D2	
1,2,3-Trichlorobenzene	ND	3.6	164269	D2	
Xylene (total)	ND	3.6	164269	D2	

Surrogate	%REC	Limits	Batch#	ADEQ	Flags
Dibromofluoromethane	107	77-120	164219		
Dibromofluoromethane	103	77-120	164269		
1,2-Dichloroethane-d4	132 *	70-127	164219		
1,2-Dichloroethane-d4	108	70-127	164269		
Toluene-d8	101	83-125	164219		
Toluene-d8	101	83-125	164269		
Bromofluorobenzene	99	78-120	164219		
Bromofluorobenzene	105	78-120	164269		

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-006	Diln Fac:	6.250
Lab ID:	220680-010	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ	Flags
Freon 12	ND	6.3	164352	06/24/10	D2	
Chloromethane	ND	6.3	164352	06/24/10	D2	
Vinyl Chloride	ND	3.1	164352	06/24/10	D2	
Bromomethane	ND	6.3	164352	06/24/10	D2	
Chloroethane	ND	6.3	164352	06/24/10	D2	
Trichlorofluoromethane	ND	6.3	164352	06/24/10	D2	
Iodomethane	ND	63	164352	06/24/10	D2	
Acetone	ND	63	164300	06/23/10	D2	
1,1-Dichloroethene	ND	3.1	164352	06/24/10	D2	
Methylene Chloride	ND	63	164352	06/24/10	D2	
Carbon Disulfide	ND	3.1	164352	06/24/10	D2	
MTBE	5.6	3.1	164352	06/24/10	D2	
trans-1,2-Dichloroethene	ND	3.1	164352	06/24/10	D2	
Vinyl Acetate	ND	63	164300	06/23/10	D2	L2
1,1-Dichloroethane	ND	3.1	164352	06/24/10	D2	
2-Butanone	ND	63	164352	06/24/10	D2	
cis-1,2-Dichloroethene	ND	3.1	164352	06/24/10	D2	
2,2-Dichloropropane	ND	3.1	164352	06/24/10	D2	L1 V1
Chloroform	ND	3.1	164352	06/24/10	D2	L1
Bromochloromethane	ND	3.1	164352	06/24/10	D2	
1,1,1-Trichloroethane	ND	3.1	164352	06/24/10	D2	L1
1,1-Dichloropropene	ND	3.1	164352	06/24/10	D2	L1
Carbon Tetrachloride	ND	3.1	164352	06/24/10	D2	L1
1,2-Dichloroethane	ND	3.1	164352	06/24/10	D2	
Benzene	400	3.1	164352	06/24/10	D2	
Trichloroethene	ND	3.1	164352	06/24/10	D2	
1,2-Dichloropropane	ND	3.1	164352	06/24/10	D2	
Bromodichloromethane	ND	3.1	164352	06/24/10	D2	
Dibromomethane	ND	3.1	164352	06/24/10	D2	
4-Methyl-2-Pentanone	ND	63	164352	06/24/10	D2	
cis-1,3-Dichloropropene	ND	3.1	164352	06/24/10	D2	
Toluene	ND	3.1	164352	06/24/10	D2	
trans-1,3-Dichloropropene	ND	3.1	164352	06/24/10	D2	
1,1,2-Trichloroethane	ND	3.1	164352	06/24/10	D2	
2-Hexanone	ND	63	164352	06/24/10	D2	
1,3-Dichloropropane	ND	3.1	164352	06/24/10	D2	
Tetrachloroethene	ND	3.1	164352	06/24/10	D2	
Dibromochloromethane	ND	3.1	164352	06/24/10	D2	
1,2-Dibromoethane	ND	3.1	164352	06/24/10	D2	
Chlorobenzene	ND	3.1	164352	06/24/10	D2	
1,1,1,2-Tetrachloroethane	ND	3.1	164352	06/24/10	D2	
Ethylbenzene	51	3.1	164352	06/24/10	D2	
m,p-Xylenes	3.2	3.1	164352	06/24/10	D2	
o-Xylene	ND	3.1	164352	06/24/10	D2	
Styrene	ND	3.1	164352	06/24/10	D2	
Bromoform	ND	6.3	164300	06/23/10	D2	
Isopropylbenzene	12	3.1	164352	06/24/10	D2	
1,1,2,2-Tetrachloroethane	ND	3.1	164352	06/24/10	D2	L1
1,2,3-Trichloropropane	ND	3.1	164300	06/23/10	D2	
Propylbenzene	8.8	3.1	164352	06/24/10	D2	
Bromobenzene	ND	3.1	164352	06/24/10	D2	
1,3,5-Trimethylbenzene	ND	3.1	164352	06/24/10	D2	
2-Chlorotoluene	ND	3.1	164352	06/24/10	D2	
4-Chlorotoluene	ND	3.1	164352	06/24/10	D2	
tert-Butylbenzene	ND	3.1	164352	06/24/10	D2	L1

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-006	Diln Fac:	6.250
Lab ID:	220680-010	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	ND	3.1	164352	06/24/10	D2
sec-Butylbenzene	ND	3.1	164352	06/24/10	D2 L1
para-Isopropyl Toluene	ND	3.1	164352	06/24/10	D2
1,3-Dichlorobenzene	ND	3.1	164352	06/24/10	D2
1,4-Dichlorobenzene	ND	3.1	164352	06/24/10	D2
n-Butylbenzene	ND	3.1	164352	06/24/10	D2 L1
1,2-Dichlorobenzene	ND	3.1	164352	06/24/10	D2
1,2-Dibromo-3-Chloropropane	ND	13	164352	06/24/10	D2
1,2,4-Trichlorobenzene	ND	3.1	164352	06/24/10	D2
Hexachlorobutadiene	ND	13	164352	06/24/10	D2 L1
Naphthalene	33	13	164352	06/24/10	D2
1,2,3-Trichlorobenzene	ND	3.1	164352	06/24/10	D2 R7
Xylene (total)	3.2	3.1	164352	06/24/10	D2

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	99	77-120	164300	06/23/10	
Dibromofluoromethane	107	77-120	164352	06/24/10	
1,2-Dichloroethane-d4	119	70-127	164300	06/23/10	
1,2-Dichloroethane-d4	101	70-127	164352	06/24/10	
Toluene-d8	96	83-125	164300	06/23/10	
Toluene-d8	101	83-125	164352	06/24/10	
Bromofluorobenzene	92	78-120	164300	06/23/10	
Bromofluorobenzene	105	78-120	164352	06/24/10	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-63A-GW-10Q2	Diln Fac:	16.67
Lab ID:	220680-011	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/24/10

Analyte	Result	RL	Batch#	ADEQ	Flags
Freon 12	ND	17	164352	D2	
Chloromethane	ND	17	164352	D2	
Vinyl Chloride	ND	8.3	164352	D2	
Bromomethane	ND	17	164352	D2	
Chloroethane	ND	17	164352	D2	
Trichlorofluoromethane	ND	17	164352	D2	
Iodomethane	ND	170	164352	D2	
Acetone	ND	170	164300	D1	
1,1-Dichloroethene	ND	8.3	164352	D2	
Methylene Chloride	ND	170	164352	D2	
Carbon Disulfide	ND	8.3	164352	D2	
MTBE	56	8.3	164352	D2	
trans-1,2-Dichloroethene	ND	8.3	164352	D2	
Vinyl Acetate	ND	170	164300	D1	L2
1,1-Dichloroethane	ND	8.3	164352	D2	
2-Butanone	ND	170	164352	D2	
cis-1,2-Dichloroethene	ND	8.3	164352	D2	
2,2-Dichloropropane	ND	8.3	164352	D2	L1 V1
Chloroform	ND	8.3	164352	D2	L1
Bromochloromethane	ND	8.3	164352	D2	
1,1,1-Trichloroethane	ND	8.3	164352	D2	L1
1,1-Dichloropropene	ND	8.3	164352	D2	L1
Carbon Tetrachloride	ND	8.3	164352	D2	L1
1,2-Dichloroethane	ND	8.3	164352	D2	
Benzene	1,100	8.3	164352	D2	
Trichloroethene	ND	8.3	164352	D2	
1,2-Dichloropropane	ND	8.3	164352	D2	
Bromodichloromethane	ND	8.3	164352	D2	
Dibromomethane	ND	8.3	164352	D2	
4-Methyl-2-Pentanone	ND	170	164352	D2	
cis-1,3-Dichloropropene	ND	8.3	164352	D2	
Toluene	ND	8.3	164352	D2	
trans-1,3-Dichloropropene	ND	8.3	164352	D2	
1,1,2-Trichloroethane	ND	8.3	164352	D2	
2-Hexanone	ND	170	164352	D2	
1,3-Dichloropropane	ND	8.3	164352	D2	
Tetrachloroethene	ND	8.3	164352	D2	
Dibromochloromethane	ND	8.3	164352	D2	
1,2-Dibromoethane	ND	8.3	164352	D2	
Chlorobenzene	ND	8.3	164352	D2	
1,1,1,2-Tetrachloroethane	ND	8.3	164352	D2	
Ethylbenzene	ND	8.3	164352	D2	
m,p-Xylenes	ND	8.3	164352	D2	
o-Xylene	ND	8.3	164352	D2	
Styrene	ND	8.3	164352	D2	
Bromoform	ND	17	164300	D1	
Isopropylbenzene	67	8.3	164352	D2	
1,1,2,2-Tetrachloroethane	ND	8.3	164352	D2	L1
1,2,3-Trichloropropane	ND	8.3	164300	D1	
Propylbenzene	49	8.3	164352	D2	
Bromobenzene	ND	8.3	164352	D2	
1,3,5-Trimethylbenzene	ND	8.3	164352	D2	
2-Chlorotoluene	ND	8.3	164352	D2	
4-Chlorotoluene	ND	8.3	164352	D2	
tert-Butylbenzene	ND	8.3	164352	D2	L1

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-63A-GW-10Q2	Diln Fac:	16.67
Lab ID:	220680-011	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/24/10

Analyte	Result	RL	Batch#	ADEQ	Flags
1,2,4-Trimethylbenzene	ND	8.3	164352	D2	
sec-Butylbenzene	ND	8.3	164352	D2	L1
para-Isopropyl Toluene	ND	8.3	164352	D2	
1,3-Dichlorobenzene	ND	8.3	164352	D2	
1,4-Dichlorobenzene	ND	8.3	164352	D2	
n-Butylbenzene	ND	8.3	164352	D2	L1
1,2-Dichlorobenzene	ND	8.3	164352	D2	
1,2-Dibromo-3-Chloropropane	ND	33	164352	D2	
1,2,4-Trichlorobenzene	ND	8.3	164352	D2	
Hexachlorobutadiene	ND	33	164352	D2	L1
Naphthalene	170	33	164352	D2	
1,2,3-Trichlorobenzene	ND	8.3	164352	D2	R7
Xylene (total)	ND	8.3	164352	D2	

Surrogate	%REC	Limits	Batch#	ADEQ	Flags
Dibromofluoromethane	102	77-120	164300		
Dibromofluoromethane	106	77-120	164352		
1,2-Dichloroethane-d4	119	70-127	164300		
1,2-Dichloroethane-d4	102	70-127	164352		
Toluene-d8	96	83-125	164300		
Toluene-d8	100	83-125	164352		
Bromofluorobenzene	93	78-120	164300		
Bromofluorobenzene	107	78-120	164352		

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-002	Batch#:	164347
Lab ID:	220680-012	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	12.50		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	13	D2
Chloromethane	ND	13	D2
Vinyl Chloride	ND	6.3	D2
Bromomethane	ND	13	D2 V1
Chloroethane	ND	13	D2
Trichlorofluoromethane	ND	13	D2
Iodomethane	ND	130	D2 L1 V1
Acetone	ND	130	D2
1,1-Dichloroethene	ND	6.3	D2
Methylene Chloride	ND	130	D2
Carbon Disulfide	ND	6.3	D2 V9
MTBE	42	6.3	D2
trans-1,2-Dichloroethene	ND	6.3	D2
Vinyl Acetate	ND	130	D2 V9
1,1-Dichloroethane	ND	6.3	D2
2-Butanone	ND	130	D2
cis-1,2-Dichloroethene	ND	6.3	D2
2,2-Dichloropropane	ND	6.3	D2
Chloroform	ND	6.3	D2
Bromochloromethane	ND	6.3	D2
1,1,1-Trichloroethane	ND	6.3	D2
1,1-Dichloropropene	ND	6.3	D2
Carbon Tetrachloride	ND	6.3	D2
1,2-Dichloroethane	ND	6.3	D2
Benzene	790	6.3	D2
Trichloroethene	ND	6.3	D2
1,2-Dichloropropane	ND	6.3	D2
Bromodichloromethane	ND	6.3	D2
Dibromomethane	ND	6.3	D2
4-Methyl-2-Pentanone	ND	130	D2 V9
cis-1,3-Dichloropropene	ND	6.3	D2
Toluene	ND	6.3	D2
trans-1,3-Dichloropropene	ND	6.3	D2
1,1,2-Trichloroethane	ND	6.3	D2
2-Hexanone	ND	130	D2 V9
1,3-Dichloropropane	ND	6.3	D2
Tetrachloroethene	ND	6.3	D2 L1

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-002	Batch#:	164347
Lab ID:	220680-012	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	12.50		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	6.3	D2
1,2-Dibromoethane	ND	6.3	D2
Chlorobenzene	ND	6.3	D2
1,1,1,2-Tetrachloroethane	ND	6.3	D2
Ethylbenzene	ND	6.3	D2
m,p-Xylenes	ND	6.3	D2
o-Xylene	ND	6.3	D2
Styrene	ND	6.3	D2
Bromoform	ND	13	D2
Isopropylbenzene	54	6.3	D2
1,1,2,2-Tetrachloroethane	ND	6.3	D2
1,2,3-Trichloropropane	ND	6.3	D2
Propylbenzene	35	6.3	D2
Bromobenzene	ND	6.3	D2
1,3,5-Trimethylbenzene	ND	6.3	D2
2-Chlorotoluene	ND	6.3	D2
4-Chlorotoluene	ND	6.3	D2
tert-Butylbenzene	ND	6.3	D2
1,2,4-Trimethylbenzene	ND	6.3	D2
sec-Butylbenzene	ND	6.3	D2
para-Isopropyl Toluene	ND	6.3	D2
1,3-Dichlorobenzene	ND	6.3	D2
1,4-Dichlorobenzene	ND	6.3	D2
n-Butylbenzene	ND	6.3	D2
1,2-Dichlorobenzene	ND	6.3	D2
1,2-Dibromo-3-Chloropropane	ND	25	D2
1,2,4-Trichlorobenzene	ND	6.3	D2
Hexachlorobutadiene	ND	25	D2 V1
Naphthalene	170	25	D2
1,2,3-Trichlorobenzene	ND	6.3	D2
Xylene (total)	ND	6.3	D2

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	90	77-120	
1,2-Dichloroethane-d4	87	70-127	
Toluene-d8	93	83-125	
Bromofluorobenzene	90	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-007-GW-10Q2	Batch#:	164219
Lab ID:	220680-013	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	R7
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1 V1
1,2-Dichloroethane	ND	0.5	V1
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	2.4	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-007-GW-10Q2	Batch#:	164219
Lab ID:	220680-013	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	V1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	102	77-120	
1,2-Dichloroethane-d4	129 *	70-127	S1
Toluene-d8	100	83-125	
Bromofluorobenzene	98	78-120	

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164219
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549366

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	28.85 b	115	56-140	V3	
Chloromethane	25.00	25.17	101	46-142		
Vinyl Chloride	25.00	22.20	89	49-136		
Bromomethane	25.00	21.00 b	84	42-154		
Chloroethane	25.00	23.18	93	51-133		
Trichlorofluoromethane	25.00	30.94 b	124	63-135	V3	
Iodomethane	25.00	22.11 b	88	70-130		
Acetone	25.00	28.59 b	114	48-130	V3	
1,1-Dichloroethene	25.00	19.54	78	68-133		
Methylene Chloride	25.00	21.14	85	71-120		
Carbon Disulfide	25.00	17.54	70	56-120		
MTBE	25.00	22.52	90	58-120		
trans-1,2-Dichloroethene	25.00	22.97	92	80-120		
Vinyl Acetate	25.00	23.98 b	96	63-124		
1,1-Dichloroethane	25.00	22.83	91	77-120		
2-Butanone	25.00	23.71	95	57-120		
cis-1,2-Dichloroethene	25.00	21.55	86	75-120		
2,2-Dichloropropane	25.00	27.77	111	72-128		
Chloroform	25.00	25.31	101	78-120		
Bromochloromethane	25.00	22.76	91	78-120		
1,1,1-Trichloroethane	25.00	26.63	107	78-120		
1,1-Dichloropropene	25.00	25.30	101	75-120		
Carbon Tetrachloride	25.00	32.28 b	129 *	80-120	L1 V3	
1,2-Dichloroethane	25.00	30.06 b	120	74-120	V3	
Benzene	25.00	24.68	99	77-120		
Trichloroethene	25.00	25.83	103	78-122		
1,2-Dichloropropane	25.00	23.31	93	76-120		
Bromodichloromethane	25.00	27.81	111	78-120		
Dibromomethane	25.00	26.63	107	77-120		
4-Methyl-2-Pentanone	25.00	26.31	105	65-120		
cis-1,3-Dichloropropene	25.00	25.86	103	76-120		
Toluene	25.00	25.01	100	73-120		
trans-1,3-Dichloropropene	25.00	24.68	99	72-120		
1,1,2-Trichloroethane	25.00	24.43	98	76-120		
2-Hexanone	25.00	27.37	109	57-121		
1,3-Dichloropropane	25.00	24.69	99	75-120		
Tetrachloroethene	25.00	28.48	114	77-120		
Dibromochloromethane	25.00	27.15	109	76-120		
1,2-Dibromoethane	25.00	24.42	98	77-120		
Chlorobenzene	25.00	25.75	103	78-120		
1,1,1,2-Tetrachloroethane	25.00	26.86	107	77-120		
Ethylbenzene	25.00	26.24	105	78-120		
m,p-Xylenes	50.00	53.84	108	77-120		
o-Xylene	25.00	25.81	103	77-120		
Styrene	25.00	25.63	103	77-120		
Bromoform	25.00	28.25	113	74-121		
Isopropylbenzene	25.00	21.40	86	71-120		
1,1,2,2-Tetrachloroethane	25.00	21.38	86	73-120		
1,2,3-Trichloropropane	25.00	24.08	96	72-120		
Propylbenzene	25.00	24.77	99	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164219
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	24.53	98	75-120	
1,3,5-Trimethylbenzene	25.00	25.18	101	77-120	
2-Chlorotoluene	25.00	25.27	101	76-120	
4-Chlorotoluene	25.00	24.42	98	78-120	
tert-Butylbenzene	25.00	25.90	104	76-120	
1,2,4-Trimethylbenzene	25.00	25.10	100	77-120	
sec-Butylbenzene	25.00	25.58	102	80-120	
para-Isopropyl Toluene	25.00	25.45	102	76-120	
1,3-Dichlorobenzene	25.00	25.52	102	75-120	
1,4-Dichlorobenzene	25.00	24.95	100	77-120	
n-Butylbenzene	25.00	26.42	106	76-120	
1,2-Dichlorobenzene	25.00	24.92	100	76-120	
1,2-Dibromo-3-Chloropropane	25.00	26.52	106	65-120	
1,2,4-Trichlorobenzene	25.00	26.01	104	73-121	
Hexachlorobutadiene	25.00	30.56 b	122	73-123	V3
Naphthalene	25.00	23.46	94	62-121	
1,2,3-Trichlorobenzene	25.00	27.02	108	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	96	77-120	
1,2-Dichloroethane-d4	122	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	93	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164219
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549367

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	27.55 b	110	56-140	5	24	V3	
Chloromethane	25.00	24.65	99	46-142	2	24		
Vinyl Chloride	25.00	21.02	84	49-136	5	24		
Bromomethane	25.00	37.59 b	150	42-154	57 *	24	R7	
Chloroethane	25.00	26.80	107	51-133	14	25		
Trichlorofluoromethane	25.00	30.03 b	120	63-135	3	20	V3	
Iodomethane	25.00	18.79 b	75	70-130	16	20		
Acetone	25.00	26.75 b	107	48-130	7	41	V3	
1,1-Dichloroethene	25.00	18.55	74	68-133	5	20		
Methylene Chloride	25.00	20.79	83	71-120	2	20		
Carbon Disulfide	25.00	17.57	70	56-120	0	20		
MTBE	25.00	21.87	87	58-120	3	21		
trans-1,2-Dichloroethene	25.00	22.21	89	80-120	3	24		
Vinyl Acetate	25.00	22.56 b	90	63-124	6	24		
1,1-Dichloroethane	25.00	22.45	90	77-120	2	20		
2-Butanone	25.00	23.36	93	57-120	2	32		
cis-1,2-Dichloroethene	25.00	21.38	86	75-120	1	20		
2,2-Dichloropropane	25.00	26.27	105	72-128	6	24		
Chloroform	25.00	24.74	99	78-120	2	20		
Bromochloromethane	25.00	22.91	92	78-120	1	20		
1,1,1-Trichloroethane	25.00	25.61	102	78-120	4	20		
1,1-Dichloropropene	25.00	24.67	99	75-120	3	21		
Carbon Tetrachloride	25.00	31.71 b	127 *	80-120	2	21	L1 V3	
1,2-Dichloroethane	25.00	30.02 b	120	74-120	0	20	V3	
Benzene	25.00	23.89	96	77-120	3	20		
Trichloroethene	25.00	25.00	100	78-122	3	20		
1,2-Dichloropropane	25.00	22.81	91	76-120	2	20		
Bromodichloromethane	25.00	26.97	108	78-120	3	20		
Dibromomethane	25.00	26.18	105	77-120	2	20		
4-Methyl-2-Pentanone	25.00	26.44	106	65-120	0	22		
cis-1,3-Dichloropropene	25.00	25.37	101	76-120	2	20		
Toluene	25.00	24.06	96	73-120	4	20		
trans-1,3-Dichloropropene	25.00	24.27	97	72-120	2	20		
1,1,2-Trichloroethane	25.00	23.61	94	76-120	3	20		
2-Hexanone	25.00	27.59	110	57-121	1	25		
1,3-Dichloropropane	25.00	24.51	98	75-120	1	20		
Tetrachloroethene	25.00	26.84	107	77-120	6	20		
Dibromochloromethane	25.00	27.11	108	76-120	0	20		
1,2-Dibromoethane	25.00	23.90	96	77-120	2	20		
Chlorobenzene	25.00	25.24	101	78-120	2	20		
1,1,1,2-Tetrachloroethane	25.00	26.34	105	77-120	2	20		
Ethylbenzene	25.00	25.10	100	78-120	4	26		
m,p-Xylenes	50.00	52.26	105	77-120	3	20		
o-Xylene	25.00	25.23	101	77-120	2	20		
Styrene	25.00	24.49	98	77-120	5	20		
Bromoform	25.00	28.17	113	74-121	0	21		
Isopropylbenzene	25.00	20.80	83	71-120	3	20		
1,1,2,2-Tetrachloroethane	25.00	20.96	84	73-120	2	20		
1,2,3-Trichloropropane	25.00	24.20	97	72-120	1	20		
Propylbenzene	25.00	23.82	95	76-120	4	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164219
Units:	ug/L	Analyzed:	06/21/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	24.18	97	75-120	1	20		
1,3,5-Trimethylbenzene	25.00	24.48	98	77-120	3	20		
2-Chlorotoluene	25.00	24.13	97	76-120	5	20		
4-Chlorotoluene	25.00	23.57	94	78-120	4	20		
tert-Butylbenzene	25.00	25.01	100	76-120	3	21		
1,2,4-Trimethylbenzene	25.00	24.66	99	77-120	2	20		
sec-Butylbenzene	25.00	24.66	99	80-120	4	21		
para-Isopropyl Toluene	25.00	24.50	98	76-120	4	20		
1,3-Dichlorobenzene	25.00	24.88	100	75-120	3	20		
1,4-Dichlorobenzene	25.00	24.01	96	77-120	4	23		
n-Butylbenzene	25.00	25.63	103	76-120	3	21		
1,2-Dichlorobenzene	25.00	24.59	98	76-120	1	20		
1,2-Dibromo-3-Chloropropane	25.00	25.41	102	65-120	4	22		
1,2,4-Trichlorobenzene	25.00	25.55	102	73-121	2	20		
Hexachlorobutadiene	25.00	29.44 b	118	73-123	4	25	V3	
Naphthalene	25.00	23.60	94	62-121	1	32		
1,2,3-Trichlorobenzene	25.00	26.93	108	66-123	0	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	97	77-120		
1,2-Dichloroethane-d4	125	70-127		
Toluene-d8	98	83-125		
Bromofluorobenzene	94	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549368	Batch#:	164219
Matrix:	Water	Analyzed:	06/21/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	R7
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	V1
Iodomethane	ND	10	
Acetone	ND	10	V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1 V1
1,2-Dichloroethane	ND	0.5	V1
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549368	Batch#:	164219
Matrix:	Water	Analyzed:	06/21/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	V1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	99	77-120	
1,2-Dichloroethane-d4	125	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	100	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164219
MSS Lab ID:	220670-004	Sampled:	06/10/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549475

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1677	20.00	18.61 b	93	56-140	V3	
Chloromethane	<0.1196	20.00	16.70	83	46-142		
Vinyl Chloride	<0.1157	20.00	15.23	76	49-136		
Bromomethane	<0.1184	20.00	10.23 b	51	42-154		
Chloroethane	<0.1000	20.00	17.80	89	51-133		
Trichlorofluoromethane	<0.1550	20.00	22.97 b	115	63-135	V3	
Iodomethane	<0.1298	20.00	8.586 b	43 *	60-140	M2	
Acetone	<0.5778	20.00	20.28 b	101	48-130	V3	
1,1-Dichloroethene	2.506	20.00	15.88	67 *	68-133	M2	
Methylene Chloride	<0.1402	20.00	16.21	81	71-120		
Carbon Disulfide	<0.1000	20.00	13.47	67	56-120		
MTBE	<0.1000	20.00	15.11	76	58-120		
trans-1,2-Dichloroethene	<0.1583	20.00	16.58	83	80-120		
Vinyl Acetate	<0.5081	20.00	13.62 b	68	63-124		
1,1-Dichloroethane	5.964	20.00	22.72	84	77-120		
2-Butanone	<0.4283	20.00	15.99	80	57-120		
cis-1,2-Dichloroethene	1.201	20.00	16.22	75	75-120		
2,2-Dichloropropane	<0.1552	20.00	16.76	84	72-128		
Chloroform	<0.1093	20.00	19.63	98	78-120		
Bromochloromethane	<0.1175	20.00	17.40	87	78-120		
1,1,1-Trichloroethane	<0.1272	20.00	20.18	101	78-120		
1,1-Dichloropropene	<0.1000	20.00	17.58	88	75-120		
Carbon Tetrachloride	<0.1000	20.00	24.42 b	122 *	80-120	M1 V3	
1,2-Dichloroethane	<0.1000	20.00	23.82 b	119	74-120	V3	
Benzene	<0.1000	20.00	18.47	92	77-120		
Trichloroethene	0.1789	20.00	18.61	92	78-122		
1,2-Dichloropropane	<0.1063	20.00	17.15	86	76-120		
Bromodichloromethane	<0.1000	20.00	21.30	107	78-120		
Dibromomethane	<0.1000	20.00	20.07	100	77-120		
4-Methyl-2-Pentanone	<0.1000	20.00	19.11	96	65-120		
cis-1,3-Dichloropropene	<0.1000	20.00	18.63	93	76-120		
Toluene	<0.1000	20.00	18.18	91	73-120		
trans-1,3-Dichloropropene	<0.1000	20.00	16.69	83	72-120		
1,1,2-Trichloroethane	<0.1185	20.00	18.21	91	76-120		
2-Hexanone	<0.2021	20.00	17.56	88	57-121		
1,3-Dichloropropane	<0.1000	20.00	18.49	92	75-120		
Tetrachloroethene	<0.1105	20.00	19.24	96	77-120		
Dibromochloromethane	<0.1000	20.00	20.12	101	76-120		
1,2-Dibromoethane	<0.1145	20.00	17.30	87	77-120		
Chlorobenzene	<0.1000	20.00	18.78	94	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	20.00	19.78	99	77-120		
Ethylbenzene	<0.1124	20.00	18.63	93	78-120		
m,p-Xylenes	<0.1000	40.00	38.52	96	77-120		
o-Xylene	<0.1000	20.00	17.80	89	77-120		
Styrene	<0.1000	20.00	17.30	86	77-120		
Bromoform	<0.1168	20.00	20.14	101	74-121		
Isopropylbenzene	<0.1000	20.00	15.07	75	71-120		
1,1,2,2-Tetrachloroethane	<0.1097	20.00	16.99	85	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164219
MSS Lab ID:	220670-004	Sampled:	06/10/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
1,2,3-Trichloropropane	<0.1421	20.00	18.71	94	72-120		
Propylbenzene	<0.1000	20.00	17.85	89	76-120		
Bromobenzene	<0.1000	20.00	18.66	93	75-120		
1,3,5-Trimethylbenzene	<0.1000	20.00	17.96	90	77-120		
2-Chlorotoluene	<0.1000	20.00	18.38	92	76-120		
4-Chlorotoluene	<0.1000	20.00	17.45	87	78-120		
tert-Butylbenzene	<0.1000	20.00	17.96	90	76-120		
1,2,4-Trimethylbenzene	<0.1000	20.00	18.18	91	77-120		
sec-Butylbenzene	<0.1000	20.00	17.69	88	80-120		
para-Isopropyl Toluene	<0.1000	20.00	17.47	87	76-120		
1,3-Dichlorobenzene	<0.1000	20.00	18.30	92	75-120		
1,4-Dichlorobenzene	<0.1000	20.00	17.74	89	77-120		
n-Butylbenzene	<0.1000	20.00	17.88	89	76-120		
1,2-Dichlorobenzene	<0.1000	20.00	18.18	91	76-120		
1,2-Dibromo-3-Chloropropane	<0.2768	20.00	18.80	94	65-120		
1,2,4-Trichlorobenzene	<0.1000	20.00	17.55	88	73-121		
Hexachlorobutadiene	<0.1377	20.00	20.39	b 102	73-123	V3	
Naphthalene	<0.1000	20.00	16.08	80	62-121		
1,2,3-Trichlorobenzene	<0.1000	20.00	18.90	94	66-123		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	100	77-120		
1,2-Dichloroethane-d4	132 *	70-127	S1	
Toluene-d8	100	83-125		
Bromofluorobenzene	95	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164219
MSS Lab ID:	220670-004	Sampled:	06/10/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549476

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	20.00	20.25 b	101	56-140	8	24	V3	
Chloromethane	20.00	18.00	90	46-142	8	24		
Vinyl Chloride	20.00	15.93	80	49-136	5	24		
Bromomethane	20.00	12.39 b	62	42-154	19	24		
Chloroethane	20.00	18.31	92	51-133	3	25		
Trichlorofluoromethane	20.00	23.39 b	117	63-135	2	20	V3	
Iodomethane	20.00	10.01 b	50 *	60-140	15	30	M2	
Acetone	20.00	20.41 b	102	48-130	1	41	V3	
1,1-Dichloroethene	20.00	17.15	73	68-133	8	20		
Methylene Chloride	20.00	16.04	80	71-120	1	20		
Carbon Disulfide	20.00	13.99	70	56-120	4	20		
MTBE	20.00	15.25	76	58-120	1	21		
trans-1,2-Dichloroethene	20.00	17.50	87	80-120	5	24		
Vinyl Acetate	20.00	14.33 b	72	63-124	5	24		
1,1-Dichloroethane	20.00	23.53	88	77-120	3	20		
2-Butanone	20.00	15.87	79	57-120	1	32		
cis-1,2-Dichloroethene	20.00	17.04	79	75-120	5	20		
2,2-Dichloropropane	20.00	17.18	86	72-128	2	24		
Chloroform	20.00	20.20	101	78-120	3	20		
Bromochloromethane	20.00	18.00	90	78-120	3	20		
1,1,1-Trichloroethane	20.00	21.09	105	78-120	4	20		
1,1-Dichloropropene	20.00	18.60	93	75-120	6	21		
Carbon Tetrachloride	20.00	25.29 b	126 *	80-120	4	21	M1 V3	
1,2-Dichloroethane	20.00	24.01 b	120	74-120	1	20	V3	
Benzene	20.00	18.98	95	77-120	3	20		
Trichloroethene	20.00	19.10	95	78-122	3	20		
1,2-Dichloropropane	20.00	17.34	87	76-120	1	20		
Bromodichloromethane	20.00	21.44	107	78-120	1	20		
Dibromomethane	20.00	20.42	102	77-120	2	20		
4-Methyl-2-Pentanone	20.00	18.88	94	65-120	1	22		
cis-1,3-Dichloropropene	20.00	18.46	92	76-120	1	20		
Toluene	20.00	18.93	95	73-120	4	20		
trans-1,3-Dichloropropene	20.00	17.12	86	72-120	3	20		
1,1,2-Trichloroethane	20.00	17.91	90	76-120	2	20		
2-Hexanone	20.00	17.46	87	57-121	1	25		
1,3-Dichloropropane	20.00	18.44	92	75-120	0	20		
Tetrachloroethene	20.00	19.96	100	77-120	4	20		
Dibromochloromethane	20.00	20.67	103	76-120	3	20		
1,2-Dibromoethane	20.00	17.40	87	77-120	1	20		
Chlorobenzene	20.00	19.11	96	78-120	2	20		
1,1,1,2-Tetrachloroethane	20.00	20.54	103	77-120	4	20		
Ethylbenzene	20.00	19.18	96	78-120	3	26		
m,p-Xylenes	40.00	39.51	99	77-120	3	20		
o-Xylene	20.00	18.48	92	77-120	4	20		
Styrene	20.00	17.63	88	77-120	2	20		
Bromoform	20.00	20.63	103	74-121	2	21		
Isopropylbenzene	20.00	15.59	78	71-120	3	20		
1,1,2,2-Tetrachloroethane	20.00	17.03	85	73-120	0	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164219
MSS Lab ID:	220670-004	Sampled:	06/10/10
Matrix:	Water	Received:	06/10/10
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	20.00	18.61	93	72-120	1	20		
Propylbenzene	20.00	18.12	91	76-120	1	20		
Bromobenzene	20.00	18.94	95	75-120	1	20		
1,3,5-Trimethylbenzene	20.00	18.23	91	77-120	2	20		
2-Chlorotoluene	20.00	18.84	94	76-120	2	20		
4-Chlorotoluene	20.00	18.02	90	78-120	3	20		
tert-Butylbenzene	20.00	18.46	92	76-120	3	21		
1,2,4-Trimethylbenzene	20.00	18.37	92	77-120	1	20		
sec-Butylbenzene	20.00	18.20	91	80-120	3	21		
para-Isopropyl Toluene	20.00	17.59	88	76-120	1	20		
1,3-Dichlorobenzene	20.00	18.50	92	75-120	1	20		
1,4-Dichlorobenzene	20.00	18.29	91	77-120	3	23		
n-Butylbenzene	20.00	18.30	92	76-120	2	21		
1,2-Dichlorobenzene	20.00	18.12	91	76-120	0	20		
1,2-Dibromo-3-Chloropropane	20.00	19.19	96	65-120	2	22		
1,2,4-Trichlorobenzene	20.00	17.50	88	73-121	0	20		
Hexachlorobutadiene	20.00	20.54 b	103	73-123	1	25	V3	
Naphthalene	20.00	16.25	81	62-121	1	32		
1,2,3-Trichlorobenzene	20.00	18.69	93	66-123	1	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	100	77-120		
1,2-Dichloroethane-d4	132 *	70-127	S1	
Toluene-d8	100	83-125		
Bromofluorobenzene	95	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549566	Batch#:	164269
Matrix:	Water	Analyzed:	06/22/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549566	Batch#:	164269
Matrix:	Water	Analyzed:	06/22/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	2.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	L1 V1
1,2,3-Trichloropropane	ND	2.0	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	L1
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	L1 V1
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	L1 V1
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1 V1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	108	77-120	
1,2-Dichloroethane-d4	108	70-127	
Toluene-d8	105	83-125	
Bromofluorobenzene	105	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164269
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	26.07	104	75-120	
1,3,5-Trimethylbenzene	25.00	28.20	113	77-120	
2-Chlorotoluene	25.00	28.40	114	76-120	
4-Chlorotoluene	25.00	28.56	114	78-120	
tert-Butylbenzene	25.00	28.68	115	76-120	
1,2,4-Trimethylbenzene	25.00	29.27	117	77-120	
sec-Butylbenzene	25.00	31.17 b	125 *	80-120	L1 V3
para-Isopropyl Toluene	25.00	28.51	114	76-120	
1,3-Dichlorobenzene	25.00	26.91	108	75-120	
1,4-Dichlorobenzene	25.00	26.67	107	77-120	
n-Butylbenzene	25.00	31.97 b	128 *	76-120	L1 V3
1,2-Dichlorobenzene	25.00	27.61	110	76-120	
1,2-Dibromo-3-Chloropropane	25.00	24.13	97	65-120	
1,2,4-Trichlorobenzene	25.00	27.27	109	73-121	
Hexachlorobutadiene	25.00	31.59 b	126 *	73-123	L1 V3
Naphthalene	25.00	28.57	114	62-121	
1,2,3-Trichlorobenzene	25.00	28.04	112	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	103	77-120	
1,2-Dichloroethane-d4	99	70-127	
Toluene-d8	102	83-125	
Bromofluorobenzene	102	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164269
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549568

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	27.94	112	56-140	4	24		
Chloromethane	25.00	28.48	114	46-142	1	24		
Vinyl Chloride	25.00	26.78	107	49-136	2	24		
Bromomethane	25.00	26.97	108	42-154	3	24		
Chloroethane	25.00	28.81	115	51-133	1	25		
Trichlorofluoromethane	25.00	28.42	114	63-135	4	20		
Iodomethane	25.00	26.88	108	70-130	6	20		
Acetone	25.00	30.24	121	48-130	15	41		
1,1-Dichloroethene	25.00	27.85	111	68-133	2	20		
Methylene Chloride	25.00	24.15	97	71-120	1	20		
Carbon Disulfide	25.00	22.20	89	56-120	1	20		
MTBE	25.00	23.57	94	58-120	1	21		
trans-1,2-Dichloroethene	25.00	25.66	103	80-120	1	24		
Vinyl Acetate	25.00	48.20	b 193	* 63-124	1	24	L1	V3
1,1-Dichloroethane	25.00	26.89	108	77-120	2	20		
2-Butanone	25.00	28.26	113	57-120	11	32		
cis-1,2-Dichloroethene	25.00	26.29	105	75-120	6	20		
2,2-Dichloropropane	25.00	31.97	b 128	72-128	1	24	V3	
Chloroform	25.00	28.54	114	78-120	1	20		
Bromochloromethane	25.00	26.07	104	78-120	2	20		
1,1,1-Trichloroethane	25.00	28.84	115	78-120	3	20		
1,1-Dichloropropene	25.00	27.10	108	75-120	2	21		
Carbon Tetrachloride	25.00	28.89	116	80-120	2	21		
1,2-Dichloroethane	25.00	26.19	105	74-120	2	20		
Benzene	25.00	27.52	110	77-120	4	20		
Trichloroethene	25.00	26.32	105	78-122	7	20		
1,2-Dichloropropane	25.00	25.84	103	76-120	7	20		
Bromodichloromethane	25.00	26.59	106	78-120	4	20		
Dibromomethane	25.00	26.21	105	77-120	6	20		
4-Methyl-2-Pentanone	25.00	24.44	98	65-120	1	22		
cis-1,3-Dichloropropene	25.00	27.06	108	76-120	7	20		
Toluene	25.00	27.63	111	73-120	5	20		
trans-1,3-Dichloropropene	25.00	25.40	102	72-120	3	20		
1,1,2-Trichloroethane	25.00	26.52	106	76-120	10	20		
2-Hexanone	25.00	28.43	114	57-121	7	25		
1,3-Dichloropropane	25.00	27.09	108	75-120	7	20		
Tetrachloroethene	25.00	28.06	112	77-120	4	20		
Dibromochloromethane	25.00	25.67	103	76-120	5	20		
1,2-Dibromoethane	25.00	25.94	104	77-120	4	20		
Chlorobenzene	25.00	26.64	107	78-120	2	20		
1,1,1,2-Tetrachloroethane	25.00	28.26	113	77-120	6	20		
Ethylbenzene	25.00	29.26	117	78-120	4	26		
m,p-Xylenes	50.00	57.48	115	77-120	7	20		
o-Xylene	25.00	28.14	113	77-120	4	20		
Styrene	25.00	28.59	114	77-120	8	20		
Bromoform	25.00	26.32	105	74-121	9	21		
Isopropylbenzene	25.00	24.31	97	71-120	4	20		
1,1,2,2-Tetrachloroethane	25.00	30.24	b 121	* 73-120	0	20	L1	V3
1,2,3-Trichloropropane	25.00	25.44	102	72-120	1	20		
Propylbenzene	25.00	28.71	115	76-120	1	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164269
Units:	ug/L	Analyzed:	06/22/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	25.81	103	75-120	1	20		
1,3,5-Trimethylbenzene	25.00	28.13	113	77-120	0	20		
2-Chlorotoluene	25.00	27.75	111	76-120	2	20		
4-Chlorotoluene	25.00	28.61	114	78-120	0	20		
tert-Butylbenzene	25.00	30.91	124 *	76-120	7	21	L1	
1,2,4-Trimethylbenzene	25.00	29.15	117	77-120	0	20		
sec-Butylbenzene	25.00	28.75 b	115	80-120	8	21	V3	
para-Isopropyl Toluene	25.00	28.29	113	76-120	1	20		
1,3-Dichlorobenzene	25.00	28.31	113	75-120	5	20		
1,4-Dichlorobenzene	25.00	27.96	112	77-120	5	23		
n-Butylbenzene	25.00	32.46 b	130 *	76-120	2	21	L1 V3	
1,2-Dichlorobenzene	25.00	26.89	108	76-120	3	20		
1,2-Dibromo-3-Chloropropane	25.00	26.09	104	65-120	8	22		
1,2,4-Trichlorobenzene	25.00	27.76	111	73-121	2	20		
Hexachlorobutadiene	25.00	29.12 b	116	73-123	8	25	V3	
Naphthalene	25.00	28.39	114	62-121	1	32		
1,2,3-Trichlorobenzene	25.00	28.90	116	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	103	77-120		
1,2-Dichloroethane-d4	102	70-127		
Toluene-d8	104	83-125		
Bromofluorobenzene	98	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164300
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549695

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	25.87	103	56-140		
Chloromethane	25.00	19.78 b	79	46-142	V9	
Vinyl Chloride	25.00	19.35	77	49-136		
Bromomethane	25.00	16.09 b	64	42-154	V9	
Chloroethane	25.00	21.92	88	51-133		
Trichlorofluoromethane	25.00	29.51	118	63-135		
Iodomethane	25.00	12.17 b	49 *	70-130	L2	V9
Acetone	25.00	25.42	102	48-130		
1,1-Dichloroethene	25.00	18.46	74	68-133		
Methylene Chloride	25.00	19.52 b	78	71-120	V9	
Carbon Disulfide	25.00	16.19	65	56-120		
MTBE	25.00	18.15	73	58-120		
trans-1,2-Dichloroethene	25.00	21.23	85	80-120		
Vinyl Acetate	25.00	13.28 b	53 *	63-124	L2	
1,1-Dichloroethane	25.00	19.81	79	77-120		
2-Butanone	25.00	18.77 b	75	57-120	V9	
cis-1,2-Dichloroethene	25.00	19.97 b	80	75-120	V9	
2,2-Dichloropropane	25.00	22.41	90	72-128		
Chloroform	25.00	23.28	93	78-120		
Bromochloromethane	25.00	22.23	89	78-120		
1,1,1-Trichloroethane	25.00	24.57	98	78-120		
1,1-Dichloropropene	25.00	23.42	94	75-120		
Carbon Tetrachloride	25.00	32.27 b	129 *	80-120	L1	V3
1,2-Dichloroethane	25.00	27.62	110	74-120		
Benzene	25.00	23.89	96	77-120		
Trichloroethene	25.00	25.52	102	78-122		
1,2-Dichloropropane	25.00	21.24	85	76-120		
Bromodichloromethane	25.00	26.41	106	78-120		
Dibromomethane	25.00	25.23	101	77-120		
4-Methyl-2-Pentanone	25.00	21.26	85	65-120		
cis-1,3-Dichloropropene	25.00	23.82	95	76-120		
Toluene	25.00	23.75	95	73-120		
trans-1,3-Dichloropropene	25.00	21.31	85	72-120		
1,1,2-Trichloroethane	25.00	22.63	91	76-120		
2-Hexanone	25.00	21.23 b	85	57-121	V9	
1,3-Dichloropropane	25.00	22.70	91	75-120		
Tetrachloroethene	25.00	28.73	115	77-120		
Dibromochloromethane	25.00	26.41	106	76-120		
1,2-Dibromoethane	25.00	22.23	89	77-120		
Chlorobenzene	25.00	25.35	101	78-120		
1,1,1,2-Tetrachloroethane	25.00	26.50	106	77-120		
Ethylbenzene	25.00	24.37	97	78-120		
m,p-Xylenes	50.00	51.77	104	77-120		
o-Xylene	25.00	24.32	97	77-120		
Styrene	25.00	24.29	97	77-120		
Bromoform	25.00	27.79	111	74-121		
Isopropylbenzene	25.00	20.11	80	71-120		
1,1,2,2-Tetrachloroethane	25.00	18.56	74	73-120		
1,2,3-Trichloropropane	25.00	21.54	86	72-120		
Propylbenzene	25.00	22.63	91	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164300
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	25.05	100	75-120	
1,3,5-Trimethylbenzene	25.00	23.62	94	77-120	
2-Chlorotoluene	25.00	23.23	93	76-120	
4-Chlorotoluene	25.00	22.37	89	78-120	
tert-Butylbenzene	25.00	24.17	97	76-120	
1,2,4-Trimethylbenzene	25.00	23.40	94	77-120	
sec-Butylbenzene	25.00	23.87	95	80-120	
para-Isopropyl Toluene	25.00	23.52	94	76-120	
1,3-Dichlorobenzene	25.00	25.02	100	75-120	
1,4-Dichlorobenzene	25.00	24.66	99	77-120	
n-Butylbenzene	25.00	23.40	94	76-120	
1,2-Dichlorobenzene	25.00	24.22	97	76-120	
1,2-Dibromo-3-Chloropropane	25.00	21.41	86	65-120	
1,2,4-Trichlorobenzene	25.00	24.59	98	73-121	
Hexachlorobutadiene	25.00	30.54	122	73-123	
Naphthalene	25.00	21.14	85	62-121	
1,2,3-Trichlorobenzene	25.00	25.76	103	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	90	77-120	
1,2-Dichloroethane-d4	114	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	88	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164300
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549696

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	24.20	97	56-140	7	24		
Chloromethane	25.00	18.80	b	75	46-142	5	24	V9
Vinyl Chloride	25.00	18.83	75	49-136	3	24		
Bromomethane	25.00	16.08	b	64	42-154	0	24	V9
Chloroethane	25.00	20.61	82	51-133	6	25		
Trichlorofluoromethane	25.00	28.28	113	63-135	4	20		
Iodomethane	25.00	13.71	b	55 *	70-130	12	20	L2 V9
Acetone	25.00	25.28	101	48-130	1	41		
1,1-Dichloroethene	25.00	18.01	72	68-133	2	20		
Methylene Chloride	25.00	19.09	b	76	71-120	2	20	V9
Carbon Disulfide	25.00	15.59	62	56-120	4	20		
MTBE	25.00	18.24	73	58-120	0	21		
trans-1,2-Dichloroethene	25.00	20.63	83	80-120	3	24		
Vinyl Acetate	25.00	12.75	b	51 *	63-124	4	24	L2
1,1-Dichloroethane	25.00	19.40	78	77-120	2	20		
2-Butanone	25.00	19.54	b	78	57-120	4	32	V9
cis-1,2-Dichloroethene	25.00	19.15	b	77	75-120	4	20	V9
2,2-Dichloropropane	25.00	21.24	85	72-128	5	24		
Chloroform	25.00	22.22	89	78-120	5	20		
Bromochloromethane	25.00	22.17	89	78-120	0	20		
1,1,1-Trichloroethane	25.00	23.67	95	78-120	4	20		
1,1-Dichloropropene	25.00	22.20	89	75-120	5	21		
Carbon Tetrachloride	25.00	30.35	b	121 *	80-120	6	21	L1 V3
1,2-Dichloroethane	25.00	27.16	109	74-120	2	20		
Benzene	25.00	23.09	92	77-120	3	20		
Trichloroethene	25.00	24.83	99	78-122	3	20		
1,2-Dichloropropane	25.00	20.53	82	76-120	3	20		
Bromodichloromethane	25.00	25.82	103	78-120	2	20		
Dibromomethane	25.00	25.10	100	77-120	1	20		
4-Methyl-2-Pentanone	25.00	22.01	88	65-120	3	22		
cis-1,3-Dichloropropene	25.00	23.56	94	76-120	1	20		
Toluene	25.00	23.07	92	73-120	3	20		
trans-1,3-Dichloropropene	25.00	21.23	85	72-120	0	20		
1,1,2-Trichloroethane	25.00	22.01	88	76-120	3	20		
2-Hexanone	25.00	22.05	b	88	57-121	4	25	V9
1,3-Dichloropropane	25.00	22.70	91	75-120	0	20		
Tetrachloroethene	25.00	27.40	110	77-120	5	20		
Dibromochloromethane	25.00	25.70	103	76-120	3	20		
1,2-Dibromoethane	25.00	22.71	91	77-120	2	20		
Chlorobenzene	25.00	24.57	98	78-120	3	20		
1,1,1,2-Tetrachloroethane	25.00	26.02	104	77-120	2	20		
Ethylbenzene	25.00	23.72	95	78-120	3	26		
m,p-Xylenes	50.00	50.04	100	77-120	3	20		
o-Xylene	25.00	23.83	95	77-120	2	20		
Styrene	25.00	23.62	94	77-120	3	20		
Bromoform	25.00	28.07	112	74-121	1	21		
Isopropylbenzene	25.00	19.03	76	71-120	6	20		
1,1,2,2-Tetrachloroethane	25.00	18.53	74	73-120	0	20		
1,2,3-Trichloropropane	25.00	21.77	87	72-120	1	20		
Propylbenzene	25.00	21.79	87	76-120	4	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164300
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	24.58	98	75-120	2	20		
1,3,5-Trimethylbenzene	25.00	22.58	90	77-120	4	20		
2-Chlorotoluene	25.00	22.54	90	76-120	3	20		
4-Chlorotoluene	25.00	21.60	86	78-120	3	20		
tert-Butylbenzene	25.00	23.19	93	76-120	4	21		
1,2,4-Trimethylbenzene	25.00	22.76	91	77-120	3	20		
sec-Butylbenzene	25.00	22.85	91	80-120	4	21		
para-Isopropyl Toluene	25.00	22.50	90	76-120	4	20		
1,3-Dichlorobenzene	25.00	24.39	98	75-120	3	20		
1,4-Dichlorobenzene	25.00	23.53	94	77-120	5	23		
n-Butylbenzene	25.00	22.51	90	76-120	4	21		
1,2-Dichlorobenzene	25.00	23.80	95	76-120	2	20		
1,2-Dibromo-3-Chloropropane	25.00	22.99	92	65-120	7	22		
1,2,4-Trichlorobenzene	25.00	24.53	98	73-121	0	20		
Hexachlorobutadiene	25.00	29.61	118	73-123	3	25		
Naphthalene	25.00	21.71	87	62-121	3	32		
1,2,3-Trichlorobenzene	25.00	25.57	102	66-123	1	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	92	77-120		
1,2-Dichloroethane-d4	115	70-127		
Toluene-d8	95	83-125		
Bromofluorobenzene	90	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549697	Batch#:	164300
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	V9
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V9
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L2 V9
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	V9
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L2
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	V9
cis-1,2-Dichloroethene	ND	0.5	V9
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1 V1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549697	Batch#:	164300
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	96	77-120	
1,2-Dichloroethane-d4	115	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	92	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164301
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549698

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	20.00	24.18 b	121	56-140	V3	
Chloromethane	20.00	20.93	105	46-142		
Vinyl Chloride	20.00	22.93	115	49-136		
Bromomethane	20.00	18.80	94	42-154		
Chloroethane	20.00	23.16	116	51-133		
Trichlorofluoromethane	20.00	23.76	119	63-135		
Iodomethane	20.00	10.59 b	53 *	70-130	L2 V9	
Acetone	20.00	28.11 b	141 *	48-130	L1 V3	
1,1-Dichloroethene	20.00	17.09	85	68-133		
Methylene Chloride	20.00	17.76	89	71-120		
Carbon Disulfide	20.00	14.83 b	74	56-120	V9	
MTBE	20.00	16.19	81	58-120		
trans-1,2-Dichloroethene	20.00	17.77	89	80-120		
Vinyl Acetate	20.00	17.88	89	63-124		
1,1-Dichloroethane	20.00	18.96	95	77-120		
2-Butanone	20.00	21.61	108	57-120		
cis-1,2-Dichloroethene	20.00	18.33	92	75-120		
2,2-Dichloropropane	20.00	22.06	110	72-128		
Chloroform	20.00	19.93	100	78-120		
Bromochloromethane	20.00	18.21	91	78-120		
1,1,1-Trichloroethane	20.00	21.54	108	78-120		
1,1-Dichloropropene	20.00	21.61	108	75-120		
Carbon Tetrachloride	20.00	23.99	120	80-120		
1,2-Dichloroethane	20.00	20.86	104	74-120		
Benzene	20.00	20.58	103	77-120		
Trichloroethene	20.00	20.11	101	78-122		
1,2-Dichloropropane	20.00	19.33	97	76-120		
Bromodichloromethane	20.00	19.98	100	78-120		
Dibromomethane	20.00	19.16	96	77-120		
4-Methyl-2-Pentanone	20.00	20.10	100	65-120		
cis-1,3-Dichloropropene	20.00	19.33	97	76-120		
Toluene	20.00	20.65	103	73-120		
trans-1,3-Dichloropropene	20.00	17.23	86	72-120		
1,1,2-Trichloroethane	20.00	19.33	97	76-120		
2-Hexanone	20.00	22.36	112	57-121		
1,3-Dichloropropane	20.00	19.68	98	75-120		
Tetrachloroethene	20.00	22.55	113	77-120		
Dibromochloromethane	20.00	19.10	95	76-120		
1,2-Dibromoethane	20.00	19.13	96	77-120		
Chlorobenzene	20.00	19.66	98	78-120		
1,1,1,2-Tetrachloroethane	20.00	20.31	102	77-120		
Ethylbenzene	20.00	21.39	107	78-120		
m,p-Xylenes	40.00	41.49	104	77-120		
o-Xylene	20.00	20.65	103	77-120		
Styrene	20.00	19.60	98	77-120		
Bromoform	20.00	19.34	97	74-121		
Isopropylbenzene	20.00	18.99	95	71-120		
1,1,2,2-Tetrachloroethane	20.00	18.10	91	73-120		
1,2,3-Trichloropropane	20.00	19.64	98	72-120		
Propylbenzene	20.00	21.76	109	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164301
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	20.00	20.44	102	75-120	
1,3,5-Trimethylbenzene	20.00	21.60	108	77-120	
2-Chlorotoluene	20.00	21.27	106	76-120	
4-Chlorotoluene	20.00	20.59	103	78-120	
tert-Butylbenzene	20.00	22.07	110	76-120	
1,2,4-Trimethylbenzene	20.00	20.84	104	77-120	
sec-Butylbenzene	20.00	22.72	114	80-120	
para-Isopropyl Toluene	20.00	21.39	107	76-120	
1,3-Dichlorobenzene	20.00	19.42	97	75-120	
1,4-Dichlorobenzene	20.00	19.45	97	77-120	
n-Butylbenzene	20.00	21.76	109	76-120	
1,2-Dichlorobenzene	20.00	19.60	98	76-120	
1,2-Dibromo-3-Chloropropane	20.00	19.32	97	65-120	
1,2,4-Trichlorobenzene	20.00	18.70	94	73-121	
Hexachlorobutadiene	20.00	25.45 b	127 *	73-123	L1 V3
Naphthalene	20.00	14.60 b	73	62-121	V9
1,2,3-Trichlorobenzene	20.00	19.12	96	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	99	77-120	
1,2-Dichloroethane-d4	113	70-127	
Toluene-d8	102	83-125	
Bromofluorobenzene	103	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164301
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549699

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	20.00	22.31 b	112	56-140	8	24	V3	
Chloromethane	20.00	19.76	99	46-142	6	24		
Vinyl Chloride	20.00	20.73	104	49-136	10	24		
Bromomethane	20.00	19.80	99	42-154	5	24		
Chloroethane	20.00	20.70	104	51-133	11	25		
Trichlorofluoromethane	20.00	22.32	112	63-135	6	20		
Iodomethane	20.00	12.13 b	61 *	70-130	14	20	L2	V9
Acetone	20.00	26.72 b	134 *	48-130	5	41	L1	V3
1,1-Dichloroethene	20.00	16.04	80	68-133	6	20		
Methylene Chloride	20.00	17.32	87	71-120	2	20		
Carbon Disulfide	20.00	13.79 b	69	56-120	7	20	V9	
MTBE	20.00	15.68	78	58-120	3	21		
trans-1,2-Dichloroethene	20.00	16.71	84	80-120	6	24		
Vinyl Acetate	20.00	17.37	87	63-124	3	24		
1,1-Dichloroethane	20.00	18.59	93	77-120	2	20		
2-Butanone	20.00	21.09	105	57-120	2	32		
cis-1,2-Dichloroethene	20.00	17.71	89	75-120	3	20		
2,2-Dichloropropane	20.00	20.77	104	72-128	6	24		
Chloroform	20.00	19.00	95	78-120	5	20		
Bromochloromethane	20.00	17.45	87	78-120	4	20		
1,1,1-Trichloroethane	20.00	20.11	101	78-120	7	20		
1,1-Dichloropropene	20.00	19.87	99	75-120	8	21		
Carbon Tetrachloride	20.00	22.71	114	80-120	5	21		
1,2-Dichloroethane	20.00	20.40	102	74-120	2	20		
Benzene	20.00	19.12	96	77-120	7	20		
Trichloroethene	20.00	19.36	97	78-122	4	20		
1,2-Dichloropropane	20.00	18.79	94	76-120	3	20		
Bromodichloromethane	20.00	19.21	96	78-120	4	20		
Dibromomethane	20.00	18.70	94	77-120	2	20		
4-Methyl-2-Pentanone	20.00	19.34	97	65-120	4	22		
cis-1,3-Dichloropropene	20.00	18.52	93	76-120	4	20		
Toluene	20.00	19.27	96	73-120	7	20		
trans-1,3-Dichloropropene	20.00	16.87	84	72-120	2	20		
1,1,2-Trichloroethane	20.00	18.67	93	76-120	3	20		
2-Hexanone	20.00	21.70	109	57-121	3	25		
1,3-Dichloropropane	20.00	18.55	93	75-120	6	20		
Tetrachloroethene	20.00	21.47	107	77-120	5	20		
Dibromochloromethane	20.00	18.52	93	76-120	3	20		
1,2-Dibromoethane	20.00	18.94	95	77-120	1	20		
Chlorobenzene	20.00	18.61	93	78-120	6	20		
1,1,1,2-Tetrachloroethane	20.00	19.77	99	77-120	3	20		
Ethylbenzene	20.00	19.87	99	78-120	7	26		
m,p-Xylenes	40.00	38.92	97	77-120	6	20		
o-Xylene	20.00	19.64	98	77-120	5	20		
Styrene	20.00	18.67	93	77-120	5	20		
Bromoform	20.00	19.06	95	74-121	1	21		
Isopropylbenzene	20.00	17.87	89	71-120	6	20		
1,1,2,2-Tetrachloroethane	20.00	17.31	87	73-120	4	20		
1,2,3-Trichloropropane	20.00	18.58	93	72-120	6	20		
Propylbenzene	20.00	20.39	102	76-120	6	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164301
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	20.00	19.42	97	75-120	5	20		
1,3,5-Trimethylbenzene	20.00	20.47	102	77-120	5	20		
2-Chlorotoluene	20.00	20.28	101	76-120	5	20		
4-Chlorotoluene	20.00	19.65	98	78-120	5	20		
tert-Butylbenzene	20.00	20.84	104	76-120	6	21		
1,2,4-Trimethylbenzene	20.00	19.44	97	77-120	7	20		
sec-Butylbenzene	20.00	21.39	107	80-120	6	21		
para-Isopropyl Toluene	20.00	20.11	101	76-120	6	20		
1,3-Dichlorobenzene	20.00	18.80	94	75-120	3	20		
1,4-Dichlorobenzene	20.00	18.59	93	77-120	5	23		
n-Butylbenzene	20.00	20.34	102	76-120	7	21		
1,2-Dichlorobenzene	20.00	19.03	95	76-120	3	20		
1,2-Dibromo-3-Chloropropane	20.00	18.30	91	65-120	5	22		
1,2,4-Trichlorobenzene	20.00	18.52	93	73-121	1	20		
Hexachlorobutadiene	20.00	23.85 b	119	73-123	7	25	V3	
Naphthalene	20.00	15.18 b	76	62-121	4	32	V9	
1,2,3-Trichlorobenzene	20.00	19.23	96	66-123	1	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	100	77-120		
1,2-Dichloroethane-d4	114	70-127		
Toluene-d8	102	83-125		
Bromofluorobenzene	101	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549700	Batch#:	164301
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L2 V9
Acetone	ND	10	L1 V1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549700	Batch#:	164301
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1 V1
Naphthalene	ND	2.0	V9
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	97	77-120	
1,2-Dichloroethane-d4	120	70-127	
Toluene-d8	100	83-125	
Bromofluorobenzene	102	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549701	Batch#:	164301
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V9
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L2 V9
Acetone	ND	10	L1
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549701	Batch#:	164301
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1 V1
Naphthalene	ND	2.0	V9
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	100	77-120	
1,2-Dichloroethane-d4	119	70-127	
Toluene-d8	99	83-125	
Bromofluorobenzene	102	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164302
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549704

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	18.75	23.27	b 124	56-140	V3	
Chloromethane	18.75	20.73	111	46-142		
Vinyl Chloride	18.75	20.55	110	49-136		
Bromomethane	18.75	23.37	b 125	42-154	V3	
Chloroethane	18.75	21.96	117	51-133		
Trichlorofluoromethane	18.75	22.57	120	63-135		
Iodomethane	18.75	23.31	b 124	70-130	V3	
Acetone	18.75	18.06	96	48-130		
1,1-Dichloroethene	18.75	17.52	93	68-133		
Methylene Chloride	18.75	19.16	102	71-120		
Carbon Disulfide	18.75	15.21	81	56-120		
MTBE	18.75	17.55	94	58-120		
trans-1,2-Dichloroethene	18.75	19.61	105	80-120		
Vinyl Acetate	18.75	14.95	80	63-124		
1,1-Dichloroethane	18.75	18.07	96	77-120		
2-Butanone	18.75	17.70	94	57-120		
cis-1,2-Dichloroethene	18.75	19.89	106	75-120		
2,2-Dichloropropane	18.75	20.63	110	72-128		
Chloroform	18.75	19.94	106	78-120		
Bromochloromethane	18.75	20.04	107	78-120		
1,1,1-Trichloroethane	18.75	19.92	106	78-120		
1,1-Dichloropropene	18.75	18.80	100	75-120		
Carbon Tetrachloride	18.75	20.79	111	80-120		
1,2-Dichloroethane	18.75	18.78	100	74-120		
Benzene	18.75	19.38	103	77-120		
Trichloroethene	18.75	20.64	110	78-122		
1,2-Dichloropropane	18.75	16.66	89	76-120		
Bromodichloromethane	18.75	19.52	104	78-120		
Dibromomethane	18.75	20.02	107	77-120		
4-Methyl-2-Pentanone	18.75	15.11	81	65-120		
cis-1,3-Dichloropropene	18.75	18.57	99	76-120		
Toluene	18.75	18.66	100	73-120		
trans-1,3-Dichloropropene	18.75	20.74	111	72-120		
1,1,2-Trichloroethane	18.75	18.76	100	76-120		
2-Hexanone	18.75	16.76	89	57-121		
1,3-Dichloropropane	18.75	18.23	97	75-120		
Tetrachloroethene	18.75	21.80	116	77-120		
Dibromochloromethane	18.75	19.01	101	76-120		
1,2-Dibromoethane	18.75	19.46	104	77-120		
Chlorobenzene	18.75	20.44	109	78-120		
1,1,1,2-Tetrachloroethane	18.75	20.40	109	77-120		
Ethylbenzene	18.75	20.46	109	78-120		
m,p-Xylenes	37.50	42.31	113	77-120		
o-Xylene	18.75	21.31	114	77-120		
Styrene	18.75	20.64	110	77-120		
Bromoform	18.75	21.40	114	74-121		
Isopropylbenzene	18.75	17.19	92	71-120		
1,1,2,2-Tetrachloroethane	18.75	17.88	95	73-120		
1,2,3-Trichloropropane	18.75	18.03	96	72-120		
Propylbenzene	18.75	19.96	106	76-120		
Bromobenzene	18.75	20.76	111	75-120		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164302
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
1,3,5-Trimethylbenzene	18.75	20.57	110	77-120	
2-Chlorotoluene	18.75	19.90	106	76-120	
4-Chlorotoluene	18.75	19.24	103	78-120	
tert-Butylbenzene	18.75	21.08	112	76-120	
1,2,4-Trimethylbenzene	18.75	20.42	109	77-120	
sec-Butylbenzene	18.75	20.85	111	80-120	
para-Isopropyl Toluene	18.75	20.76	111	76-120	
1,3-Dichlorobenzene	18.75	20.99	112	75-120	
1,4-Dichlorobenzene	18.75	20.12	107	77-120	
n-Butylbenzene	18.75	20.19	108	76-120	
1,2-Dichlorobenzene	18.75	20.75	111	76-120	
1,2-Dibromo-3-Chloropropane	18.75	16.06	86	65-120	
1,2,4-Trichlorobenzene	18.75	21.87	117	73-121	
Hexachlorobutadiene	18.75	22.04	118	73-123	
Naphthalene	18.75	21.90	117	62-121	
1,2,3-Trichlorobenzene	18.75	22.19	118	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	96	77-120	
1,2-Dichloroethane-d4	98	70-127	
Toluene-d8	92	83-125	
Bromofluorobenzene	94	78-120	

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164302
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549705

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	18.75	21.63 b	115	56-140	7	24	V3	
Chloromethane	18.75	18.70	100	46-142	10	24		
Vinyl Chloride	18.75	18.95	101	49-136	8	24		
Bromomethane	18.75	22.37 b	119	42-154	4	24	V3	
Chloroethane	18.75	20.06	107	51-133	9	25		
Trichlorofluoromethane	18.75	21.58	115	63-135	4	20		
Iodomethane	18.75	22.47 b	120	70-130	4	20	V3	
Acetone	18.75	17.04	91	48-130	6	41		
1,1-Dichloroethene	18.75	16.89	90	68-133	4	20		
Methylene Chloride	18.75	18.27	97	71-120	5	20		
Carbon Disulfide	18.75	14.28	76	56-120	6	20		
MTBE	18.75	15.46	82	58-120	13	21		
trans-1,2-Dichloroethene	18.75	18.78	100	80-120	4	24		
Vinyl Acetate	18.75	15.22	81	63-124	2	24		
1,1-Dichloroethane	18.75	17.05	91	77-120	6	20		
2-Butanone	18.75	15.99	85	57-120	10	32		
cis-1,2-Dichloroethene	18.75	19.00	101	75-120	5	20		
2,2-Dichloropropane	18.75	19.72	105	72-128	5	24		
Chloroform	18.75	19.12	102	78-120	4	20		
Bromochloromethane	18.75	19.29	103	78-120	4	20		
1,1,1-Trichloroethane	18.75	19.63	105	78-120	1	20		
1,1-Dichloropropene	18.75	18.34	98	75-120	2	21		
Carbon Tetrachloride	18.75	21.12	113	80-120	2	21		
1,2-Dichloroethane	18.75	18.91	101	74-120	1	20		
Benzene	18.75	19.07	102	77-120	2	20		
Trichloroethene	18.75	20.24	108	78-122	2	20		
1,2-Dichloropropane	18.75	16.82	90	76-120	1	20		
Bromodichloromethane	18.75	20.33	108	78-120	4	20		
Dibromomethane	18.75	19.95	106	77-120	0	20		
4-Methyl-2-Pentanone	18.75	15.58	83	65-120	3	22		
cis-1,3-Dichloropropene	18.75	18.12	97	76-120	2	20		
Toluene	18.75	18.17	97	73-120	3	20		
trans-1,3-Dichloropropene	18.75	20.73	111	72-120	0	20		
1,1,2-Trichloroethane	18.75	19.87	106	76-120	6	20		
2-Hexanone	18.75	16.04	86	57-121	4	25		
1,3-Dichloropropane	18.75	18.14	97	75-120	0	20		
Tetrachloroethene	18.75	22.48	120	77-120	3	20		
Dibromochloromethane	18.75	19.89	106	76-120	5	20		
1,2-Dibromoethane	18.75	19.25	103	77-120	1	20		
Chlorobenzene	18.75	21.13	113	78-120	3	20		
1,1,1,2-Tetrachloroethane	18.75	20.77	111	77-120	2	20		
Ethylbenzene	18.75	20.70	110	78-120	1	26		
m,p-Xylenes	37.50	43.16	115	77-120	2	20		
o-Xylene	18.75	21.33	114	77-120	0	20		
Styrene	18.75	21.03	112	77-120	2	20		
Bromoform	18.75	22.07	118	74-121	3	21		
Isopropylbenzene	18.75	17.43	93	71-120	1	20		
1,1,2,2-Tetrachloroethane	18.75	17.70	94	73-120	1	20		
1,2,3-Trichloropropane	18.75	18.58	99	72-120	3	20		
Propylbenzene	18.75	19.84	106	76-120	1	20		
Bromobenzene	18.75	20.96	112	75-120	1	20		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164302
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,3,5-Trimethylbenzene	18.75	20.27	108	77-120	1	20		
2-Chlorotoluene	18.75	19.98	107	76-120	0	20		
4-Chlorotoluene	18.75	19.04	102	78-120	1	20		
tert-Butylbenzene	18.75	20.84	111	76-120	1	21		
1,2,4-Trimethylbenzene	18.75	19.27	103	77-120	6	20		
sec-Butylbenzene	18.75	21.17	113	80-120	2	21		
para-Isopropyl Toluene	18.75	20.09	107	76-120	3	20		
1,3-Dichlorobenzene	18.75	21.14	113	75-120	1	20		
1,4-Dichlorobenzene	18.75	20.41	109	77-120	1	23		
n-Butylbenzene	18.75	20.24	108	76-120	0	21		
1,2-Dichlorobenzene	18.75	20.99	112	76-120	1	20		
1,2-Dibromo-3-Chloropropane	18.75	16.58	88	65-120	3	22		
1,2,4-Trichlorobenzene	18.75	22.15	118	73-121	1	20		
Hexachlorobutadiene	18.75	21.52	115	73-123	2	25		
Naphthalene	18.75	21.82	116	62-121	0	32		
1,2,3-Trichlorobenzene	18.75	22.82	122	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	94	77-120		
1,2-Dichloroethane-d4	100	70-127		
Toluene-d8	92	83-125		
Bromofluorobenzene	94	78-120		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549706	Batch#:	164302
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549706	Batch#:	164302
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	98	77-120	
1,2-Dichloroethane-d4	108	70-127	
Toluene-d8	92	83-125	
Bromofluorobenzene	97	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
MSS Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549831

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1733	18.75	19.86	b 106	56-140	V3	
Chloromethane	<0.2133	18.75	17.01	91	46-142		
Vinyl Chloride	1.664	18.75	19.08	93	49-136		
Bromomethane	<0.1692	18.75	17.38	b 93	42-154	V3	
Chloroethane	2.293	18.75	21.96	105	51-133		
Trichlorofluoromethane	<0.1840	18.75	20.14	107	63-135		
Iodomethane	<0.1570	18.75	23.09	b 123	60-140	V3	
Acetone	2.214	18.75	14.80	67	48-130		
1,1-Dichloroethene	0.3424	18.75	16.89	88	68-133		
Methylene Chloride	<0.1458	18.75	17.82	95	71-120		
Carbon Disulfide	<0.1000	18.75	14.22	76	56-120		
MTBE	49.00	18.75	63.32	76	58-120		
trans-1,2-Dichloroethene	<0.1000	18.75	18.42	98	80-120		
Vinyl Acetate	<0.5118	18.75	14.62	78	63-124		
1,1-Dichloroethane	13.29	18.75	28.92	83	77-120		
2-Butanone	<0.2956	18.75	15.48	80	57-120		
cis-1,2-Dichloroethene	0.9053	18.75	19.03	97	75-120		
2,2-Dichloropropane	<0.1000	18.75	18.22	97	72-128		
Chloroform	0.1913	18.75	18.20	96	78-120		
Bromochloromethane	<0.1508	18.75	19.11	102	78-120		
1,1,1-Trichloroethane	<0.1000	18.75	18.56	99	78-120		
1,1-Dichloropropene	<0.1000	18.75	18.52	99	75-120		
Carbon Tetrachloride	<0.1000	18.75	19.92	106	80-120		
1,2-Dichloroethane	<0.1000	18.75	17.72	94	74-120		
Benzene	17.97	18.75	34.17	86	77-120		
Trichloroethene	0.2109	18.75	19.91	105	78-122		
1,2-Dichloropropane	<0.1501	18.75	17.35	93	76-120		
Bromodichloromethane	0.1908	18.75	19.79	105	78-120		
Dibromomethane	<0.1000	18.75	20.70	110	77-120		
4-Methyl-2-Pentanone	<0.1884	18.75	17.47	92	65-120		
cis-1,3-Dichloropropene	<0.1000	18.75	18.19	97	76-120		
Toluene	0.1971	18.75	19.88	105	73-120		
trans-1,3-Dichloropropene	<0.1000	18.75	21.05	112	72-120		
1,1,2-Trichloroethane	<0.1596	18.75	20.67	110	76-120		
2-Hexanone	<0.1592	18.75	18.32	96	57-121		
1,3-Dichloropropane	<0.1000	18.75	18.88	101	75-120		
Tetrachloroethene	<0.1000	18.75	22.37	119	77-120		
Dibromochloromethane	0.2191	18.75	20.60	109	76-120		
1,2-Dibromoethane	<0.1000	18.75	20.83	111	77-120		
Chlorobenzene	<0.1136	18.75	21.50	115	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	18.75	20.84	111	77-120		
Ethylbenzene	0.1788	18.75	21.54	114	78-120		
m,p-Xylenes	<0.1000	37.50	41.67	111	77-120		
o-Xylene	0.2331	18.75	22.67	120	77-120		
Styrene	<0.1000	18.75	21.29	114	77-120		
Bromoform	<0.1000	18.75	22.94	122 *	74-121	M1	
Isopropylbenzene	2.255	18.75	19.23	91	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	18.75	19.43	103	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
MSS Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ Flags
1,2,3-Trichloropropane	<0.1388	18.75	18.18	97	72-120	
Propylbenzene	1.967	18.75	21.06	102	76-120	
Bromobenzene	<0.1000	18.75	19.99	107	75-120	
1,3,5-Trimethylbenzene	<0.1017	18.75	20.05	107	77-120	
2-Chlorotoluene	<0.1027	18.75	19.22	103	76-120	
4-Chlorotoluene	<0.1554	18.75	18.58	99	78-120	
tert-Butylbenzene	0.3816	18.75	20.30	106	76-120	
1,2,4-Trimethylbenzene	0.2226	18.75	20.12	106	77-120	
sec-Butylbenzene	1.130	18.75	21.17	107	80-120	
para-Isopropyl Toluene	<0.1014	18.75	20.16	108	76-120	
1,3-Dichlorobenzene	<0.1000	18.75	20.46	109	75-120	
1,4-Dichlorobenzene	<0.1000	18.75	19.45	104	77-120	
n-Butylbenzene	<0.1011	18.75	22.63	121 *	76-120	M1
1,2-Dichlorobenzene	<0.1000	18.75	20.30	108	76-120	
1,2-Dibromo-3-Chloropropane	<0.1880	18.75	16.46	88	65-120	
1,2,4-Trichlorobenzene	<0.1138	18.75	22.40	119	73-121	
Hexachlorobutadiene	<0.1492	18.75	21.61	115	73-123	
Naphthalene	3.317	18.75	27.96	131 *	62-121	M1
1,2,3-Trichlorobenzene	<0.1000	18.75	24.34	130 *	66-123	M1

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	93	77-120	
1,2-Dichloroethane-d4	95	70-127	
Toluene-d8	96	83-125	
Bromofluorobenzene	89	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
MSS Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549832

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	18.75	19.22 b	103	56-140	3	24	V3	
Chloromethane	18.75	17.13	91	46-142	1	24		
Vinyl Chloride	18.75	18.41	89	49-136	4	24		
Bromomethane	18.75	18.60 b	99	42-154	7	24	V3	
Chloroethane	18.75	21.02	100	51-133	4	25		
Trichlorofluoromethane	18.75	18.95	101	63-135	6	20		
Iodomethane	18.75	25.66 b	137	60-140	11	30	V3	
Acetone	18.75	14.65	66	48-130	1	41		
1,1-Dichloroethene	18.75	16.37	86	68-133	3	20		
Methylene Chloride	18.75	17.49	93	71-120	2	20		
Carbon Disulfide	18.75	13.83	74	56-120	3	20		
MTBE	18.75	61.91	69	58-120	2	21		
trans-1,2-Dichloroethene	18.75	17.78	95	80-120	4	24		
Vinyl Acetate	18.75	14.86	79	63-124	2	24		
1,1-Dichloroethane	18.75	27.93	78	77-120	3	20		
2-Butanone	18.75	15.29	79	57-120	1	32		
cis-1,2-Dichloroethene	18.75	18.98	96	75-120	0	20		
2,2-Dichloropropane	18.75	17.08	91	72-128	6	24		
Chloroform	18.75	17.27	91	78-120	5	20		
Bromochloromethane	18.75	18.46	98	78-120	3	20		
1,1,1-Trichloroethane	18.75	17.31	92	78-120	7	20		
1,1-Dichloropropene	18.75	16.94	90	75-120	9	21		
Carbon Tetrachloride	18.75	19.00	101	80-120	5	21		
1,2-Dichloroethane	18.75	16.43	88	74-120	8	20		
Benzene	18.75	33.56	83	77-120	2	20		
Trichloroethene	18.75	19.60	103	78-122	2	20		
1,2-Dichloropropane	18.75	16.17	86	76-120	7	20		
Bromodichloromethane	18.75	18.71	99	78-120	6	20		
Dibromomethane	18.75	19.31	103	77-120	7	20		
4-Methyl-2-Pentanone	18.75	16.68	88	65-120	5	22		
cis-1,3-Dichloropropene	18.75	17.57	94	76-120	3	20		
Toluene	18.75	18.83	99	73-120	5	20		
trans-1,3-Dichloropropene	18.75	20.50	109	72-120	3	20		
1,1,2-Trichloroethane	18.75	19.62	105	76-120	5	20		
2-Hexanone	18.75	17.84	93	57-121	3	25		
1,3-Dichloropropane	18.75	18.32	98	75-120	3	20		
Tetrachloroethene	18.75	22.05	118	77-120	1	20		
Dibromochloromethane	18.75	20.41	108	76-120	1	20		
1,2-Dibromoethane	18.75	20.23	108	77-120	3	20		
Chlorobenzene	18.75	20.98	112	78-120	2	20		
1,1,1,2-Tetrachloroethane	18.75	20.12	107	77-120	4	20		
Ethylbenzene	18.75	20.86	110	78-120	3	26		
m,p-Xylenes	37.50	42.27	113	77-120	1	20		
o-Xylene	18.75	20.72	109	77-120	9	20		
Styrene	18.75	20.88	111	77-120	2	20		
Bromoform	18.75	23.10	123 *	74-121	1	21	M1	
Isopropylbenzene	18.75	18.91	89	71-120	2	20		
1,1,2,2-Tetrachloroethane	18.75	19.17	102	73-120	1	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
MSS Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	18.75	19.12	102	72-120	5	20		
Propylbenzene	18.75	20.88	101	76-120	1	20		
Bromobenzene	18.75	20.71	110	75-120	4	20		
1,3,5-Trimethylbenzene	18.75	19.72	105	77-120	2	20		
2-Chlorotoluene	18.75	18.67	100	76-120	3	20		
4-Chlorotoluene	18.75	17.86	95	78-120	4	20		
tert-Butylbenzene	18.75	20.38	107	76-120	0	21		
1,2,4-Trimethylbenzene	18.75	19.72	104	77-120	2	20		
sec-Butylbenzene	18.75	21.08	106	80-120	0	21		
para-Isopropyl Toluene	18.75	19.64	105	76-120	3	20		
1,3-Dichlorobenzene	18.75	20.37	109	75-120	0	20		
1,4-Dichlorobenzene	18.75	20.25	108	77-120	4	23		
n-Butylbenzene	18.75	21.66	116	76-120	4	21		
1,2-Dichlorobenzene	18.75	21.17	113	76-120	4	20		
1,2-Dibromo-3-Chloropropane	18.75	16.27	87	65-120	1	22		
1,2,4-Trichlorobenzene	18.75	22.41	119	73-121	0	20		
Hexachlorobutadiene	18.75	21.66	115	73-123	0	25		
Naphthalene	18.75	27.96	131	* 62-121	0	32	M1	
1,2,3-Trichlorobenzene	18.75	24.38	130	* 66-123	0	29	M1	

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	91	77-120		
1,2-Dichloroethane-d4	90	70-127		
Toluene-d8	94	83-125		
Bromofluorobenzene	90	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164347
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549880

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	25.36	101	56-140		
Chloromethane	25.00	21.55	86	46-142		
Vinyl Chloride	25.00	23.26	93	49-136		
Bromomethane	25.00	26.74	107	42-154		
Chloroethane	25.00	24.72	99	51-133		
Trichlorofluoromethane	25.00	25.96	104	63-135		
Iodomethane	25.00	31.40	b	126	70-130	V3
Acetone	25.00	21.62	86	48-130		
1,1-Dichloroethene	25.00	21.69	87	68-133		
Methylene Chloride	25.00	23.26	93	71-120		
Carbon Disulfide	25.00	18.34	b	73	56-120	V9
MTBE	25.00	20.22	81	58-120		
trans-1,2-Dichloroethene	25.00	24.03	96	80-120		
Vinyl Acetate	25.00	19.56	b	78	63-124	V9
1,1-Dichloroethane	25.00	21.80	87	77-120		
2-Butanone	25.00	19.74	b	79	57-120	V9
cis-1,2-Dichloroethene	25.00	24.80	99	75-120		
2,2-Dichloropropane	25.00	25.03	100	72-128		
Chloroform	25.00	23.55	94	78-120		
Bromochloromethane	25.00	25.28	101	78-120		
1,1,1-Trichloroethane	25.00	23.11	92	78-120		
1,1-Dichloropropene	25.00	23.04	92	75-120		
Carbon Tetrachloride	25.00	24.78	99	80-120		
1,2-Dichloroethane	25.00	20.81	83	74-120		
Benzene	25.00	24.20	97	77-120		
Trichloroethene	25.00	24.70	99	78-122		
1,2-Dichloropropane	25.00	21.46	86	76-120		
Bromodichloromethane	25.00	24.05	96	78-120		
Dibromomethane	25.00	24.81	99	77-120		
4-Methyl-2-Pentanone	25.00	18.77	b	75	65-120	V9
cis-1,3-Dichloropropene	25.00	23.46	94	76-120		
Toluene	25.00	25.42	102	73-120		
trans-1,3-Dichloropropene	25.00	28.31	113	72-120		
1,1,2-Trichloroethane	25.00	25.30	101	76-120		
2-Hexanone	25.00	21.41	86	57-121		
1,3-Dichloropropane	25.00	23.36	93	75-120		
Tetrachloroethene	25.00	30.23	b	121 *	77-120	L1 V3
Dibromochloromethane	25.00	25.85	103	76-120		
1,2-Dibromoethane	25.00	26.06	104	77-120		
Chlorobenzene	25.00	27.99	112	78-120		
1,1,1,2-Tetrachloroethane	25.00	27.52	110	77-120		
Ethylbenzene	25.00	27.43	110	78-120		
m,p-Xylenes	50.00	55.60	111	77-120		
o-Xylene	25.00	27.89	112	77-120		
Styrene	25.00	27.32	109	77-120		
Bromoform	25.00	28.25	113	74-121		
Isopropylbenzene	25.00	23.65	95	71-120		
1,1,2,2-Tetrachloroethane	25.00	23.70	95	73-120		
1,2,3-Trichloropropane	25.00	23.03	92	72-120		
Propylbenzene	25.00	25.75	103	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164347
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	27.81	111	75-120	
1,3,5-Trimethylbenzene	25.00	26.60	106	77-120	
2-Chlorotoluene	25.00	24.80	99	76-120	
4-Chlorotoluene	25.00	24.41	98	78-120	
tert-Butylbenzene	25.00	28.59	114	76-120	
1,2,4-Trimethylbenzene	25.00	26.65	107	77-120	
sec-Butylbenzene	25.00	27.67	111	80-120	
para-Isopropyl Toluene	25.00	26.87	107	76-120	
1,3-Dichlorobenzene	25.00	26.52	106	75-120	
1,4-Dichlorobenzene	25.00	26.54	106	77-120	
n-Butylbenzene	25.00	26.77	107	76-120	
1,2-Dichlorobenzene	25.00	27.23	109	76-120	
1,2-Dibromo-3-Chloropropane	25.00	18.57 b	74	65-120	V9
1,2,4-Trichlorobenzene	25.00	28.96	116	73-121	
Hexachlorobutadiene	25.00	28.11	112	73-123	
Naphthalene	25.00	28.66	115	62-121	
1,2,3-Trichlorobenzene	25.00	29.87	119	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	88	77-120	
1,2-Dichloroethane-d4	83	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	91	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164347
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549881

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	26.81	107	56-140	6	24		
Chloromethane	25.00	23.36	93	46-142	8	24		
Vinyl Chloride	25.00	24.75	99	49-136	6	24		
Bromomethane	25.00	30.94	124	42-154	15	24		
Chloroethane	25.00	27.24	109	51-133	10	25		
Trichlorofluoromethane	25.00	26.58	106	63-135	2	20		
Iodomethane	25.00	33.84	b	135 *	70-130	7	20	L1 V3
Acetone	25.00	21.88	88	48-130	1	41		
1,1-Dichloroethene	25.00	22.69	91	68-133	4	20		
Methylene Chloride	25.00	23.34	93	71-120	0	20		
Carbon Disulfide	25.00	19.32	b	77	56-120	5	20	V9
MTBE	25.00	21.02	84	58-120	4	21		
trans-1,2-Dichloroethene	25.00	25.04	100	80-120	4	24		
Vinyl Acetate	25.00	18.75	b	75	63-124	4	24	V9
1,1-Dichloroethane	25.00	21.82	87	77-120	0	20		
2-Butanone	25.00	19.49	b	78	57-120	1	32	V9
cis-1,2-Dichloroethene	25.00	24.81	99	75-120	0	20		
2,2-Dichloropropane	25.00	24.73	99	72-128	1	24		
Chloroform	25.00	23.22	93	78-120	1	20		
Bromochloromethane	25.00	25.04	100	78-120	1	20		
1,1,1-Trichloroethane	25.00	23.89	96	78-120	3	20		
1,1-Dichloropropene	25.00	23.63	95	75-120	3	21		
Carbon Tetrachloride	25.00	26.75	107	80-120	8	21		
1,2-Dichloroethane	25.00	22.18	89	74-120	6	20		
Benzene	25.00	26.65	107	77-120	10	20		
Trichloroethene	25.00	27.57	110	78-122	11	20		
1,2-Dichloropropane	25.00	22.42	90	76-120	4	20		
Bromodichloromethane	25.00	26.42	106	78-120	9	20		
Dibromomethane	25.00	26.39	106	77-120	6	20		
4-Methyl-2-Pentanone	25.00	20.14	b	81	65-120	7	22	V9
cis-1,3-Dichloropropene	25.00	24.40	98	76-120	4	20		
Toluene	25.00	26.76	107	73-120	5	20		
trans-1,3-Dichloropropene	25.00	28.03	112	72-120	1	20		
1,1,2-Trichloroethane	25.00	25.58	102	76-120	1	20		
2-Hexanone	25.00	20.11	80	57-121	6	25		
1,3-Dichloropropane	25.00	22.88	92	75-120	2	20		
Tetrachloroethene	25.00	32.14	b	129 *	77-120	6	20	L1 V3
Dibromochloromethane	25.00	27.14	109	76-120	5	20		
1,2-Dibromoethane	25.00	26.66	107	77-120	2	20		
Chlorobenzene	25.00	28.63	115	78-120	2	20		
1,1,1,2-Tetrachloroethane	25.00	27.64	111	77-120	0	20		
Ethylbenzene	25.00	27.55	110	78-120	0	26		
m,p-Xylenes	50.00	57.95	116	77-120	4	20		
o-Xylene	25.00	29.30	117	77-120	5	20		
Styrene	25.00	28.38	114	77-120	4	20		
Bromoform	25.00	29.94	120	74-121	6	21		
Isopropylbenzene	25.00	24.36	97	71-120	3	20		
1,1,2,2-Tetrachloroethane	25.00	23.55	94	73-120	1	20		
1,2,3-Trichloropropane	25.00	22.66	91	72-120	2	20		
Propylbenzene	25.00	26.24	105	76-120	2	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164347
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	27.95	112	75-120	1	20		
1,3,5-Trimethylbenzene	25.00	27.21	109	77-120	2	20		
2-Chlorotoluene	25.00	25.35	101	76-120	2	20		
4-Chlorotoluene	25.00	25.24	101	78-120	3	20		
tert-Butylbenzene	25.00	28.57	114	76-120	0	21		
1,2,4-Trimethylbenzene	25.00	26.70	107	77-120	0	20		
sec-Butylbenzene	25.00	28.78	115	80-120	4	21		
para-Isopropyl Toluene	25.00	27.72	111	76-120	3	20		
1,3-Dichlorobenzene	25.00	28.34	113	75-120	7	20		
1,4-Dichlorobenzene	25.00	26.60	106	77-120	0	23		
n-Butylbenzene	25.00	28.30	113	76-120	6	21		
1,2-Dichlorobenzene	25.00	27.83	111	76-120	2	20		
1,2-Dibromo-3-Chloropropane	25.00	19.35	b 77	65-120	4	22	V9	
1,2,4-Trichlorobenzene	25.00	29.36	117	73-121	1	20		
Hexachlorobutadiene	25.00	30.68	123	73-123	9	25		
Naphthalene	25.00	28.92	116	62-121	1	32		
1,2,3-Trichlorobenzene	25.00	30.68	123	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	90	77-120		
1,2-Dichloroethane-d4	89	70-127		
Toluene-d8	97	83-125		
Bromofluorobenzene	92	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549882	Batch#:	164347
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V9
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	V9
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	V9
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	L1 V1

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549882	Batch#:	164347
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	V9
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	90	77-120	
1,2-Dichloroethane-d4	97	70-127	
Toluene-d8	94	83-125	
Bromofluorobenzene	90	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549900	Batch#:	164352
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	L1
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	L1
1,1-Dichloropropene	ND	0.5	L1
Carbon Tetrachloride	ND	0.5	L1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549900	Batch#:	164352
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	2.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	L1
1,2,3-Trichloropropane	ND	2.0	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	L1
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	L1
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	L1
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	R7
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	103	77-120	
1,2-Dichloroethane-d4	103	70-127	
Toluene-d8	111	83-125	
Bromofluorobenzene	108	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164352
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549901

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	27.85	111	56-140		
Chloromethane	25.00	28.14	113	46-142		
Vinyl Chloride	25.00	26.39	106	49-136		
Bromomethane	25.00	21.87	87	42-154		
Chloroethane	25.00	29.44	118	51-133		
Trichlorofluoromethane	25.00	29.81	119	63-135		
Iodomethane	25.00	24.77	99	70-130		
Acetone	25.00	21.61	86	48-130		
1,1-Dichloroethene	25.00	24.71	99	68-133		
Methylene Chloride	25.00	23.41	94	71-120		
Carbon Disulfide	25.00	20.83	83	56-120		
MTBE	25.00	21.54	86	58-120		
trans-1,2-Dichloroethene	25.00	23.12	92	80-120		
Vinyl Acetate	25.00	49.71	b 199 *	63-124	L1	V3
1,1-Dichloroethane	25.00	26.48	106	77-120		
2-Butanone	25.00	22.52	90	57-120		
cis-1,2-Dichloroethene	25.00	25.11	100	75-120		
2,2-Dichloropropane	25.00	32.81	b 131 *	72-128	L1	V3
Chloroform	25.00	27.12	108	78-120		
Bromochloromethane	25.00	23.58	94	78-120		
1,1,1-Trichloroethane	25.00	28.89	116	78-120		
1,1-Dichloropropene	25.00	27.63	111	75-120		
Carbon Tetrachloride	25.00	29.37	117	80-120		
1,2-Dichloroethane	25.00	24.23	97	74-120		
Benzene	25.00	25.99	104	77-120		
Trichloroethene	25.00	23.30	93	78-122		
1,2-Dichloropropane	25.00	23.54	94	76-120		
Bromodichloromethane	25.00	24.20	97	78-120		
Dibromomethane	25.00	23.37	93	77-120		
4-Methyl-2-Pentanone	25.00	20.88	84	65-120		
cis-1,3-Dichloropropene	25.00	24.39	98	76-120		
Toluene	25.00	25.49	102	73-120		
trans-1,3-Dichloropropene	25.00	22.06	88	72-120		
1,1,2-Trichloroethane	25.00	23.86	95	76-120		
2-Hexanone	25.00	21.42	86	57-121		
1,3-Dichloropropane	25.00	22.60	90	75-120		
Tetrachloroethene	25.00	24.80	99	77-120		
Dibromochloromethane	25.00	22.44	90	76-120		
1,2-Dibromoethane	25.00	22.57	90	77-120		
Chlorobenzene	25.00	24.56	98	78-120		
1,1,1,2-Tetrachloroethane	25.00	25.32	101	77-120		
Ethylbenzene	25.00	25.56	102	78-120		
m,p-Xylenes	50.00	50.84	102	77-120		
o-Xylene	25.00	24.95	100	77-120		
Styrene	25.00	25.31	101	77-120		
Bromoform	25.00	21.79	87	74-121		
Isopropylbenzene	25.00	23.41	94	71-120		
1,1,2,2-Tetrachloroethane	25.00	27.62	110	73-120		
1,2,3-Trichloropropane	25.00	22.61	90	72-120		
Propylbenzene	25.00	26.99	108	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164352
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	23.67	95	75-120	
1,3,5-Trimethylbenzene	25.00	27.41	110	77-120	
2-Chlorotoluene	25.00	27.77	111	76-120	
4-Chlorotoluene	25.00	25.32	101	78-120	
tert-Butylbenzene	25.00	27.20	109	76-120	
1,2,4-Trimethylbenzene	25.00	26.17	105	77-120	
sec-Butylbenzene	25.00	29.46	118	80-120	
para-Isopropyl Toluene	25.00	27.39	110	76-120	
1,3-Dichlorobenzene	25.00	26.91	108	75-120	
1,4-Dichlorobenzene	25.00	25.88	104	77-120	
n-Butylbenzene	25.00	30.03	120	76-120	
1,2-Dichlorobenzene	25.00	26.04	104	76-120	
1,2-Dibromo-3-Chloropropane	25.00	21.35	85	65-120	
1,2,4-Trichlorobenzene	25.00	23.00	92	73-121	
Hexachlorobutadiene	25.00	27.08	108	73-123	
Naphthalene	25.00	20.70	83	62-121	
1,2,3-Trichlorobenzene	25.00	20.43	82	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	103	77-120	
1,2-Dichloroethane-d4	98	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	97	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164352
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549902

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	32.17	129	56-140	14	24		
Chloromethane	25.00	33.38	134	46-142	17	24		
Vinyl Chloride	25.00	31.15	125	49-136	17	24		
Bromomethane	25.00	27.45	110	42-154	23	24		
Chloroethane	25.00	32.50	130	51-133	10	25		
Trichlorofluoromethane	25.00	33.29	133	63-135	11	20		
Iodomethane	25.00	28.30	113	70-130	13	20		
Acetone	25.00	29.14	117	48-130	30	41		
1,1-Dichloroethene	25.00	25.35	101	68-133	3	20		
Methylene Chloride	25.00	25.56	102	71-120	9	20		
Carbon Disulfide	25.00	23.22	93	56-120	11	20		
MTBE	25.00	25.32	101	58-120	16	21		
trans-1,2-Dichloroethene	25.00	29.46	118	80-120	24	24		
Vinyl Acetate	25.00	56.86	b	227 *	63-124	13	24	L1 V3
1,1-Dichloroethane	25.00	29.75	119	77-120	12	20		
2-Butanone	25.00	27.32	109	57-120	19	32		
cis-1,2-Dichloroethene	25.00	29.49	118	75-120	16	20		
2,2-Dichloropropane	25.00	36.66	b	147 *	72-128	11	24	L1 V3
Chloroform	25.00	31.61	126	78-120	15	20	L1	
Bromochloromethane	25.00	27.41	110	78-120	15	20		
1,1,1-Trichloroethane	25.00	33.27	133	78-120	14	20	L1	
1,1-Dichloropropene	25.00	30.15	121	75-120	9	21	L1	
Carbon Tetrachloride	25.00	31.19	125	80-120	6	21	L1	
1,2-Dichloroethane	25.00	27.65	111	74-120	13	20		
Benzene	25.00	29.62	118	77-120	13	20		
Trichloroethene	25.00	26.34	105	78-122	12	20		
1,2-Dichloropropane	25.00	26.50	106	76-120	12	20		
Bromodichloromethane	25.00	28.41	114	78-120	16	20		
Dibromomethane	25.00	26.24	105	77-120	12	20		
4-Methyl-2-Pentanone	25.00	25.35	101	65-120	19	22		
cis-1,3-Dichloropropene	25.00	27.48	110	76-120	12	20		
Toluene	25.00	29.23	117	73-120	14	20		
trans-1,3-Dichloropropene	25.00	25.95	104	72-120	16	20		
1,1,2-Trichloroethane	25.00	27.43	110	76-120	14	20		
2-Hexanone	25.00	26.45	106	57-121	21	25		
1,3-Dichloropropane	25.00	27.03	108	75-120	18	20		
Tetrachloroethene	25.00	28.58	114	77-120	14	20		
Dibromochloromethane	25.00	26.15	105	76-120	15	20		
1,2-Dibromoethane	25.00	27.17	109	77-120	18	20		
Chlorobenzene	25.00	28.46	114	78-120	15	20		
1,1,1,2-Tetrachloroethane	25.00	28.43	114	77-120	12	20		
Ethylbenzene	25.00	29.55	118	78-120	14	26		
m,p-Xylenes	50.00	59.35	119	77-120	15	20		
o-Xylene	25.00	29.19	117	77-120	16	20		
Styrene	25.00	29.32	117	77-120	15	20		
Bromoform	25.00	24.95	100	74-121	14	21		
Isopropylbenzene	25.00	26.19	105	71-120	11	20		
1,1,2,2-Tetrachloroethane	25.00	31.46	126	73-120	13	20	L1	
1,2,3-Trichloropropane	25.00	26.54	106	72-120	16	20		
Propylbenzene	25.00	29.98	120	76-120	10	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164352
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	26.79	107	75-120	12	20		
1,3,5-Trimethylbenzene	25.00	29.99	120	77-120	9	20		
2-Chlorotoluene	25.00	29.73	119	76-120	7	20		
4-Chlorotoluene	25.00	28.58	114	78-120	12	20		
tert-Butylbenzene	25.00	30.26	121 *	76-120	11	21	L1	
1,2,4-Trimethylbenzene	25.00	29.59	118	77-120	12	20		
sec-Butylbenzene	25.00	31.22	125 *	80-120	6	21	L1	
para-Isopropyl Toluene	25.00	30.07	120	76-120	9	20		
1,3-Dichlorobenzene	25.00	29.09	116	75-120	8	20		
1,4-Dichlorobenzene	25.00	28.99	116	77-120	11	23		
n-Butylbenzene	25.00	33.15	133 *	76-120	10	21	L1	
1,2-Dichlorobenzene	25.00	29.01	116	76-120	11	20		
1,2-Dibromo-3-Chloropropane	25.00	23.59	94	65-120	10	22		
1,2,4-Trichlorobenzene	25.00	27.67	111	73-121	18	20		
Hexachlorobutadiene	25.00	31.39	126 *	73-123	15	25	L1	
Naphthalene	25.00	27.95	112	62-121	30	32		
1,2,3-Trichlorobenzene	25.00	27.66	111	66-123	30 *	29	R7	

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	109	77-120		
1,2-Dichloroethane-d4	103	70-127		
Toluene-d8	100	83-125		
Bromofluorobenzene	98	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164347
MSS Lab ID:	220723-002	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549929

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1733	18.75	21.16	113	56-140		
Chloromethane	<0.2133	18.75	18.03	96	46-142		
Vinyl Chloride	<0.1202	18.75	18.32	98	49-136		
Bromomethane	<0.1692	18.75	22.83	122	42-154		
Chloroethane	<0.1670	18.75	20.89	111	51-133		
Trichlorofluoromethane	<0.1840	18.75	21.42	114	63-135		
Iodomethane	<0.1570	18.75	19.46	b 104	60-140	V3	
Acetone	2.972	18.75	17.25	76	48-130		
1,1-Dichloroethene	<0.1000	18.75	15.79	84	68-133		
Methylene Chloride	<0.1458	18.75	17.99	96	71-120		
Carbon Disulfide	<0.1000	18.75	13.68	b 73	56-120	V9	
MTBE	<0.1000	18.75	16.66	89	58-120		
trans-1,2-Dichloroethene	<0.1000	18.75	17.80	95	80-120		
Vinyl Acetate	<0.5118	18.75	15.08	b 80	63-124	V9	
1,1-Dichloroethane	<0.1000	18.75	16.89	90	77-120		
2-Butanone	<0.2956	18.75	15.47	b 81	57-120	V9	
cis-1,2-Dichloroethene	<0.1000	18.75	18.60	99	75-120		
2,2-Dichloropropane	<0.1000	18.75	18.73	100	72-128		
Chloroform	<0.1000	18.75	18.25	97	78-120		
Bromochloromethane	<0.1508	18.75	19.19	102	78-120		
1,1,1-Trichloroethane	<0.1000	18.75	18.39	98	78-120		
1,1-Dichloropropene	<0.1000	18.75	17.56	94	75-120		
Carbon Tetrachloride	<0.1000	18.75	19.11	102	80-120		
1,2-Dichloroethane	<0.1000	18.75	17.22	92	74-120		
Benzene	<0.1000	18.75	18.56	99	77-120		
Trichloroethene	<0.1000	18.75	19.43	104	78-122		
1,2-Dichloropropane	<0.1501	18.75	16.58	88	76-120		
Bromodichloromethane	<0.1000	18.75	18.64	99	78-120		
Dibromomethane	<0.1000	18.75	19.98	107	77-120		
4-Methyl-2-Pentanone	<0.1884	18.75	15.10	b 81	65-120	V9	
cis-1,3-Dichloropropene	<0.1000	18.75	18.16	97	76-120		
Toluene	<0.1000	18.75	19.25	103	73-120		
trans-1,3-Dichloropropene	<0.1000	18.75	21.42	114	72-120		
1,1,2-Trichloroethane	<0.1596	18.75	20.42	109	76-120		
2-Hexanone	<0.1592	18.75	15.55	83	57-121		
1,3-Dichloropropane	<0.1000	18.75	17.64	94	75-120		
Tetrachloroethene	<0.1000	18.75	21.89	b 117	77-120	V3	
Dibromochloromethane	<0.1000	18.75	20.86	111	76-120		
1,2-Dibromoethane	<0.1000	18.75	20.12	107	77-120		
Chlorobenzene	<0.1136	18.75	20.97	112	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	18.75	20.40	109	77-120		
Ethylbenzene	<0.1561	18.75	21.27	113	78-120		
m,p-Xylenes	<0.1000	37.50	42.09	112	77-120		
o-Xylene	<0.09974	18.75	21.88	117	77-120		
Styrene	<0.1000	18.75	21.24	113	77-120		
Bromoform	<0.1000	18.75	22.57	120	74-121		
Isopropylbenzene	<0.1000	18.75	16.90	90	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	18.75	19.15	102	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164347
MSS Lab ID:	220723-002	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
1,2,3-Trichloropropane	<0.1388	18.75	18.38	98	72-120		
Propylbenzene	<0.1074	18.75	19.37	103	76-120		
Bromobenzene	<0.1000	18.75	20.66	110	75-120		
1,3,5-Trimethylbenzene	<0.1017	18.75	19.80	106	77-120		
2-Chlorotoluene	<0.1027	18.75	19.25	103	76-120		
4-Chlorotoluene	<0.1554	18.75	19.29	103	78-120		
tert-Butylbenzene	<0.1000	18.75	21.64	115	76-120		
1,2,4-Trimethylbenzene	<0.1598	18.75	20.40	109	77-120		
sec-Butylbenzene	<0.1102	18.75	21.62	115	80-120		
para-Isopropyl Toluene	<0.1014	18.75	20.45	109	76-120		
1,3-Dichlorobenzene	<0.1000	18.75	20.71	110	75-120		
1,4-Dichlorobenzene	<0.1000	18.75	19.73	105	77-120		
n-Butylbenzene	<0.1011	18.75	20.17	108	76-120		
1,2-Dichlorobenzene	<0.1000	18.75	21.13	113	76-120		
1,2-Dibromo-3-Chloropropane	<0.1880	18.75	16.28	b 87	65-120	V9	
1,2,4-Trichlorobenzene	<0.1138	18.75	21.49	115	73-121		
Hexachlorobutadiene	<0.1492	18.75	21.31	114	73-123		
Naphthalene	<0.1000	18.75	22.60	121	62-121		
1,2,3-Trichlorobenzene	<0.1000	18.75	23.35	125 *	66-123	M1	

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	95	77-120		
1,2-Dichloroethane-d4	98	70-127		
Toluene-d8	98	83-125		
Bromofluorobenzene	94	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164347
MSS Lab ID:	220723-002	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549930

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	18.75	21.10	113	56-140	0	24		
Chloromethane	18.75	18.35	98	46-142	2	24		
Vinyl Chloride	18.75	18.48	99	49-136	1	24		
Bromomethane	18.75	23.13	123	42-154	1	24		
Chloroethane	18.75	20.65	110	51-133	1	25		
Trichlorofluoromethane	18.75	21.53	115	63-135	1	20		
Iodomethane	18.75	21.49	b 115	60-140	10	30	V3	
Acetone	18.75	15.61	67	48-130	10	41		
1,1-Dichloroethene	18.75	16.56	88	68-133	5	20		
Methylene Chloride	18.75	18.36	98	71-120	2	20		
Carbon Disulfide	18.75	13.88	b 74	56-120	1	20	V9	
MTBE	18.75	16.54	88	58-120	1	21		
trans-1,2-Dichloroethene	18.75	18.41	98	80-120	3	24		
Vinyl Acetate	18.75	14.61	b 78	63-124	3	24	V9	
1,1-Dichloroethane	18.75	17.20	92	77-120	2	20		
2-Butanone	18.75	14.99	b 78	57-120	3	32	V9	
cis-1,2-Dichloroethene	18.75	18.94	101	75-120	2	20		
2,2-Dichloropropane	18.75	18.68	100	72-128	0	24		
Chloroform	18.75	18.34	98	78-120	1	20		
Bromochloromethane	18.75	18.81	100	78-120	2	20		
1,1,1-Trichloroethane	18.75	18.27	97	78-120	1	20		
1,1-Dichloropropene	18.75	17.76	95	75-120	1	21		
Carbon Tetrachloride	18.75	19.12	102	80-120	0	21		
1,2-Dichloroethane	18.75	17.22	92	74-120	0	20		
Benzene	18.75	18.53	99	77-120	0	20		
Trichloroethene	18.75	19.94	106	78-122	3	20		
1,2-Dichloropropane	18.75	17.23	92	76-120	4	20		
Bromodichloromethane	18.75	19.31	103	78-120	4	20		
Dibromomethane	18.75	19.51	104	77-120	2	20		
4-Methyl-2-Pentanone	18.75	15.89	b 85	65-120	5	22	V9	
cis-1,3-Dichloropropene	18.75	17.81	95	76-120	2	20		
Toluene	18.75	19.35	103	73-120	1	20		
trans-1,3-Dichloropropene	18.75	20.82	111	72-120	3	20		
1,1,2-Trichloroethane	18.75	19.90	106	76-120	3	20		
2-Hexanone	18.75	16.23	87	57-121	4	25		
1,3-Dichloropropane	18.75	18.13	97	75-120	3	20		
Tetrachloroethene	18.75	22.18	b 118	77-120	1	20	V3	
Dibromochloromethane	18.75	20.00	107	76-120	4	20		
1,2-Dibromoethane	18.75	19.77	105	77-120	2	20		
Chlorobenzene	18.75	20.87	111	78-120	0	20		
1,1,1,2-Tetrachloroethane	18.75	21.08	112	77-120	3	20		
Ethylbenzene	18.75	21.18	113	78-120	0	26		
m,p-Xylenes	37.50	42.10	112	77-120	0	20		
o-Xylene	18.75	21.73	116	77-120	1	20		
Styrene	18.75	21.20	113	77-120	0	20		
Bromoform	18.75	22.20	118	74-121	2	21		
Isopropylbenzene	18.75	18.05	96	71-120	7	20		
1,1,2,2-Tetrachloroethane	18.75	18.52	99	73-120	3	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164347
MSS Lab ID:	220723-002	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	18.75	16.55	88	72-120	10	20		
Propylbenzene	18.75	19.68	105	76-120	2	20		
Bromobenzene	18.75	20.42	109	75-120	1	20		
1,3,5-Trimethylbenzene	18.75	19.84	106	77-120	0	20		
2-Chlorotoluene	18.75	19.20	102	76-120	0	20		
4-Chlorotoluene	18.75	18.30	98	78-120	5	20		
tert-Butylbenzene	18.75	20.43	109	76-120	6	21		
1,2,4-Trimethylbenzene	18.75	20.09	107	77-120	2	20		
sec-Butylbenzene	18.75	21.04	112	80-120	3	21		
para-Isopropyl Toluene	18.75	19.14	102	76-120	7	20		
1,3-Dichlorobenzene	18.75	21.04	112	75-120	2	20		
1,4-Dichlorobenzene	18.75	20.10	107	77-120	2	23		
n-Butylbenzene	18.75	20.16	108	76-120	0	21		
1,2-Dichlorobenzene	18.75	21.29	114	76-120	1	20		
1,2-Dibromo-3-Chloropropane	18.75	16.06 b	86	65-120	1	22	V9	
1,2,4-Trichlorobenzene	18.75	20.99	112	73-121	2	20		
Hexachlorobutadiene	18.75	21.20	113	73-123	0	25		
Naphthalene	18.75	21.66	115	62-121	4	32		
1,2,3-Trichlorobenzene	18.75	22.29	119	66-123	5	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	94	77-120		
1,2-Dichloroethane-d4	96	70-127		
Toluene-d8	96	83-125		
Bromofluorobenzene	91	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549961	Batch#:	164347
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V9
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	V9
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	L1

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549961	Batch#:	164347
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	V1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	93	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	92	83-125	
Bromofluorobenzene	90	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549980	Batch#:	164352
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	V9
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	L1
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	L1
1,1-Dichloropropene	ND	0.5	L1
Carbon Tetrachloride	ND	0.5	L1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220680	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549980	Batch#:	164352
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	2.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	L1
1,2,3-Trichloropropane	ND	2.0	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	L1
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	L1
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	L1
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	R7
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	104	77-120	
1,2-Dichloroethane-d4	104	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	111	78-120	

ND= Not Detected

RL= Reporting Limit

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 470241127003 File : hfg03 Time : 16-JUN-2010 17:38

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	7479	26.23	
75	30% - 60% of mass 95	13260	46.51	
95		28509	100.00	
96	5% - 9% of mass 95	1693	5.94	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	16895	59.26	
175	5% - 9% of mass 174	1183	7.00	
176	> 95% and < 101% of mass 174	16161	95.66	
177	5% - 9% of mass 176	1087	6.73	

Analyst: BJP Date: 06/22/10 Reviewer: LW Date: 06/22/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 470249763003 File : hfm03 Time : 22-JUN-2010 11:26

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6278	32.82	
75	30% - 60% of mass 95	9868	51.59	
95		19128	100.00	
96	5% - 9% of mass 95	1408	7.36	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	9800	51.23	
175	5% - 9% of mass 174	735	7.50	
176	> 95% and < 101% of mass 174	9593	97.89	
177	5% - 9% of mass 176	833	8.68	

MCT: 06/22/10 * BJP: 06/24/10 LW: 06/24/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 470252482002 File : hfo02 Time : 24-JUN-2010 09:46

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	9749	30.21	
75	30% - 60% of mass 95	15605	48.35	
95		32272	100.00	
96	5% - 9% of mass 95	2020	6.26	
173	< 2% of mass 174	56	0.33	
174	> 50% and < 100% of mass 95	16955	52.54	
175	5% - 9% of mass 174	1284	7.57	
176	> 95% and < 101% of mass 174	16564	97.69	
177	5% - 9% of mass 176	1131	6.83	

Analyst: MCT Date: 06/24/10 Reviewer: LW Date: 06/25/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 470252482016 File : hfo16 Time : 24-JUN-2010 17:02

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	1574	23.81	
75	30% - 60% of mass 95	2967	44.88	
95		6611	100.00	
96	5% - 9% of mass 95	361	5.46	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	3335	50.45	
175	5% - 9% of mass 174	273	8.19	
176	> 95% and < 101% of mass 174	3263	97.84	
177	5% - 9% of mass 176	232	7.11	

Analyst: MCT Date: 06/25/10 Reviewer: LW Date: 06/25/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480169480002 File : idr02 Time : 27-APR-2010 17:23

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	39810	24.70	
75	30% - 60% of mass 95	78130	48.48	
95		161165	100.00	
96	5% - 9% of mass 95	11071	6.87	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	113690	70.54	
175	5% - 9% of mass 174	8443	7.43	
176	> 95% and < 101% of mass 174	110120	96.86	
177	5% - 9% of mass 176	7181	6.52	

Analyst: TDL Date: 05/03/10 Reviewer: LW Date: 05/03/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480171128002 File : ids02 Time : 28-APR-2010 20:37

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	40256	23.43	
75	30% - 60% of mass 95	80642	46.93	
95		171824	100.00	
96	5% - 9% of mass 95	11623	6.76	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	129637	75.45	
175	5% - 9% of mass 174	10014	7.72	
176	> 95% and < 101% of mass 174	126264	97.40	
177	5% - 9% of mass 176	8455	6.70	

Analyst: BJP Date: 05/03/10 Reviewer: LW Date: 05/03/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480251057005 File : ifn05 Time : 23-JUN-2010 11:04

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	18328	19.60	
75	30% - 60% of mass 95	41906	44.82	
95		93493	100.00	
96	5% - 9% of mass 95	6796	7.27	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	75712	80.98	
175	5% - 9% of mass 174	5750	7.59	
176	> 95% and < 101% of mass 174	72333	95.54	
177	5% - 9% of mass 176	4938	6.83	

Analyst: TDL Date: 06/24/10 Reviewer: LW Date: 06/24/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480252482002 File : ifo02 Time : 24-JUN-2010 08:31

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	24759	18.70	
75	30% - 60% of mass 95	53834	40.65	
95		132426	100.00	
96	5% - 9% of mass 95	8901	6.72	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	113253	85.52	
175	5% - 9% of mass 174	8850	7.81	
176	> 95% and < 101% of mass 174	110690	97.74	
177	5% - 9% of mass 176	7230	6.53	

Analyst: TDL Date: 06/24/10 Reviewer: LW Date: 06/24/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480252482013 File : ifo13 Time : 24-JUN-2010 15:18

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	25197	19.46	
75	30% - 60% of mass 95	55536	42.89	
95		129493	100.00	
96	5% - 9% of mass 95	9044	6.98	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	104544	80.73	
175	5% - 9% of mass 174	7600	7.27	
176	> 95% and < 101% of mass 174	100546	96.18	
177	5% - 9% of mass 176	6906	6.87	

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/25/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : BFB IDF : 1.0
Seqnum : 490027869008 File : jaj08 Time : 19-JAN-2010 15:39

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	37570	17.43	
75	30% - 60% of mass 95	88520	41.07	
95		215530	100.00	
96	5% - 9% of mass 95	14801	6.87	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	166912	77.44	
175	5% - 9% of mass 174	12330	7.39	
176	> 95% and < 101% of mass 174	162773	97.52	
177	5% - 9% of mass 176	10436	6.41	

Analyst: BO Date: 01/20/10 Reviewer: LW Date: 01/22/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : BFB IDF : 1.0
Seqnum : 490251053002 File : jfn02 Time : 23-JUN-2010 08:40

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	47874	21.08	
75	30% - 60% of mass 95	100405	44.21	
95		227093	100.00	
96	5% - 9% of mass 95	14990	6.60	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	170429	75.05	
175	5% - 9% of mass 174	13220	7.76	
176	> 95% and < 101% of mass 174	167232	98.12	
177	5% - 9% of mass 176	10758	6.43	

Analyst: PDM Date: 06/23/10 Reviewer: LW Date: 06/23/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : BFB IDF : 1.0
Seqnum : 490251053013 File : jfn13 Time : 23-JUN-2010 15:22

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	49082	19.89	
75	30% - 60% of mass 95	109165	44.24	
95		246741	100.00	
96	5% - 9% of mass 95	16498	6.69	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	189952	76.98	
175	5% - 9% of mass 174	14995	7.89	
176	> 95% and < 101% of mass 174	186752	98.32	
177	5% - 9% of mass 176	11670	6.25	

Analyst: PDM Date: 06/24/10 Reviewer: LW Date: 06/24/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : BFB IDF : 1.0
Seqnum : 940202186009 File : mek09 Time : 20-MAY-2010 18:56

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6660	21.06	
75	30% - 60% of mass 95	16150	51.07	
95		31624	100.00	
96	5% - 9% of mass 95	2198	6.95	
173	< 2% of mass 174	252	1.13	
174	> 50% and < 100% of mass 95	22357	70.70	
175	5% - 9% of mass 174	1275	5.70	
176	> 95% and < 101% of mass 174	21955	98.20	
177	5% - 9% of mass 176	1400	6.38	

Analyst: BJP Date: 06/14/10 Reviewer: LW Date: 06/14/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : BFB IDF : 1.0
Seqnum : 940203930003 File : mel03 Time : 21-MAY-2010 15:41

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	3864	22.76	
75	30% - 60% of mass 95	9171	54.03	
95		16975	100.00	
96	5% - 9% of mass 95	1193	7.03	
173	< 2% of mass 174	142	1.32	
174	> 50% and < 100% of mass 95	10730	63.21	
175	5% - 9% of mass 174	876	8.16	
176	> 95% and < 101% of mass 174	10692	99.65	
177	5% - 9% of mass 176	721	6.74	

Analyst: BJP Date: 06/14/10 Reviewer: LW Date: 06/14/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : BFB IDF : 1.0
Seqnum : 940248172019 File : mfl19 Time : 21-JUN-2010 17:05

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6225	21.97	
75	30% - 60% of mass 95	16123	56.91	
95		28331	100.00	
96	5% - 9% of mass 95	1791	6.32	
173	< 2% of mass 174	154	0.66	
174	> 50% and < 100% of mass 95	23205	81.91	
175	5% - 9% of mass 174	2083	8.98	
176	> 95% and < 101% of mass 174	22789	98.21	
177	5% - 9% of mass 176	1504	6.60	

Analyst: TDL Date: 06/22/10 Reviewer: LW Date: 06/22/10

CURTIS & TOMPKINS BFB TUNE FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : BFB IDF : 1.0
Seqnum : 940251064011 File : mfn11 Time : 23-JUN-2010 12:49

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	8680	20.34	
75	30% - 60% of mass 95	23653	55.43	
95		42675	100.00	
96	5% - 9% of mass 95	3293	7.72	
173	< 2% of mass 174	294	0.86	
174	> 50% and < 100% of mass 95	34029	79.74	
175	5% - 9% of mass 174	2821	8.29	
176	> 95% and < 101% of mass 174	32357	95.09	
177	5% - 9% of mass 176	1968	6.08	

Analyst: PDM Date: 06/24/10 Reviewer: LW Date: 06/24/10

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 MSVOA Water: EPA 8260B

Inst : MSVOA08
 Calnum : 470241127001
 Units : ug/L

Name : 826GOX8
 Date : 16-JUN-2010 20:57
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	hfg08	470241127008	.25/.5PPB	16-JUN-2010 20:57	S14834 (20000X), S14738 (20000X), S14742 (20000X), S14739 (10000X), S14572 (5000X)
L2	hfg09	470241127009	0.5/1PPB	16-JUN-2010 21:34	S14834 (10000X), S14738 (10000X), S14742 (10000X), S14739 (5000X), S14572 (5000X)
L3	hfg10	470241127010	2PPB	16-JUN-2010 22:11	S14834 (25000X), S14738 (25000X), S14742 (50000X), S14739 (25000X), S14572 (5000X)
L4	hfg11	470241127011	5PPB	16-JUN-2010 22:49	S14834 (10000X), S14738 (10000X), S14742 (20000X), S14739 (10000X), S14572 (5000X)
L5	hfg12	470241127012	10PPB	16-JUN-2010 23:26	S14834 (5000X), S14738 (5000X), S14742 (10000X), S14739 (5000X), S14572 (5000X)
L6	hfg13	470241127013	20PPB	17-JUN-2010 00:03	S14722 (25000X), S14747 (25000X), S14228 (50000X), S14230 (25000X), S14572 (5000X)
L7	hfg14	470241127014	50PPB	17-JUN-2010 00:40	S14722 (10000X), S14747 (10000X), S14228 (20000X), S14230 (10000X), S14572 (5000X)
L8	hfg15	470241127015	75PPB	17-JUN-2010 01:18	S14722 (6667X), S14747 (6667X), S14228 (13330X), S14230 (6667X), S14572 (5000X)
L9	hfg16	470241127016	100PPB	17-JUN-2010 01:55	S14722 (5000X), S14747 (5000X), S14228 (10000X), S14230 (5000X), S14572 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.7902	0.8465	0.9431	0.9960	1.0436	1.2796			QUAD	0.22121	1.02751	-0.00390	0.9832	1.000	15	0.05	0.99	
Chloromethane		1.4024	1.6485	1.4210	1.4711	1.4955	1.5463	1.4564	1.4343	AVRG		0.67366		1.4844	5	15	0.10	0.99	
Vinyl Chloride	1.0624	0.9914	1.0700	1.1277	1.1155	1.1624	1.2181	1.1981	1.2019	AVRG		0.88690		1.1275	7	15	0.05	0.99	
Bromomethane		0.7702	0.7727	0.7027	0.6239	0.6428	0.6496	0.6319	0.6343	AVRG		1.47382		0.6785	9	15	0.05	0.99	
Chloroethane		0.5847	0.5314	0.5741	0.5566	0.5949	0.6187	0.5723	0.6057	AVRG		1.72472		0.5798	5	15	0.05	0.99	
Trichlorofluoromethane		0.9326	0.9582	1.0016	1.1115	0.9715	1.1015	1.0345	1.1023	AVRG		0.97399		1.0267	7	15	0.05	0.99	
Acetone				0.2165m	0.2273m	0.1746m	0.1675	0.1744		LINR	-1.6635	5.94683		0.1921	0.997	15	0.05	0.99	
1,1-Dichloroethene		0.8054	0.5790	0.6020	0.6073	0.5328	0.5636	0.5485	0.5382	AVRG		1.67471		0.5971	15	15	0.05	0.99	
Iodomethane				0.3445	0.4009	0.7163	0.8476	0.8393	0.8039	LINR	3.25009	1.16873		0.6588	0.997	15	0.05	0.99	
Methylene Chloride		0.8812	0.8443	0.6607	0.6492	0.6240	0.6364	0.6268	0.6136	AVRG		1.44504		0.6920	15	15	0.05	0.99	
Carbon Disulfide		3.4536	3.1823	3.1727	3.1805	2.8378	3.1369	3.0737	3.0447	AVRG		0.31895		3.1353	5	15	0.05	0.99	
MTBE		1.0664	1.1315	1.0932	1.0511	1.0475	1.1455	1.0758	1.0850	AVRG		0.91995		1.0870	3	15	0.05	0.99	
trans-1,2-Dichloroethene		0.9671	0.8550	0.7608	0.7133	0.7283	0.7498	0.6993	0.7399	AVRG		1.28751		0.7767	12	15	0.05	0.99	
Vinyl Acetate				0.6377	0.6366	0.6523	0.6270	0.5334	0.5616	AVRG		1.64450		0.6081	8	15	0.05	0.99	
1,1-Dichloroethane		1.6047	1.5333	1.5794	1.5826	1.5837	1.6739	1.5393	1.5821	AVRG		0.63096		1.5849	3	15	0.10	0.99	
2-Butanone			0.3051	0.2767	0.3018	0.2668	0.2739	0.2577	0.2540	AVRG		3.61574		0.2766	7	15	0.05	0.99	
2,2-Dichloropropane		1.0812	0.8479	0.9713	0.9444	0.8935	0.9413	0.8964	0.9110	AVRG		1.06852		0.9359	7	15	0.05	0.99	
cis-1,2-Dichloroethene		0.8704	0.7097	0.6509	0.7007	0.6846	0.7124	0.6861	0.7068	AVRG		1.39820		0.7152	9	15	0.05	0.99	
Chloroform		1.1542	1.0708	1.1284	1.1575	1.1218	1.1879	1.0977	1.1516	AVRG		0.88203		1.1337	3	15	0.05	0.99	
Bromochloromethane		0.1733	0.2089	0.2074	0.2206	0.2112	0.2219	0.2169	0.2264	AVRG		4.74309		0.2108	8	15	0.05	0.99	
1,1,1-Trichloroethane		0.8812	0.9239	0.9136	0.9322	0.9004	0.9528	0.8892	0.9424	AVRG		1.09057		0.9170	3	15	0.05	0.99	
1,1-Dichloropropene		0.6652	0.6204	0.6821	0.6505	0.6247	0.6153	0.6179	0.6644	AVRG		1.55624		0.6426	4	15	0.05	0.99	
Carbon Tetrachloride		0.4067	0.3487	0.3963	0.4098	0.3909	0.3895	0.3996	0.4373	AVRG		2.51667		0.3974	6	15	0.05	0.99	
1,2-Dichloroethane		0.3302	0.3771	0.4040	0.3768	0.3922	0.4018	0.3949	0.4116	AVRG		2.59013		0.3861	7	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.5731	1.5242	1.6265	1.4707	1.5365	1.5379	1.5764	1.5929	AVRG		0.64317		1.5548	3	15	0.05	0.99	
Trichloroethene		0.3987	0.4042	0.4686	0.4566	0.4708	0.4686	0.4649	0.4727	AVRG		2.21913		0.4506	7	15	0.05	0.99	
1,2-Dichloropropane		0.4170m	0.4104	0.4817m	0.4433	0.4284m	0.4403	0.4322m	0.4502	AVRG		2.28335		0.4380	5	15	0.05	0.99	
Bromodichloromethane		0.3962	0.3762	0.4031	0.3808	0.4103	0.4110	0.4163	0.4311	AVRG		2.48058		0.4031	5	15	0.05	0.99	
Dibromomethane		0.1660m	0.1562	0.1657	0.1550	0.1613	0.1666	0.1653	0.1718	AVRG		6.11683		0.1635	3	15	0.05	0.99	
4-Methyl-2-Pentanone			0.3644	0.3291	0.2937	0.3064	0.3129	0.3116	0.3133	AVRG		3.13698		0.3188	7	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5108	0.4688	0.4458	0.4596	0.4813	0.4993	0.4887	0.5055	AVRG		2.07275		0.4825	5	15	0.05	0.99	
Toluene		1.2437	1.1807	1.2232	1.3140	1.2316	1.3287	1.2463	1.2328	AVRG		0.79993		1.2501	4	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4878	0.5084	0.5120	0.5479	0.5012	0.5879	0.5558	0.5458	AVRG		1.88374		0.5309	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.1661	0.1577	0.1910	0.1502	0.1668	0.1780	0.1659	0.1639	AVRG		5.97198		0.1674	7	15	0.05	0.99	
2-Hexanone			0.3448	0.2946	0.3052	0.3002	0.3051	0.3014	0.2885	AVRG		3.27126		0.3057	6	15	0.05	0.99	
1,3-Dichloropropane		0.5389	0.5308	0.5189	0.5232	0.5470	0.5411	0.5403	0.5102	AVRG		1.88219		0.5313	2	15	0.05	0.99	
Tetrachloroethene		0.4257	0.4586	0.4494	0.4484	0.4337	0.4486	0.4438	0.4372	AVRG		2.25641		0.4432	2	15	0.05	0.99	
Dibromochloromethane		0.2845	0.2303	0.2616	0.2823	0.2550	0.3052	0.2978	0.2932	AVRG		3.62015		0.2762	9	15	0.05	0.99	
1,2-Dibromoethane		0.2244	0.2667	0.2653	0.2718	0.2762	0.2979	0.2883	0.2839	AVRG		3.67906		0.2718	8	15	0.05	0.99	
Chlorobenzene		1.2925	1.0436	1.0789	1.1556	1.1549	1.1760	1.1582	1.1363	AVRG		0.86994		1.1495	6	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.2360	0.2689	0.2749	0.3047	0.2955	0.3351	0.3155	0.3286	AVRG		3.39097		0.2949	11	15	0.05	0.99	
Ethylbenzene		2.7390	2.4842	2.2945	2.5357	2.4573	2.5951	2.2830	2.3274	AVRG		0.40576		2.4645	6	15	0.05	0.99	
m,p-Xylenes	0.8218	0.8826	0.8297	0.7735	0.8510	0.8652	0.9120	0.8753	0.8611	AVRG		1.17307		0.8525	5	15	0.05	0.99	
o-Xylene		0.7009	0.7457	0.6688	0.7646	0.7641	0.8485	0.8169	0.7970	AVRG		1.31006		0.7633	8	15	0.05	0.99	
Styrene		1.0411	1.0101	1.0398	1.1568	1.1521	1.3295	1.2887	1.1817	AVRG		0.86958		1.1500	10	15	0.05	0.99	
Bromoform			0.0984	0.1229	0.1404	0.1277	0.1522	0.1499	0.1466	AVRG		7.46208		0.1340	14	15	0.10	0.99	
Isopropylbenzene		6.2485	5.8340	5.6210	6.3699	5.9274	5.8574	5.4793	5.9576	AVRG		0.16915		5.9119	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.7458	0.8598	0.8059	0.8111	0.8383	0.8500	0.8023	0.8711	AVRG		1.21503		0.8230	5	15	0.30	0.99	
1,2,3-Trichloropropane			0.1931	0.1626	0.2072	0.2035	0.2101	0.2054	0.2033	AVRG		5.05305		0.1979	8	15	0.05	0.99	
Propylbenzene		8.8142	8.3883	8.3033	9.0032	7.9804	8.2076	7.2338	7.4936	AVRG		0.12228		8.1781	7	15	0.05	0.99	
Bromobenzene		0.9901	0.8881	0.8554	0.9547	0.9091	0.9881	0.9052	1.0030	AVRG		1.06756		0.9367	6	15	0.05	0.99	
1,3,5-Trimethylbenzene		4.8495	4.6903	4.6850	4.9429	4.8650	4.7217	4.2442	4.5766	AVRG		0.21291		4.6969	5	15	0.05	0.99	
2-Chlorotoluene		5.0607	4.9414	4.9196	4.8964	4.6964	4.7923	4.2929	4.5816	AVRG		0.20953		4.7727	5	15	0.05	0.99	
4-Chlorotoluene		4.7147	4.2313	4.0146	4.6912	4.3406	4.5059	3.8911	4.2378	AVRG		0.23103		4.3284	7	15	0.05	0.99	
tert-Butylbenzene		3.5536	3.8643	3.8946	3.9722	3.8701	3.9444	3.5201	3.8643	AVRG		0.26244		3.8104	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		4.6356	4.1144	4.3060	4.5639	4.5249	4.7238	4.1215	4.5478	AVRG		0.22511		4.4422	5	15	0.05	0.99	
sec-Butylbenzene		6.6532	6.9216	6.7036	7.3872	6.8798	6.8784	6.0575	6.4650	AVRG		0.14830		6.7433	6	15	0.05	0.99	
para-Isopropyl Toluene		5.1624	4.9322	4.5746	5.2020	4.8963	4.9854	4.4026	4.9124	AVRG		0.20477		4.8835	6	15	0.05	0.99	
1,3-Dichlorobenzene		1.7458	1.9943	1.8089	1.9514	2.0088	2.0999	1.8642	2.0686	AVRG		0.51474		1.9427	6	15	0.05	0.99	
1,4-Dichlorobenzene		1.8213	2.0444	1.8631	1.9531	1.8842	1.9805	1.7967	1.9331	AVRG		0.52368		1.9096	4	15	0.05	0.99	
n-Butylbenzene		5.9364	5.0961	5.5801	5.9838	5.7915	5.4385	5.0551	5.3549	AVRG		0.18085		5.5295	6	15	0.05	0.99	
1,2-Dichlorobenzene		1.5586	1.5619	1.5153	1.6069	1.5511	1.6182	1.5375	1.7028	AVRG		0.63229		1.5815	4	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.1440	0.1163	0.1408	0.1363	0.1498	0.1387	0.1502	AVRG		7.17118		0.1394	8	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.6935	0.8409	0.8420	0.8699	0.8864	0.9594	0.9333	0.9307	AVRG		1.15007		0.8695	10	15	0.05	0.99	
Hexachlorobutadiene		0.3701	0.5748	0.5059	0.5723	0.5456	0.5506	0.5504	0.5640	AVRG		1.88958		0.5292	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r ² %RSD	Max %RSD	Min RF	Min r ²	Flg
Naphthalene		1.3312	1.3250	1.3963	1.5644	1.5464	1.7060	1.7416	1.7613	AVRG		0.64661		1.5465	12	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6765	0.6512	0.6262	0.7774	0.7415	0.7839	0.7356	0.7554	AVRG		1.39184		0.7185	8	15	0.05	0.99	
Dibromofluoromethane	0.5247	0.5053	0.5196	0.5287	0.5101	0.5162	0.5196	0.5209	0.5106	AVRG		1.93310		0.5173	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.2672	0.2645	0.2593	0.2803	0.2510	0.2619	0.2383	0.2577	0.2460	AVRG		3.86876		0.2585	5	15	0.05	0.99	
Toluene-d8	1.7062	1.6916	1.6498	1.6995	1.7128	1.6937	1.7708	1.7481	1.6317	AVRG		0.58807		1.7005	3	15	0.05	0.99	
Bromofluorobenzene	1.3786	1.3418	1.3432	1.3464	1.3790	1.2858	1.3299	1.3205	1.3521	AVRG		0.74520		1.3419	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	3	2.000	-3	5.000	0	10.00	1	20.00	0	50.00	0				
Chloromethane			1.000	-6	2.000	11	5.000	-4	10.00	-1	20.00	1	50.00	4	75.00	-2	100.0	-3
Vinyl Chloride	0.500	-6	1.000	-12	2.000	-5	5.000	0	10.00	-1	20.00	3	50.00	8	75.00	6	100.0	7
Bromomethane			1.000	14	2.000	14	5.000	4	10.00	-8	20.00	-5	50.00	-4	75.00	-7	100.0	-7
Chloroethane			1.000	1	2.000	-8	5.000	-1	10.00	-4	20.00	3	50.00	7	75.00	-1	100.0	4
Trichlorofluoromethane			1.000	-9	2.000	-7	5.000	-2	10.00	8	20.00	-5	50.00	7	75.00	1	100.0	7
Acetone							5.000	-5	10.00	19	20.00	-4	50.00	-4	75.00	1		
1,1-Dichloroethene			0.500	35	2.000	-3	5.000	1	10.00	2	20.00	-11	50.00	-6	75.00	-8	100.0	-10
Iodomethane							5.000	5	10.00	-21	20.00	0	50.00	6	75.00	2	100.0	-3
Methylene Chloride			0.500	27	2.000	22	5.000	-5	10.00	-6	20.00	-10	50.00	-8	75.00	-9	100.0	-11
Carbon Disulfide			0.500	10	2.000	1	5.000	1	10.00	1	20.00	-9	50.00	0	75.00	-2	100.0	-3
MTBE			0.500	-2	2.000	4	5.000	1	10.00	-3	20.00	-4	50.00	5	75.00	-1	100.0	0
trans-1,2-Dichloroethene			0.500	25	2.000	10	5.000	-2	10.00	-8	20.00	-6	50.00	-3	75.00	-10	100.0	-5
Vinyl Acetate							5.000	5	10.00	5	20.00	7	50.00	3	75.00	-12	100.0	-8
1,1-Dichloroethane			0.500	1	2.000	-3	5.000	0	10.00	0	20.00	0	50.00	6	75.00	-3	100.0	0
2-Butanone					2.000	10	5.000	0	10.00	9	20.00	-4	50.00	-1	75.00	-7	100.0	-8
2,2-Dichloropropane			0.500	16	2.000	-9	5.000	4	10.00	1	20.00	-5	50.00	1	75.00	-4	100.0	-3
cis-1,2-Dichloroethene			0.500	22	2.000	-1	5.000	-9	10.00	-2	20.00	-4	50.00	0	75.00	-4	100.0	-1
Chloroform			0.500	2	2.000	-6	5.000	0	10.00	2	20.00	-1	50.00	5	75.00	-3	100.0	2
Bromochloromethane			0.500	-18	2.000	-1	5.000	-2	10.00	5	20.00	0	50.00	5	75.00	3	100.0	7
1,1,1-Trichloroethane			0.500	-4	2.000	1	5.000	0	10.00	2	20.00	-2	50.00	4	75.00	-3	100.0	3
1,1-Dichloropropene			0.500	4	2.000	-3	5.000	6	10.00	1	20.00	-3	50.00	-4	75.00	-4	100.0	3
Carbon Tetrachloride			0.500	2	2.000	-12	5.000	0	10.00	3	20.00	-2	50.00	-2	75.00	1	100.0	10
1,2-Dichloroethane			0.500	-14	2.000	-2	5.000	5	10.00	-2	20.00	2	50.00	4	75.00	2	100.0	7
Benzene			0.500	1	2.000	-2	5.000	5	10.00	-5	20.00	-1	50.00	-1	75.00	1	100.0	2
Trichloroethene			0.500	-12	2.000	-10	5.000	4	10.00	1	20.00	4	50.00	4	75.00	3	100.0	5
1,2-Dichloropropane			0.500	-5	2.000	-6	5.000	10	10.00	1	20.00	-2	50.00	1	75.00	-1	100.0	3
Bromodichloromethane			0.500	-2	2.000	-7	5.000	0	10.00	-6	20.00	2	50.00	2	75.00	3	100.0	7
Dibromomethane			0.500	2	2.000	-4	5.000	1	10.00	-5	20.00	-1	50.00	2	75.00	1	100.0	5
4-Methyl-2-Pentanone					2.000	14	5.000	3	10.00	-8	20.00	-4	50.00	-2	75.00	-2	100.0	-2
cis-1,3-Dichloropropene			0.500	6	2.000	-3	5.000	-8	10.00	-5	20.00	0	50.00	3	75.00	1	100.0	5
Toluene			0.500	-1	2.000	-6	5.000	-2	10.00	5	20.00	-1	50.00	6	75.00	0	100.0	-1
trans-1,3-Dichloropropene			0.500	-8	2.000	-4	5.000	-4	10.00	3	20.00	-6	50.00	11	75.00	5	100.0	3
1,1,2-Trichloroethane			0.500	-1	2.000	-6	5.000	14	10.00	-10	20.00	0	50.00	6	75.00	-1	100.0	-2
2-Hexanone					2.000	13	5.000	-4	10.00	0	20.00	-2	50.00	0	75.00	-1	100.0	-6
1,3-Dichloropropane			0.500	1	2.000	0	5.000	-2	10.00	-2	20.00	3	50.00	2	75.00	2	100.0	-4
Tetrachloroethene			0.500	-4	2.000	3	5.000	1	10.00	1	20.00	-2	50.00	1	75.00	0	100.0	-1
Dibromochloromethane			0.500	3	2.000	-17	5.000	-5	10.00	2	20.00	-8	50.00	10	75.00	8	100.0	6
1,2-Dibromoethane			0.500	-17	2.000	-2	5.000	-2	10.00	0	20.00	2	50.00	10	75.00	6	100.0	4
Chlorobenzene			0.500	12	2.000	-9	5.000	-6	10.00	1	20.00	0	50.00	2	75.00	1	100.0	-1
1,1,1,2-Tetrachloroethane			0.500	-20	2.000	-9	5.000	-7	10.00	3	20.00	0	50.00	14	75.00	7	100.0	11
Ethylbenzene			0.500	11	2.000	1	5.000	-7	10.00	3	20.00	0	50.00	5	75.00	-7	100.0	-6

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	-4	1.000	4	4.000	-3	10.00	-9	20.00	0	40.00	1	100.0	7	150.0	3	200.0	1
o-Xylene			0.500	-8	2.000	-2	5.000	-12	10.00	0	20.00	0	50.00	11	75.00	7	100.0	4
Styrene			0.500	-9	2.000	-12	5.000	-10	10.00	1	20.00	0	50.00	16	75.00	12	100.0	3
Bromoform					2.000	-27	5.000	-8	10.00	5	20.00	-5	50.00	14	75.00	12	100.0	9
Isopropylbenzene			0.500	6	2.000	-1	5.000	-5	10.00	8	20.00	0	50.00	-1	75.00	-7	100.0	1
1,1,2,2-Tetrachloroethane			0.500	-9	2.000	4	5.000	-2	10.00	-1	20.00	2	50.00	3	75.00	-3	100.0	6
1,2,3-Trichloropropane					2.000	-2	5.000	-18	10.00	5	20.00	3	50.00	6	75.00	4	100.0	3
Propylbenzene			0.500	8	2.000	3	5.000	2	10.00	10	20.00	-2	50.00	0	75.00	-12	100.0	-8
Bromobenzene			0.500	6	2.000	-5	5.000	-9	10.00	2	20.00	-3	50.00	5	75.00	-3	100.0	7
1,3,5-Trimethylbenzene			0.500	3	2.000	0	5.000	0	10.00	5	20.00	4	50.00	1	75.00	-10	100.0	-3
2-Chlorotoluene			0.500	6	2.000	4	5.000	3	10.00	3	20.00	-2	50.00	0	75.00	-10	100.0	-4
4-Chlorotoluene			0.500	9	2.000	-2	5.000	-7	10.00	8	20.00	0	50.00	4	75.00	-10	100.0	-2
tert-Butylbenzene			0.500	-7	2.000	1	5.000	2	10.00	4	20.00	2	50.00	4	75.00	-8	100.0	1
1,2,4-Trimethylbenzene			0.500	4	2.000	-7	5.000	-3	10.00	3	20.00	2	50.00	6	75.00	-7	100.0	2
sec-Butylbenzene			0.500	-1	2.000	3	5.000	-1	10.00	10	20.00	2	50.00	2	75.00	-10	100.0	-4
para-Isopropyl Toluene			0.500	6	2.000	1	5.000	-6	10.00	7	20.00	0	50.00	2	75.00	-10	100.0	1
1,3-Dichlorobenzene			0.500	-10	2.000	3	5.000	-7	10.00	0	20.00	3	50.00	8	75.00	-4	100.0	6
1,4-Dichlorobenzene			0.500	-5	2.000	7	5.000	-2	10.00	2	20.00	-1	50.00	4	75.00	-6	100.0	1
n-Butylbenzene			0.500	7	2.000	-8	5.000	1	10.00	8	20.00	5	50.00	-2	75.00	-9	100.0	-3
1,2-Dichlorobenzene			0.500	-1	2.000	-1	5.000	-4	10.00	2	20.00	-2	50.00	2	75.00	-3	100.0	8
1,2-Dibromo-3-Chloropropane					2.000	3	5.000	-17	10.00	1	20.00	-2	50.00	7	75.00	-1	100.0	8
1,2,4-Trichlorobenzene			0.500	-20	2.000	-3	5.000	-3	10.00	0	20.00	2	50.00	10	75.00	7	100.0	7
Hexachlorobutadiene			0.500	-30	2.000	9	5.000	-4	10.00	8	20.00	3	50.00	4	75.00	4	100.0	7
Naphthalene			0.500	-14	2.000	-14	5.000	-10	10.00	1	20.00	0	50.00	10	75.00	13	100.0	14
1,2,3-Trichlorobenzene			0.500	-6	2.000	-9	5.000	-13	10.00	8	20.00	3	50.00	9	75.00	2	100.0	5
Dibromofluoromethane	50.00	1	50.00	-2	50.00	0	50.00	2	50.00	-1	50.00	0	50.00	0	50.00	1	50.00	-1
1,2-Dichloroethane-d4	50.00	3	50.00	2	50.00	0	50.00	8	50.00	-3	50.00	1	50.00	-8	50.00	0	50.00	-5
Toluene-d8	50.00	0	50.00	-1	50.00	-3	50.00	0	50.00	1	50.00	0	50.00	4	50.00	3	50.00	-4
Bromofluorobenzene	50.00	3	50.00	0	50.00	0	50.00	0	50.00	3	50.00	-4	50.00	-1	50.00	-2	50.00	1

BJP 06/23/10 [2-Chloroethylvinylether]: DO NOT USE!

BJP 06/23/10 [1,2-Dichloropropane]: Separated from coeluting peak in multiple levels.

BJP 06/23/10 [Dibromomethane]: Combined split peak1PPB (hfg09).

BJP 06/23/10 [Ethyl tert-Butyl Ether (ETBE)]: Picked or reassigned peak1PPB (hfg09).

BJP 06/23/10 [Acetone]: Corrected baseline noise or negative peak in multiple levels.

LW 06/23/10 : Indexing error in hfg09. DO NOT USE FOR LEVEL IV!

Analyst: BJP

Date: 06/23/10

Reviewer: LW

Date: 06/23/10

m=manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

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470241127001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA08
Calnum : 470241127001

Name : 826GOX8
Cal Date : 16-JUN-2010

Type : WATER

ICV 470241127017 (hfg17 17-JUN-2010) stds: S14846 (10000X), S14572 (5000X)
ICV 470241127018 (hfg18 17-JUN-2010) stds: S14688 (10000X), S14573 (10000X),
S14594 (10000X), S14572 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	470241127017	25.00	22.46	ug/L	-10	25	
Chloromethane	470241127017	25.00	22.19	ug/L	-11	25	
Vinyl Chloride	470241127017	25.00	23.44	ug/L	-6	25	
Bromomethane	470241127017	25.00	20.46	ug/L	-18	25	
Chloroethane	470241127017	25.00	22.80	ug/L	-9	25	
Trichlorofluoromethane	470241127017	25.00	22.22	ug/L	-11	25	
Acetone	470241127018	25.00	23.45	ug/L	-6	25	
1,1-Dichloroethene	470241127018	25.00	23.49	ug/L	-6	25	
Iodomethane	470241127018	25.00	21.31	ug/L	-15	25	
Methylene Chloride	470241127018	25.00	22.52	ug/L	-10	25	
Carbon Disulfide	470241127018	25.00	20.48	ug/L	-18	25	
MTBE	470241127018	25.00	22.13	ug/L	-11	25	
trans-1,2-Dichloroethene	470241127018	25.00	23.26	ug/L	-7	25	
Vinyl Acetate	470241127018	25.00	18.52	ug/L	-26	25	v-
1,1-Dichloroethane	470241127018	25.00	23.92	ug/L	-4	25	
2-Butanone	470241127018	25.00	23.56	ug/L	-6	25	
2,2-Dichloropropane	470241127018	25.00	22.54	ug/L	-10	25	
cis-1,2-Dichloroethene	470241127018	25.00	24.58	ug/L	-2	25	
Chloroform	470241127018	25.00	25.17	ug/L	1	25	
Bromochloromethane	470241127018	25.00	24.00	ug/L	-4	25	
1,1,1-Trichloroethane	470241127018	25.00	26.63	ug/L	7	25	
1,1-Dichloropropene	470241127018	25.00	27.50	ug/L	10	25	
Carbon Tetrachloride	470241127018	25.00	28.70	ug/L	15	25	
1,2-Dichloroethane	470241127018	25.00	26.11	ug/L	4	25	
Benzene	470241127018	25.00	26.25	ug/L	5	25	
Trichloroethene	470241127018	25.00	27.15	ug/L	9	25	
1,2-Dichloropropane	470241127018	25.00	24.00	ug/L	-4	25	
Bromodichloromethane	470241127018	25.00	25.78	ug/L	3	25	
Dibromomethane	470241127018	25.00	26.38	ug/L	6	25	
4-Methyl-2-Pentanone	470241127018	25.00	23.62	ug/L	-6	25	
cis-1,3-Dichloropropene	470241127018	25.00	23.89	ug/L	-4	25	
Toluene	470241127018	25.00	26.14	ug/L	5	25	
trans-1,3-Dichloropropene	470241127018	25.00	23.04	ug/L	-8	25	
1,1,2-Trichloroethane	470241127018	25.00	25.54	ug/L	2	25	
2-Hexanone	470241127018	25.00	24.97	ug/L	0	25	
1,3-Dichloropropane	470241127018	25.00	24.74	ug/L	-1	25	
Tetrachloroethene	470241127018	25.00	27.09	ug/L	8	25	
Dibromochloromethane	470241127018	25.00	24.16	ug/L	-3	25	
1,2-Dibromoethane	470241127018	25.00	24.24	ug/L	-3	25	
Chlorobenzene	470241127018	25.00	26.11	ug/L	4	25	
1,1,1,2-Tetrachloroethane	470241127018	25.00	25.34	ug/L	1	25	
Ethylbenzene	470241127018	25.00	26.10	ug/L	4	25	
m,p-Xylenes	470241127018	50.00	54.07	ug/L	8	25	
o-Xylene	470241127018	25.00	25.98	ug/L	4	25	
Styrene	470241127018	25.00	27.39	ug/L	10	25	
Bromoform	470241127018	25.00	25.12	ug/L	0	25	
Isopropylbenzene	470241127018	25.00	25.06	ug/L	0	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	470241127018	25.00	24.97	ug/L	0	25	
1,2,3-Trichloropropane	470241127018	25.00	24.79	ug/L	-1	25	
Propylbenzene	470241127018	25.00	27.85	ug/L	11	25	
Bromobenzene	470241127018	25.00	25.87	ug/L	3	25	
1,3,5-Trimethylbenzene	470241127018	25.00	28.36	ug/L	13	25	
2-Chlorotoluene	470241127018	25.00	27.96	ug/L	12	25	
4-Chlorotoluene	470241127018	25.00	26.89	ug/L	8	25	
tert-Butylbenzene	470241127018	25.00	28.11	ug/L	12	25	
1,2,4-Trimethylbenzene	470241127018	25.00	27.67	ug/L	11	25	
sec-Butylbenzene	470241127018	25.00	29.48	ug/L	18	25	
para-Isopropyl Toluene	470241127018	25.00	27.49	ug/L	10	25	
1,3-Dichlorobenzene	470241127018	25.00	27.20	ug/L	9	25	
1,4-Dichlorobenzene	470241127018	25.00	26.52	ug/L	6	25	
n-Butylbenzene	470241127018	25.00	27.87	ug/L	11	25	
1,2-Dichlorobenzene	470241127018	25.00	26.99	ug/L	8	25	
1,2-Dibromo-3-Chloropropane	470241127018	25.00	24.72	ug/L	-1	25	
1,2,4-Trichlorobenzene	470241127018	25.00	26.93	ug/L	8	25	
Hexachlorobutadiene	470241127018	25.00	27.45	ug/L	10	25	
Naphthalene	470241127018	25.00	27.20	ug/L	9	25	
1,2,3-Trichlorobenzene	470241127018	25.00	27.30	ug/L	9	25	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 MSVOA Water: EPA 8260B

Inst : MSVOA09
 Calnum : 480169480001
 Units : ug/L

Name : 826GOX9W
 Date : 27-APR-2010 19:48
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	idr06	480169480006	.25/.5PPB	27-APR-2010 19:48	S14416 (20000X), S14417 (20000X), S14419 (10000X), S14420 (20000X), S14481 (5000X)
L2	idr07	480169480007	.5/1PPB	27-APR-2010 20:21	S14416 (10000X), S14417 (10000X), S14419 (5000X), S14420 (10000X), S14481 (5000X)
L3	idr08	480169480008	2PPB	27-APR-2010 20:55	S14416 (25000X), S14417 (25000X), S14419 (25000X), S14420 (50000X), S14481 (5000X)
L4	idr09	480169480009	5PPB	27-APR-2010 21:28	S14416 (10000X), S14417 (10000X), S14419 (10000X), S14420 (20000X), S14481 (5000X)
L5	idr10	480169480010	10PPB	27-APR-2010 22:02	S14416 (5000X), S14417 (5000X), S14419 (5000X), S14420 (10000X), S14481 (5000X)
L6	idr11	480169480011	20PPB	27-APR-2010 22:36	S14415 (25000X), S14386 (25000X), S14050 (25000X), S14228 (50000X), S14481 (5000X)
L7	idr12	480169480012	50PPB	27-APR-2010 23:09	S14415 (10000X), S14386 (10000X), S14050 (10000X), S14228 (20000X), S14481 (5000X)
L8	idr13	480169480013	75PPB	27-APR-2010 23:44	S14415 (6667X), S14386 (6667X), S14050 (6667X), S14228 (13330X), S14481 (5000X)
L9	idr14	480169480014	100PPB	28-APR-2010 00:19	S14415 (5000X), S14386 (5000X), S14050 (5000X), S14228 (10000X), S14481 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r ² %RSD	Max %RSD	Min RF	Min r ²	Flg
Freon 12		0.4375	0.5066	0.4988	0.5257	0.6146	0.5617	0.5581	0.5625	AVRG		1.87551		0.5332	10	15	0.05	0.99	
Chloromethane		0.7916	0.7758	0.8835	0.7228	0.7854	0.7010	0.7147	0.7234	AVRG		1.31189		0.7623	8	15	0.10	0.99	
Vinyl Chloride	0.4016	0.5600	0.5625	0.6221	0.5872	0.6291	0.5817	0.5581	0.5507	AVRG		1.78113		0.5614	12	15	0.05	0.99	
Bromomethane		0.2971m	0.3196	0.3676	0.3211	0.3739	0.3592	0.3491	0.3652	AVRG		2.90603		0.3441	8	15	0.05	0.99	
Chloroethane		0.3651	0.3545	0.4003	0.3826	0.3848	0.3543	0.3672	0.3708	AVRG		2.68487		0.3725	4	15	0.05	0.99	
Trichlorofluoromethane		0.5445	0.6350	0.6278	0.6386	0.6924	0.6147	0.6082	0.5994	AVRG		1.61272		0.6201	7	15	0.05	0.99	
Acetone			0.1456	0.1281	0.1239	0.1054	0.1019	0.1059	0.0961	AVRG		8.67461		0.1153	15	15	0.05	0.99	
1,1-Dichloroethene		0.3811	0.3677	0.3884	0.3910	0.3823	0.3904	0.3908	0.3925	AVRG		2.59382		0.3855	2	15	0.05	0.99	
Iodomethane			0.1773	0.2772	0.3123	0.4229	0.4536	0.4917		QUAD	1.73528	2.32663	-0.00918	0.3558	1.000	15	0.05	0.99	
Methylene Chloride		0.4566	0.4476	0.5236	0.4642	0.4522	0.4535	0.4599	0.4561	AVRG		2.15428		0.4642	5	15	0.05	0.99	
Carbon Disulfide		1.5830	1.5499	1.7075	1.6648	1.6414	1.6252	1.5959	1.6084	AVRG		0.61653		1.6220	3	15	0.05	0.99	
MTBE		0.8117	0.9156	0.9409	0.9114	0.9105	0.8972	0.8880	0.8280	AVRG		1.12624		0.8879	5	15	0.05	0.99	
trans-1,2-Dichloroethene		0.4398	0.4184	0.4693	0.4385	0.4397	0.4267	0.4216	0.4288	AVRG		2.29701		0.4353	4	15	0.05	0.99	
Vinyl Acetate		0.7750	0.8225	0.8854	0.8923	0.8427	0.8668	0.8150	0.7143	AVRG		1.20954		0.8268	7	15	0.05	0.99	
1,1-Dichloroethane		0.8632	0.8954	1.0222	0.9322	0.9484	0.8670	0.8608	0.8326	AVRG		1.10775		0.9027	7	15	0.10	0.99	
2-Butanone			0.1764	0.1858	0.1835	0.1567	0.1558	0.1534	0.1353	AVRG		6.10382		0.1638	11	15	0.05	0.99	
2,2-Dichloropropane		0.6073	0.6034	0.6309	0.5908	0.5608	0.5375	0.5320	0.4958	AVRG		1.75498		0.5698	8	15	0.05	0.99	
cis-1,2-Dichloroethene		0.4610	0.4465	0.5310	0.4856	0.4837	0.4700	0.4596	0.4577	AVRG		2.10802		0.4744	6	15	0.05	0.99	
Chloroform		0.7708	0.7476	0.8722	0.7855	0.7786	0.7504	0.7428	0.7273	AVRG		1.29549		0.7719	6	15	0.05	0.99	
Bromochloromethane		0.2009	0.1912	0.2241	0.2010	0.1993	0.1996	0.2021	0.1991	AVRG		4.94650		0.2022	5	15	0.05	0.99	
1,1,1-Trichloroethane		0.5672	0.5415	0.6117	0.5832	0.5471	0.5593	0.5484	0.5355	AVRG		1.78021		0.5617	5	15	0.05	0.99	
1,1-Dichloropropene		0.4364	0.3906	0.4098	0.3938	0.3632	0.3912	0.3709	0.3592	AVRG		2.56815		0.3894	7	15	0.05	0.99	
Carbon Tetrachloride		0.3790	0.3085	0.3295	0.3191	0.2890	0.3073	0.2980	0.2908	AVRG		3.17294		0.3152	9	15	0.05	0.99	
1,2-Dichloroethane		0.3252	0.3145	0.3570	0.3340	0.3189	0.3241	0.3136	0.2883	AVRG		3.10612		0.3219	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r ² %RSD	Max %RSD	Min RF	Min r ²	Flg
Benzene		1.0862	1.0288	1.1893	1.0717	1.0474	1.0221	0.9679	0.9133	AVRG		0.96076		1.0408	8	15	0.05	0.99	
Trichloroethene		0.2887	0.2594	0.2931	0.2804	0.2658	0.2742	0.2715	0.2600	AVRG		3.64773		0.2741	5	15	0.05	0.99	
1,2-Dichloropropane		0.3625	0.3295	0.3757	0.3430	0.3438	0.3327	0.3265	0.3055	AVRG		2.94206		0.3399	6	15	0.05	0.99	
Bromodichloromethane		0.3275	0.3410	0.3846	0.3628	0.3480	0.3562	0.3567	0.3270	AVRG		2.85338		0.3505	5	15	0.05	0.99	
Dibromomethane		0.1470	0.1486	0.1635	0.1527	0.1485	0.1548	0.1532	0.1426	AVRG		6.60635		0.1514	4	15	0.05	0.99	
4-Methyl-2-Pentanone		0.2321	0.2442	0.2363	0.2585	0.2215	0.2391	0.2448	0.2134	AVRG		4.23314		0.2362	6	15	0.05	0.99	
cis-1,3-Dichloropropene		0.4067	0.4127	0.4727	0.4374	0.4148	0.4335	0.4211	0.3834	AVRG		2.36530		0.4228	6	15	0.05	0.99	
Toluene		0.8762	0.8094	0.9168	0.8556	0.8095	0.8290	0.7987	0.7626	AVRG		1.20161		0.8322	6	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4508	0.4528	0.5154	0.4850	0.4717	0.4790	0.4637	0.4304	AVRG		2.13396		0.4686	5	15	0.05	0.99	
1,1,2-Trichloroethane		0.1365	0.1365	0.1458	0.1455	0.1403	0.1424	0.1420	0.1339	AVRG		7.12360		0.1404	3	15	0.05	0.99	
2-Hexanone		0.2079	0.2135	0.2125	0.2335	0.2019	0.2211	0.2143	0.1874	AVRG		4.72733		0.2115	6	15	0.05	0.99	
1,3-Dichloropropane		0.4286	0.4585	0.4976	0.4831	0.4573	0.4713	0.4519	0.4219	AVRG		2.17970		0.4588	6	15	0.05	0.99	
Tetrachloroethene		0.3066	0.3027	0.3242	0.3127	0.2859	0.3214	0.3199	0.3191	AVRG		3.20955		0.3116	4	15	0.05	0.99	
Dibromochloromethane		0.2850	0.2737	0.3206	0.3125	0.3083	0.3155	0.3164	0.2983	AVRG		3.29187		0.3038	6	15	0.05	0.99	
1,2-Dibromoethane		0.2262	0.2463	0.2652	0.2637	0.2563	0.2713	0.2696	0.2486	AVRG		3.90780		0.2559	6	15	0.05	0.99	
Chlorobenzene		0.8142	0.8330	0.9469	0.8751	0.8590	0.8750	0.8484	0.8087	AVRG		1.16612		0.8575	5	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3053	0.2861	0.3278	0.3047	0.3003	0.3035	0.3125	0.2958	AVRG		3.28411		0.3045	4	15	0.05	0.99	
Ethylbenzene		1.5630	1.5004	1.6945	1.5908	1.4670	1.4531	1.3688	1.2197	AVRG		0.67469		1.4822	10	15	0.05	0.99	
m,p-Xylenes	0.5984	0.5460	0.5243	0.5962	0.5616	0.5325	0.5423	0.4840	0.4345	AVRG		1.86724		0.5355	10	15	0.05	0.99	
o-Xylene		0.5140	0.5113	0.5961	0.5656	0.5388	0.5604	0.5273	0.5061	AVRG		1.85202		0.5400	6	15	0.05	0.99	
Styrene		0.9078	0.9210	1.0645	0.9772	0.9775	0.9855	0.9166	0.8706	AVRG		1.04977		0.9526	6	15	0.05	0.99	
Bromoform		0.1395	0.1596	0.1742	0.1753	0.1732	0.1907	0.1923	0.1820	AVRG		5.76847		0.1734	10	15	0.10	0.99	
Isopropylbenzene		3.0305	2.8815	3.1900	3.0250	2.7480	2.8097	2.7103	2.4892	AVRG		0.34958		2.8605	8	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.5870	0.5995	0.6497	0.6383	0.6132	0.6405	0.6285	0.5744	AVRG		1.62235		0.6164	4	15	0.30	0.99	
1,2,3-Trichloropropane		0.1395	0.1508	0.1598	0.1515	0.1453	0.1515	0.1452	0.1381	AVRG		6.76984		0.1477	5	15	0.05	0.99	
Propylbenzene		3.8643	3.6217	3.9896	3.7128	3.4128	3.3992	3.0185	2.6641	AVRG		0.28899		3.4604	13	15	0.05	0.99	
Bromobenzene		0.7318	0.6998	0.7987	0.7402	0.7397	0.7615	0.7408	0.6736	AVRG		1.35911		0.7358	5	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.4206	2.2628	2.6233	2.3450	2.2256	2.1936	1.9925	1.8075	AVRG		0.44765		2.2339	11	15	0.05	0.99	
2-Chlorotoluene		2.5899	2.4509	2.8053	2.4785	2.3645	2.2023	1.9895	1.7838	AVRG		0.42862		2.3331	14	15	0.05	0.99	
4-Chlorotoluene		2.4331	2.2233	2.5697	2.3089	2.2271	2.1762	2.1123	1.9426	AVRG		0.44461		2.2491	9	15	0.05	0.99	
tert-Butylbenzene		1.9417	1.8155	2.0051	1.9426	1.7739	1.8532	1.8352	1.7653	AVRG		0.53575		1.8666	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.3920	2.2739	2.5670	2.3055	2.2659	2.2821	2.1895	2.0021	AVRG		0.43768		2.2848	7	15	0.05	0.99	
sec-Butylbenzene		2.9421	2.9728	3.2620	3.0792	2.7616	2.9170	2.8275	2.6453	AVRG		0.34177		2.9259	7	15	0.05	0.99	
para-Isopropyl Toluene		2.2299	2.1922	2.3790	2.3055	2.0855	2.2907	2.1701	2.0847	AVRG		0.45102		2.2172	5	15	0.05	0.99	
1,3-Dichlorobenzene		1.2599	1.2333	1.4128	1.2989	1.2878	1.3101	1.3404	1.2699	AVRG		0.76826		1.3016	4	15	0.05	0.99	
1,4-Dichlorobenzene		1.3633	1.2509	1.4724	1.3371	1.3050	1.3582	1.3582	1.2718	AVRG		0.74649		1.3396	5	15	0.05	0.99	
n-Butylbenzene		2.1569	2.1238	2.3069	2.1886	2.0121	2.1909	2.0726	1.9797	AVRG		0.46972		2.1289	5	15	0.05	0.99	
1,2-Dichlorobenzene		1.1375	1.1196	1.2908	1.2159	1.1892	1.2002	1.2177	1.1503	AVRG		0.84024		1.1901	5	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.1101	0.0991	0.1038	0.1097	0.0960	0.1032	0.1035	0.0917	AVRG		9.78933		0.1022	6	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.5980	0.6069	0.6824	0.6573	0.6592	0.7157	0.7450	0.7195	AVRG		1.48585		0.6730	8	15	0.05	0.99	
Hexachlorobutadiene		0.3610	0.3333	0.3640	0.3622	0.3164	0.3616	0.3686	0.3768	AVRG		2.81305		0.3555	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r ² %RSD	Max %RSD	Min RF	Min r ²	Flg
Naphthalene		0.9384	1.0490	1.1997	1.1816	1.1552	1.2732	1.2736	1.1982	AVRG		0.86311		1.1586	10	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.4785	0.5260	0.5921	0.5815	0.5932	0.6412	0.6611	0.6337	AVRG		1.69946		0.5884	10	15	0.05	0.99	
Dibromofluoromethane	0.5429	0.5465	0.5597	0.5580	0.5647	0.5516	0.5483	0.5457	0.5289	AVRG		1.81954		0.5496	2	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3196	0.3309	0.3386	0.3347	0.3378	0.3155	0.3053	0.2815	0.2609	AVRG		3.18586		0.3139	9	15	0.05	0.99	
Toluene-d8	1.4291	1.4829	1.4454	1.4459	1.4167	1.4831	1.4460	1.4489	1.4061	AVRG		0.69209		1.4449	2	15	0.05	0.99	
Bromofluorobenzene	1.0741	1.0717	1.0759	1.0842	1.0614	1.0834	1.0378	1.0381	0.9919	AVRG		0.94553		1.0576	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-18	2.000	-5	5.000	-6	10.00	-1	20.00	15	50.00	5	75.00	5	100.0	5
Chloromethane			1.000	4	2.000	2	5.000	16	10.00	-5	20.00	3	50.00	-8	75.00	-6	100.0	-5
Vinyl Chloride	0.500	-28	1.000	0	2.000	0	5.000	11	10.00	5	20.00	12	50.00	4	75.00	-1	100.0	-2
Bromomethane			1.000	-14	2.000	-7	5.000	7	10.00	-7	20.00	9	50.00	4	75.00	1	100.0	6
Chloroethane			1.000	-2	2.000	-5	5.000	7	10.00	3	20.00	3	50.00	-5	75.00	-1	100.0	0
Trichlorofluoromethane			1.000	-12	2.000	2	5.000	1	10.00	3	20.00	12	50.00	-1	75.00	-2	100.0	-3
Acetone					2.000	26	5.000	11	10.00	7	20.00	-9	50.00	-12	75.00	-8	100.0	-17
1,1-Dichloroethene			0.500	-1	2.000	-5	5.000	1	10.00	1	20.00	-1	50.00	1	75.00	1	100.0	2
Iodomethane					2.000	28	5.000	-1	10.00	-11	20.00	4	50.00	0	75.00	0		
Methylene Chloride			0.500	-2	2.000	-4	5.000	13	10.00	0	20.00	-3	50.00	-2	75.00	-1	100.0	-2
Carbon Disulfide			0.500	-2	2.000	-4	5.000	5	10.00	3	20.00	1	50.00	0	75.00	-2	100.0	-1
MTBE			0.500	-9	2.000	3	5.000	6	10.00	3	20.00	3	50.00	1	75.00	0	100.0	-7
trans-1,2-Dichloroethene			0.500	1	2.000	-4	5.000	8	10.00	1	20.00	1	50.00	-2	75.00	-3	100.0	-2
Vinyl Acetate			0.500	-6	2.000	-1	5.000	7	10.00	8	20.00	2	50.00	5	75.00	-1	100.0	-14
1,1-Dichloroethane			0.500	-4	2.000	-1	5.000	13	10.00	3	20.00	5	50.00	-4	75.00	-5	100.0	-8
2-Butanone					2.000	8	5.000	13	10.00	12	20.00	-4	50.00	-5	75.00	-6	100.0	-17
2,2-Dichloropropane			0.500	7	2.000	6	5.000	11	10.00	4	20.00	-2	50.00	-6	75.00	-7	100.0	-13
cis-1,2-Dichloroethene			0.500	-3	2.000	-6	5.000	12	10.00	2	20.00	2	50.00	-1	75.00	-3	100.0	-4
Chloroform			0.500	0	2.000	-3	5.000	13	10.00	2	20.00	1	50.00	-3	75.00	-4	100.0	-6
Bromochloromethane			0.500	-1	2.000	-5	5.000	11	10.00	-1	20.00	-1	50.00	-1	75.00	0	100.0	-2
1,1,1-Trichloroethane			0.500	1	2.000	-4	5.000	9	10.00	4	20.00	-3	50.00	0	75.00	-2	100.0	-5
1,1-Dichloropropene			0.500	12	2.000	0	5.000	5	10.00	1	20.00	-7	50.00	0	75.00	-5	100.0	-8
Carbon Tetrachloride			0.500	20	2.000	-2	5.000	5	10.00	1	20.00	-8	50.00	-2	75.00	-5	100.0	-8
1,2-Dichloroethane			0.500	1	2.000	-2	5.000	11	10.00	4	20.00	-1	50.00	1	75.00	-3	100.0	-10
Benzene			0.500	4	2.000	-1	5.000	14	10.00	3	20.00	1	50.00	-2	75.00	-7	100.0	-12
Trichloroethene			0.500	5	2.000	-5	5.000	7	10.00	2	20.00	-3	50.00	0	75.00	-1	100.0	-5
1,2-Dichloropropane			0.500	7	2.000	-3	5.000	11	10.00	1	20.00	1	50.00	-2	75.00	-4	100.0	-10
Bromodichloromethane			0.500	-7	2.000	-3	5.000	10	10.00	4	20.00	-1	50.00	2	75.00	2	100.0	-7
Dibromomethane			0.500	-3	2.000	-2	5.000	8	10.00	1	20.00	-2	50.00	2	75.00	1	100.0	-6
4-Methyl-2-Pentanone			0.500	-2	2.000	3	5.000	0	10.00	9	20.00	-6	50.00	1	75.00	4	100.0	-10
cis-1,3-Dichloropropene			0.500	-4	2.000	-2	5.000	12	10.00	3	20.00	-2	50.00	3	75.00	0	100.0	-9
Toluene			0.500	5	2.000	-3	5.000	10	10.00	3	20.00	-3	50.00	0	75.00	-4	100.0	-8
trans-1,3-Dichloropropene			0.500	-4	2.000	-3	5.000	10	10.00	3	20.00	1	50.00	2	75.00	-1	100.0	-8
1,1,2-Trichloroethane			0.500	-3	2.000	-3	5.000	4	10.00	4	20.00	0	50.00	1	75.00	1	100.0	-5
2-Hexanone			0.500	-2	2.000	1	5.000	0	10.00	10	20.00	-5	50.00	5	75.00	1	100.0	-11
1,3-Dichloropropane			0.500	-7	2.000	0	5.000	8	10.00	5	20.00	0	50.00	3	75.00	-2	100.0	-8
Tetrachloroethene			0.500	-2	2.000	-3	5.000	4	10.00	0	20.00	-8	50.00	3	75.00	3	100.0	2
Dibromochloromethane			0.500	-6	2.000	-10	5.000	6	10.00	3	20.00	1	50.00	4	75.00	4	100.0	-2
1,2-Dibromoethane			0.500	-12	2.000	-4	5.000	4	10.00	3	20.00	0	50.00	6	75.00	5	100.0	-3
Chlorobenzene			0.500	-5	2.000	-3	5.000	10	10.00	2	20.00	0	50.00	2	75.00	-1	100.0	-6
1,1,1,2-Tetrachloroethane			0.500	0	2.000	-6	5.000	8	10.00	0	20.00	-1	50.00	0	75.00	3	100.0	-3
Ethylbenzene			0.500	5	2.000	1	5.000	14	10.00	7	20.00	-1	50.00	-2	75.00	-8	100.0	-18

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	12	1.000	2	4.000	-2	10.00	11	20.00	5	40.00	-1	100.0	1	150.0	-10	200.0	-19
o-Xylene			0.500	-5	2.000	-5	5.000	10	10.00	5	20.00	0	50.00	4	75.00	-2	100.0	-6
Styrene			0.500	-5	2.000	-3	5.000	12	10.00	3	20.00	3	50.00	3	75.00	-4	100.0	-9
Bromoform			0.500	-20	2.000	-8	5.000	0	10.00	1	20.00	0	50.00	10	75.00	11	100.0	5
Isopropylbenzene			0.500	6	2.000	1	5.000	12	10.00	6	20.00	-4	50.00	-2	75.00	-5	100.0	-13
1,1,2,2-Tetrachloroethane			0.500	-5	2.000	-3	5.000	5	10.00	4	20.00	-1	50.00	4	75.00	2	100.0	-7
1,2,3-Trichloropropane			0.500	-6	2.000	2	5.000	8	10.00	3	20.00	-2	50.00	3	75.00	-2	100.0	-6
Propylbenzene			0.500	12	2.000	5	5.000	15	10.00	7	20.00	-1	50.00	-2	75.00	-13	100.0	-23
Bromobenzene			0.500	-1	2.000	-5	5.000	9	10.00	1	20.00	1	50.00	4	75.00	1	100.0	-8
1,3,5-Trimethylbenzene			0.500	8	2.000	1	5.000	17	10.00	5	20.00	0	50.00	-2	75.00	-11	100.0	-19
2-Chlorotoluene			0.500	11	2.000	5	5.000	20	10.00	6	20.00	1	50.00	-6	75.00	-15	100.0	-24
4-Chlorotoluene			0.500	8	2.000	-1	5.000	14	10.00	3	20.00	-1	50.00	-3	75.00	-6	100.0	-14
tert-Butylbenzene			0.500	4	2.000	-3	5.000	7	10.00	4	20.00	-5	50.00	-1	75.00	-2	100.0	-5
1,2,4-Trimethylbenzene			0.500	5	2.000	0	5.000	12	10.00	1	20.00	-1	50.00	0	75.00	-4	100.0	-12
sec-Butylbenzene			0.500	1	2.000	2	5.000	11	10.00	5	20.00	-6	50.00	0	75.00	-3	100.0	-10
para-Isopropyl Toluene			0.500	1	2.000	-1	5.000	7	10.00	4	20.00	-6	50.00	3	75.00	-2	100.0	-6
1,3-Dichlorobenzene			0.500	-3	2.000	-5	5.000	9	10.00	0	20.00	-1	50.00	1	75.00	3	100.0	-2
1,4-Dichlorobenzene			0.500	2	2.000	-7	5.000	10	10.00	0	20.00	-3	50.00	1	75.00	1	100.0	-5
n-Butylbenzene			0.500	1	2.000	0	5.000	8	10.00	3	20.00	-5	50.00	3	75.00	-3	100.0	-7
1,2-Dichlorobenzene			0.500	-4	2.000	-6	5.000	8	10.00	2	20.00	0	50.00	1	75.00	2	100.0	-3
1,2-Dibromo-3-Chloropropane			0.500	8	2.000	-3	5.000	2	10.00	7	20.00	-6	50.00	1	75.00	1	100.0	-10
1,2,4-Trichlorobenzene			0.500	-11	2.000	-10	5.000	1	10.00	-2	20.00	-2	50.00	6	75.00	11	100.0	7
Hexachlorobutadiene			0.500	2	2.000	-6	5.000	2	10.00	2	20.00	-11	50.00	2	75.00	4	100.0	6
Naphthalene			0.500	-19	2.000	-9	5.000	4	10.00	2	20.00	0	50.00	10	75.00	10	100.0	3
1,2,3-Trichlorobenzene			0.500	-19	2.000	-11	5.000	1	10.00	-1	20.00	1	50.00	9	75.00	12	100.0	8
Dibromofluoromethane	50.00	-1	50.00	-1	50.00	2	50.00	2	50.00	3	50.00	0	50.00	0	50.00	-1	50.00	-4
1,2-Dichloroethane-d4	50.00	2	50.00	5	50.00	8	50.00	7	50.00	8	50.00	1	50.00	-3	50.00	-10	50.00	-17
Toluene-d8	50.00	-1	50.00	3	50.00	0	50.00	0	50.00	-2	50.00	3	50.00	0	50.00	0	50.00	-3
Bromofluorobenzene	50.00	2	50.00	1	50.00	2	50.00	3	50.00	0	50.00	2	50.00	-2	50.00	-2	50.00	-6

TDL 05/03/10 [Bromomethane]: Combined split peak1PPB (idr07).

TDL 05/03/10 [Isopropanol]: Combined split peak1PPB (idr07).

LW 05/03/10 [Iodomethane]: Does not meet 8260C criteria (ICV)

LW 05/03/10 [2-Chloroethylvinylether]: Does not meet 8260C criteria (ICV)

LW 05/03/10 [Cyclohexanone]: Does not meet 8260C criteria

Analyst: TDL

Date: 05/03/10

Reviewer: LW

Date: 05/03/10

m=manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor; QUAD=Quadratic regression

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480169480001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA09
Calnum : 480169480001

Name : 826GOX9W
Cal Date : 27-APR-2010

Type : WATER

ICV 480169480016 (idr16 28-APR-2010) stds: S14323 (10000X), S14144 (10000X),
S14253 (10000X), S14481 (5000X)

ICV 480171128004 (ids04 28-APR-2010) stds: S14422 (10000X), S14481 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	480171128004	25.00	22.54	ug/L	-10	25	
Chloromethane	480171128004	25.00	23.58	ug/L	-6	25	
Vinyl Chloride	480171128004	25.00	23.81	ug/L	-5	25	
Bromomethane	480171128004	25.00	21.01	ug/L	-16	25	
Chloroethane	480171128004	25.00	26.24	ug/L	5	25	
Trichlorofluoromethane	480171128004	25.00	26.50	ug/L	6	25	
Acetone	480169480016	25.00	23.15	ug/L	-7	25	
1,1-Dichloroethene	480169480016	25.00	22.60	ug/L	-10	25	
Iodomethane	480169480016	25.00	10.89	ug/L	-56	25	v-
Methylene Chloride	480169480016	25.00	23.29	ug/L	-7	25	
Carbon Disulfide	480169480016	25.00	21.16	ug/L	-15	25	
MTBE	480169480016	25.00	22.62	ug/L	-10	25	
trans-1,2-Dichloroethene	480169480016	25.00	24.03	ug/L	-4	25	
Vinyl Acetate	480169480016	25.00	26.59	ug/L	6	25	
1,1-Dichloroethane	480169480016	25.00	23.62	ug/L	-6	25	
2-Butanone	480169480016	25.00	24.25	ug/L	-3	25	
2,2-Dichloropropane	480169480016	25.00	21.99	ug/L	-12	25	
cis-1,2-Dichloroethene	480169480016	25.00	24.38	ug/L	-2	25	
Chloroform	480169480016	25.00	23.65	ug/L	-5	25	
Bromochloromethane	480169480016	25.00	24.09	ug/L	-4	25	
1,1,1-Trichloroethane	480169480016	25.00	24.02	ug/L	-4	25	
1,1-Dichloropropene	480169480016	25.00	22.83	ug/L	-9	25	
Carbon Tetrachloride	480169480016	25.00	23.68	ug/L	-5	25	
1,2-Dichloroethane	480169480016	25.00	24.13	ug/L	-3	25	
Benzene	480169480016	25.00	24.40	ug/L	-2	25	
Trichloroethene	480169480016	25.00	23.90	ug/L	-4	25	
1,2-Dichloropropane	480169480016	25.00	23.16	ug/L	-7	25	
Bromodichloromethane	480169480016	25.00	24.52	ug/L	-2	25	
Dibromomethane	480169480016	25.00	25.65	ug/L	3	25	
4-Methyl-2-Pentanone	480169480016	25.00	25.08	ug/L	0	25	
cis-1,3-Dichloropropene	480169480016	25.00	25.07	ug/L	0	25	
Toluene	480169480016	25.00	24.94	ug/L	0	25	
trans-1,3-Dichloropropene	480169480016	25.00	22.39	ug/L	-10	25	
1,1,2-Trichloroethane	480169480016	25.00	25.35	ug/L	1	25	
2-Hexanone	480169480016	25.00	26.64	ug/L	7	25	
1,3-Dichloropropane	480169480016	25.00	25.41	ug/L	2	25	
Tetrachloroethene	480169480016	25.00	25.05	ug/L	0	25	
Dibromochloromethane	480169480016	25.00	25.46	ug/L	2	25	
1,2-Dibromoethane	480169480016	25.00	25.60	ug/L	2	25	
Chlorobenzene	480169480016	25.00	25.27	ug/L	1	25	
1,1,1,2-Tetrachloroethane	480169480016	25.00	24.86	ug/L	-1	25	
Ethylbenzene	480169480016	25.00	25.19	ug/L	1	25	
m,p-Xylenes	480169480016	50.00	52.09	ug/L	4	25	
o-Xylene	480169480016	25.00	25.90	ug/L	4	25	
Styrene	480169480016	25.00	25.99	ug/L	4	25	
Bromoform	480169480016	25.00	27.05	ug/L	8	25	
Isopropylbenzene	480169480016	25.00	23.03	ug/L	-8	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	480169480016	25.00	25.56	ug/L	2	25	
1,2,3-Trichloropropane	480169480016	25.00	25.44	ug/L	2	25	
Propylbenzene	480169480016	25.00	25.76	ug/L	3	25	
Bromobenzene	480169480016	25.00	26.14	ug/L	5	25	
1,3,5-Trimethylbenzene	480169480016	25.00	25.94	ug/L	4	25	
2-Chlorotoluene	480169480016	25.00	25.76	ug/L	3	25	
4-Chlorotoluene	480169480016	25.00	25.05	ug/L	0	25	
tert-Butylbenzene	480169480016	25.00	25.54	ug/L	2	25	
1,2,4-Trimethylbenzene	480169480016	25.00	25.99	ug/L	4	25	
sec-Butylbenzene	480169480016	25.00	26.44	ug/L	6	25	
para-Isopropyl Toluene	480169480016	25.00	24.78	ug/L	-1	25	
1,3-Dichlorobenzene	480169480016	25.00	25.32	ug/L	1	25	
1,4-Dichlorobenzene	480169480016	25.00	25.44	ug/L	2	25	
n-Butylbenzene	480169480016	25.00	26.09	ug/L	4	25	
1,2-Dichlorobenzene	480169480016	25.00	25.75	ug/L	3	25	
1,2-Dibromo-3-Chloropropane	480169480016	25.00	24.75	ug/L	-1	25	
1,2,4-Trichlorobenzene	480169480016	25.00	25.51	ug/L	2	25	
Hexachlorobutadiene	480169480016	25.00	24.57	ug/L	-2	25	
Naphthalene	480169480016	25.00	28.03	ug/L	12	25	
1,2,3-Trichlorobenzene	480169480016	25.00	27.14	ug/L	9	25	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 MSVOA Water: EPA 8260B

Inst : MSVOA10
 Calnum : 490027869001
 Units : ug/L

Name : 826GOX10
 Date : 19-JAN-2010 18:58
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	jaj12	490027869012	.25/.5PPB	19-JAN-2010 18:58	S13745 (20000X), S13746 (20000X), S13747 (20000X), S13748 (10000X), S13615 (2500X)
L2	jaj13	490027869013	0.5/1PPB	19-JAN-2010 19:32	S13745 (10000X), S13746 (10000X), S13747 (10000X), S13748 (50000X), S13615 (2500X)
L3	jaj14	490027869014	2PPB	19-JAN-2010 20:07	S13745 (25000X), S13746 (25000X), S13747 (50000X), S13748 (25000X), S13615 (2500X)
L4	jaj15	490027869015	5PPB	19-JAN-2010 20:42	S13745 (10000X), S13746 (10000X), S13747 (20000X), S13748 (10000X), S13615 (2500X)
L5	jaj16	490027869016	10PPB	19-JAN-2010 21:17	S13745 (5000X), S13746 (5000X), S13747 (10000X), S13748 (5000X), S13615 (2500X)
L6	jaj17	490027869017	20PPB	19-JAN-2010 21:51	S13680 (25000X), S13586 (25000X), S13625 (50000X), S13503 (25000X), S13615 (2500X)
L7	jaj18	490027869018	50PPB	19-JAN-2010 22:26	S13680 (10000X), S13586 (10000X), S13625 (20000X), S13503 (10000X), S13615 (2500X)
L8	jaj19	490027869019	75PPB	19-JAN-2010 23:01	S13680 (6667X), S13586 (6667X), S13625 (13330X), S13503 (6667X), S13615 (2500X)
L9	jaj20	490027869020	100PPB	19-JAN-2010 23:35	S13680 (5000X), S13586 (5000X), S13625 (10000X), S13503 (5000X), S13615 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.3918	0.6916	0.6069m	0.6327	0.6573	0.7062			QUAD	0.18210	1.56885	-0.00448	0.6144	1.000	15	0.05	0.99	
Chloromethane		0.9525	1.0916m	1.0509	1.0071	0.9526	0.9903	0.9559	0.9085	AVRG		1.01145		0.9887	6	15	0.10	0.99	
Vinyl Chloride	0.7254	0.6064	0.8278	0.8382	0.7852	0.8017	0.8279	0.7825	0.7655	AVRG		1.29299		0.7734	9	15	0.05	0.99	
Bromomethane		0.4138	0.4729m	0.4748	0.4397	0.4360	0.4925	0.4880	0.4634	AVRG		2.17319		0.4602	6	15	0.05	0.99	
Chloroethane		0.4443m	0.4834m	0.4592m	0.4676	0.4510	0.4609	0.4413	0.4233	AVRG		2.20328		0.4539	4	15	0.05	0.99	
Trichlorofluoromethane		0.3817	0.6879	0.6368	0.6590	0.6730	0.6968			QUAD	0.22115	1.49397	-0.00187	0.6225	1.000	15	0.05	0.99	
Acetone				0.1936	0.1630	0.1407	0.1841	0.1655	0.1600	AVRG		5.95858		0.1678	11	15	0.05	0.99	
1,1-Dichloroethene		0.4959m	0.5767	0.6106	0.5879	0.5852	0.5594	0.5802	0.5611	AVRG		1.75556		0.5696	6	15	0.05	0.99	
Iodomethane			0.5906	0.7037	0.7318	0.5257	0.5613	0.5475	0.5298	AVRG		1.67051		0.5986	14	15	0.05	0.99	
Methylene Chloride		0.8469	0.7815	0.7512	0.7187	0.7252	0.7686	0.7365	0.7067	AVRG		1.32554		0.7544	6	15	0.05	0.99	
Carbon Disulfide		1.9085	2.4192	2.5698	2.4448	2.4480	2.4513	2.4485	2.3702	AVRG		0.41972		2.3825	8	15	0.05	0.99	
MTBE		1.5356	1.6609	1.6438	1.6234	1.5890	1.7290	1.6509	1.5851	AVRG		0.61454		1.6272	4	15	0.05	0.99	
trans-1,2-Dichloroethene		0.6320	0.6779	0.6780	0.6807	0.6724	0.6798	0.6753	0.6531	AVRG		1.49555		0.6687	3	15	0.05	0.99	
Vinyl Acetate			1.4467	1.3662	1.3674	1.4708	1.6053	1.5563	1.4683	AVRG		0.68087		1.4687	6	15	0.05	0.99	
1,1-Dichloroethane		1.0643	1.1998	1.2389	1.2046	1.2031	1.2289	1.2004	1.1576	AVRG		0.84233		1.1872	5	15	0.10	0.99	
2-Butanone			0.2978	0.2763	0.2694	0.2323	0.2836	0.2590	0.2566	AVRG		3.73358		0.2678	8	15	0.05	0.99	
2,2-Dichloropropane		0.6757	0.7276	0.7403	0.6863	0.6873	0.6681	0.6749	0.6415	AVRG		1.45412		0.6877	5	15	0.05	0.99	
cis-1,2-Dichloroethene		0.7204	0.7106	0.6859	0.6917	0.6975	0.7284	0.7094	0.6857	AVRG		1.42107		0.7037	2	15	0.05	0.99	
Chloroform		0.9388	1.0291	1.0289	1.0217	1.0228	1.0628	1.0350	0.9708	AVRG		0.98644		1.0137	4	15	0.05	0.99	
Bromochloromethane		0.3080	0.3276	0.3319	0.3366	0.3337	0.3581	0.3440	0.3303	AVRG		2.99603		0.3338	4	15	0.05	0.99	
1,1,1-Trichloroethane		0.5394	0.6557	0.6833	0.6635	0.6956	0.6706	0.6901	0.6779	AVRG		1.51627		0.6595	8	15	0.05	0.99	
1,1-Dichloropropene		0.3343	0.4453	0.4718	0.4471	0.4583	0.4447	0.4569	0.4372	AVRG		2.28864		0.4369	10	15	0.05	0.99	
Carbon Tetrachloride		0.2165	0.2877	0.3180	0.3109	0.3127	0.2982	0.3095	0.3047	AVRG		3.39243		0.2948	11	15	0.05	0.99	
1,2-Dichloroethane		0.3478	0.3616	0.3803	0.3806	0.3856	0.4024	0.3796	0.3628	AVRG		2.66595		0.3751	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.2680	1.3599	1.4254	1.3984	1.3877	1.4206	1.3726	1.2892	AVRG		0.73248		1.3652	4	15	0.05	0.99	
Trichloroethene		0.2922	0.3180	0.3575	0.3518	0.3551	0.3569	0.3523	0.3438	AVRG		2.93293		0.3410	7	15	0.05	0.99	
1,2-Dichloropropane		0.4079	0.4008	0.4191	0.4248	0.4061	0.4466	0.4236	0.4076	AVRG		2.39776		0.4171	4	15	0.05	0.99	
Bromodichloromethane		0.4122	0.4221	0.4427	0.4372	0.4384	0.4684	0.4476	0.4261	AVRG		2.28903		0.4369	4	15	0.05	0.99	
Dibromomethane		0.2186	0.2282	0.2333	0.2258	0.2293	0.2476	0.2369	0.2248	AVRG		4.33774		0.2305	4	15	0.05	0.99	
4-Methyl-2-Pentanone			0.3340	0.3217	0.3214	0.2921	0.3566	0.3350	0.3224	AVRG		3.06596		0.3262	6	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5750	0.5610	0.5820	0.5819	0.5732	0.6180	0.5885	0.5523	AVRG		1.72722		0.5790	3	15	0.05	0.99	
Toluene		0.9530	0.9690	0.9911	0.9610	0.9673	0.9894	0.9666	0.9247	AVRG		1.03598		0.9653	2	15	0.05	0.99	
trans-1,3-Dichloropropene		0.5178	0.5628	0.5849	0.5685	0.5694	0.6272	0.5955	0.5659	AVRG		1.74212		0.5740	5	15	0.05	0.99	
1,1,2-Trichloroethane		0.1892	0.1941	0.2061	0.1972	0.1971	0.2197	0.2037	0.1969	AVRG		4.98735		0.2005	5	15	0.05	0.99	
2-Hexanone			0.2843	0.2413	0.2451	0.2371	0.2836	0.2591	0.2540	AVRG		3.87915		0.2578	7	15	0.05	0.99	
1,3-Dichloropropane		0.5398	0.5934	0.5905	0.6052	0.5852	0.6412	0.6115	0.5872	AVRG		1.68276		0.5943	5	15	0.05	0.99	
Tetrachloroethene		0.3033	0.3598	0.3944	0.3774	0.3880	0.3800	0.3860	0.3774	AVRG		2.69689		0.3708	8	15	0.05	0.99	
Dibromochloromethane		0.3437	0.3530	0.3738	0.3709	0.3728	0.4166	0.3927	0.3774	AVRG		2.66591		0.3751	6	15	0.05	0.99	
1,2-Dibromoethane		0.3057	0.3362	0.3526	0.3513	0.3501	0.3915	0.3716	0.3532	AVRG		2.84479		0.3515	7	15	0.05	0.99	
Chlorobenzene		1.0531	1.0536	1.1044	1.0812	1.0923	1.1462	1.0966	1.0330	AVRG		0.92374		1.0826	3	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3096	0.3309	0.3385	0.3290	0.3369	0.3576	0.3471	0.3239	AVRG		2.99234		0.3342	4	15	0.05	0.99	
Ethylbenzene		1.6500	1.7827	1.8447	1.8008	1.8122	1.8127	1.7761	1.6781	AVRG		0.56508		1.7697	4	15	0.05	0.99	
m,p-Xylenes	0.7326	0.6241	0.6797	0.6930	0.6793	0.6793	0.6821	0.6607	0.6269	AVRG		1.48570		0.6731	5	15	0.05	0.99	
o-Xylene		0.6283	0.6409	0.6946	0.6643	0.6770	0.6972	0.6705	0.6373	AVRG		1.50652		0.6638	4	15	0.05	0.99	
Styrene		1.0406	1.1627	1.2311	1.2098	1.2251	1.2781	1.2105	1.1436	AVRG		0.84197		1.1877	6	15	0.05	0.99	
Bromoform		0.1964	0.2203	0.2317	0.2267	0.2276	0.2591	0.2451	0.2364	AVRG		4.33951		0.2304	8	15	0.10	0.99	
Isopropylbenzene		2.9948	3.3679	3.5241	3.4842	3.4035	3.3814	3.3183	3.1713	AVRG		0.30024		3.3307	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.8634	0.9388	0.9230	0.9478	0.9028	1.0130	0.9497	0.9175	AVRG		1.07298		0.9320	5	15	0.30	0.99	
1,2,3-Trichloropropane		0.8131	0.7442	0.7575	0.7291	0.7036	0.7780	0.7350	0.7021	AVRG		1.34168		0.7453	5	15	0.05	0.99	
Propylbenzene		3.8415	4.2083	4.4710	4.4582	4.3750	4.2436	4.1775	3.9757	AVRG		0.23703		4.2189	5	15	0.05	0.99	
Bromobenzene		0.9139	0.8760	0.8746	0.8897	0.8916	0.9348	0.8925	0.8432	AVRG		1.12420		0.8895	3	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.5580	2.7063	2.8266	2.7814	2.8072	2.7882	2.7232	2.5554	AVRG		0.36788		2.7183	4	15	0.05	0.99	
2-Chlorotoluene		2.7142	2.7171	2.8270	2.7395	2.7646	2.7823	2.6919	2.5142	AVRG		0.36780		2.7188	3	15	0.05	0.99	
4-Chlorotoluene		2.5567	2.4605	2.6264	2.6572	2.6019	2.7049	2.5911	2.4565	AVRG		0.38731		2.5819	3	15	0.05	0.99	
tert-Butylbenzene		1.9102	2.2307	2.3379	2.3503	2.3537	2.2889	2.2921	2.2090	AVRG		0.44512		2.2466	7	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.7826	2.7787	2.8993	2.9118	2.8776	2.9550	2.8359	2.7052	AVRG		0.35171		2.8433	3	15	0.05	0.99	
sec-Butylbenzene		2.9770	3.6151	3.7665	3.7770	3.6964	3.5787	3.6421	3.4951	AVRG		0.28023		3.5685	7	15	0.05	0.99	
para-Isopropyl Toluene		2.3366	2.7451	2.8866	2.9148	2.9033	2.8430	2.8287	2.7468	AVRG		0.36028		2.7756	7	15	0.05	0.99	
1,3-Dichlorobenzene		1.6381	1.6631	1.7085	1.7222	1.7035	1.7980	1.7299	1.6200	AVRG		0.58896		1.6979	3	15	0.05	0.99	
1,4-Dichlorobenzene		1.6778	1.7282	1.7702	1.7656	1.7528	1.8472	1.7667	1.6569	AVRG		0.57285		1.7457	3	15	0.05	0.99	
n-Butylbenzene		2.4792	2.7039	2.9085	2.8499	2.8497	2.7808	2.7966	2.7111	AVRG		0.36232		2.7600	5	15	0.05	0.99	
1,2-Dichlorobenzene		1.4027	1.5685	1.5678	1.5997	1.5870	1.7042	1.6245	1.5228	AVRG		0.63607		1.5721	6	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.0991	0.1225	0.1188	0.1064	0.1262	0.1187	0.1144	AVRG		8.68367		0.1152	8	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.8558	0.9018	0.9209	0.9250	0.9263	0.9824	0.9485	0.9113	AVRG		1.08517		0.9215	4	15	0.05	0.99	
Hexachlorobutadiene		0.1934	0.2667	0.2972	0.2876	0.3049	0.2844	0.3056	0.3025	AVRG		3.56770		0.2803	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.7939	1.9260	1.9940	1.9976	1.9369	2.1935	2.0997	2.0470	AVRG		0.50036		1.9986	6	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.7439	0.7428	0.7816	0.7984	0.7980	0.8729	0.8407	0.7902	AVRG		1.25619		0.7961	6	15	0.05	0.99	
Dibromofluoromethane	0.5743	0.5645	0.5823	0.5690	0.5749	0.5655	0.5729	0.5738	0.5767	AVRG		1.74622		0.5727	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.2823	0.2827	0.2826	0.2829	0.2793	0.2721	0.2732	0.2671	0.2658	AVRG		3.61733		0.2764	3	15	0.05	0.99	
Toluene-d8	1.3510	1.3456	1.3389	1.3520	1.3395	1.3495	1.3651	1.3481	1.3459	AVRG		0.74162		1.3484	1	15	0.05	0.99	
Bromofluorobenzene	0.9927	1.0105	0.9774	0.9906	1.0040	0.9879	0.9870	0.9890	0.9773	AVRG		1.00937		0.9907	1	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-20	2.000	17	5.000	-2	10.00	-1	20.00	0	50.00	0				
Chloromethane			1.000	-4	2.000	10	5.000	6	10.00	2	20.00	-4	50.00	0	75.00	-3	100.0	-8
Vinyl Chloride	0.500	-6	1.000	-22	2.000	7	5.000	8	10.00	2	20.00	4	50.00	7	75.00	1	100.0	-1
Bromomethane			1.000	-10	2.000	3	5.000	3	10.00	-4	20.00	-5	50.00	7	75.00	6	100.0	1
Chloroethane			1.000	-2	2.000	7	5.000	1	10.00	3	20.00	-1	50.00	2	75.00	-3	100.0	-7
Trichlorofluoromethane			1.000	-21	2.000	14	5.000	-1	10.00	0	20.00	0	50.00	0				
Acetone							5.000	15	10.00	-3	20.00	-16	50.00	10	75.00	-1	100.0	-5
1,1-Dichloroethene			0.500	-13	2.000	1	5.000	7	10.00	3	20.00	3	50.00	-2	75.00	2	100.0	-2
Iodomethane					2.000	-1	5.000	18	10.00	22	20.00	-12	50.00	-6	75.00	-9	100.0	-12
Methylene Chloride			0.500	12	2.000	4	5.000	0	10.00	-5	20.00	-4	50.00	2	75.00	-2	100.0	-6
Carbon Disulfide			0.500	-20	2.000	2	5.000	8	10.00	3	20.00	3	50.00	3	75.00	3	100.0	-1
MTBE			0.500	-6	2.000	2	5.000	1	10.00	0	20.00	-2	50.00	6	75.00	1	100.0	-3
trans-1,2-Dichloroethene			0.500	-5	2.000	1	5.000	1	10.00	2	20.00	1	50.00	2	75.00	1	100.0	-2
Vinyl Acetate					2.000	-1	5.000	-7	10.00	-7	20.00	0	50.00	9	75.00	6	100.0	0
1,1-Dichloroethane			0.500	-10	2.000	1	5.000	4	10.00	1	20.00	1	50.00	4	75.00	1	100.0	-2
2-Butanone					2.000	11	5.000	3	10.00	1	20.00	-13	50.00	6	75.00	-3	100.0	-4
2,2-Dichloropropane			0.500	-2	2.000	6	5.000	8	10.00	0	20.00	0	50.00	-3	75.00	-2	100.0	-7
cis-1,2-Dichloroethene			0.500	2	2.000	1	5.000	-3	10.00	-2	20.00	-1	50.00	4	75.00	1	100.0	-3
Chloroform			0.500	-7	2.000	2	5.000	1	10.00	1	20.00	1	50.00	5	75.00	2	100.0	-4
Bromochloromethane			0.500	-8	2.000	-2	5.000	-1	10.00	1	20.00	0	50.00	7	75.00	3	100.0	-1
1,1,1-Trichloroethane			0.500	-18	2.000	-1	5.000	4	10.00	1	20.00	5	50.00	2	75.00	5	100.0	3
1,1-Dichloropropene			0.500	-23	2.000	2	5.000	8	10.00	2	20.00	5	50.00	2	75.00	5	100.0	0
Carbon Tetrachloride			0.500	-27	2.000	-2	5.000	8	10.00	5	20.00	6	50.00	1	75.00	5	100.0	3
1,2-Dichloroethane			0.500	-7	2.000	-4	5.000	1	10.00	1	20.00	3	50.00	7	75.00	1	100.0	-3
Benzene			0.500	-7	2.000	0	5.000	4	10.00	2	20.00	2	50.00	4	75.00	1	100.0	-6
Trichloroethene			0.500	-14	2.000	-7	5.000	5	10.00	3	20.00	4	50.00	5	75.00	3	100.0	1
1,2-Dichloropropane			0.500	-2	2.000	-4	5.000	0	10.00	2	20.00	-3	50.00	7	75.00	2	100.0	-2
Bromodichloromethane			0.500	-6	2.000	-3	5.000	1	10.00	0	20.00	0	50.00	7	75.00	2	100.0	-2
Dibromomethane			0.500	-5	2.000	-1	5.000	1	10.00	-2	20.00	-1	50.00	7	75.00	3	100.0	-3
4-Methyl-2-Pentanone					2.000	2	5.000	-1	10.00	-1	20.00	-10	50.00	9	75.00	3	100.0	-1
cis-1,3-Dichloropropene			0.500	-1	2.000	-3	5.000	1	10.00	1	20.00	-1	50.00	7	75.00	2	100.0	-5
Toluene			0.500	-1	2.000	0	5.000	3	10.00	0	20.00	0	50.00	3	75.00	0	100.0	-4
trans-1,3-Dichloropropene			0.500	-10	2.000	-2	5.000	2	10.00	-1	20.00	-1	50.00	9	75.00	4	100.0	-1
1,1,2-Trichloroethane			0.500	-6	2.000	-3	5.000	3	10.00	-2	20.00	-2	50.00	10	75.00	2	100.0	-2
2-Hexanone					2.000	10	5.000	-6	10.00	-5	20.00	-8	50.00	10	75.00	1	100.0	-1
1,3-Dichloropropane			0.500	-9	2.000	0	5.000	-1	10.00	2	20.00	-2	50.00	8	75.00	3	100.0	-1
Tetrachloroethene			0.500	-18	2.000	-3	5.000	6	10.00	2	20.00	5	50.00	2	75.00	4	100.0	2
Dibromochloromethane			0.500	-8	2.000	-6	5.000	0	10.00	-1	20.00	-1	50.00	11	75.00	5	100.0	1
1,2-Dibromoethane			0.500	-13	2.000	-4	5.000	0	10.00	0	20.00	0	50.00	11	75.00	6	100.0	0
Chlorobenzene			0.500	-3	2.000	-3	5.000	2	10.00	0	20.00	1	50.00	6	75.00	1	100.0	-5
1,1,1,2-Tetrachloroethane			0.500	-7	2.000	-1	5.000	1	10.00	-2	20.00	1	50.00	7	75.00	4	100.0	-3
Ethylbenzene			0.500	-7	2.000	1	5.000	4	10.00	2	20.00	2	50.00	2	75.00	0	100.0	-5

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	9	1.000	-7	4.000	1	10.00	3	20.00	1	40.00	1	100.0	1	150.0	-2	200.0	-7
o-Xylene			0.500	-5	2.000	-3	5.000	5	10.00	0	20.00	2	50.00	5	75.00	1	100.0	-4
Styrene			0.500	-12	2.000	-2	5.000	4	10.00	2	20.00	3	50.00	8	75.00	2	100.0	-4
Bromoform			0.500	-15	2.000	-4	5.000	1	10.00	-2	20.00	-1	50.00	12	75.00	6	100.0	3
Isopropylbenzene			0.500	-10	2.000	1	5.000	6	10.00	5	20.00	2	50.00	2	75.00	0	100.0	-5
1,1,2,2-Tetrachloroethane			0.500	-7	2.000	1	5.000	-1	10.00	2	20.00	-3	50.00	9	75.00	2	100.0	-2
1,2,3-Trichloropropane			0.500	9	2.000	0	5.000	2	10.00	-2	20.00	-6	50.00	4	75.00	-1	100.0	-6
Propylbenzene			0.500	-9	2.000	0	5.000	6	10.00	6	20.00	4	50.00	1	75.00	-1	100.0	-6
Bromobenzene			0.500	3	2.000	-2	5.000	-2	10.00	0	20.00	0	50.00	5	75.00	0	100.0	-5
1,3,5-Trimethylbenzene			0.500	-6	2.000	0	5.000	4	10.00	2	20.00	3	50.00	3	75.00	0	100.0	-6
2-Chlorotoluene			0.500	0	2.000	0	5.000	4	10.00	1	20.00	2	50.00	2	75.00	-1	100.0	-8
4-Chlorotoluene			0.500	-1	2.000	-5	5.000	2	10.00	3	20.00	1	50.00	5	75.00	0	100.0	-5
tert-Butylbenzene			0.500	-15	2.000	-1	5.000	4	10.00	5	20.00	5	50.00	2	75.00	2	100.0	-2
1,2,4-Trimethylbenzene			0.500	-2	2.000	-2	5.000	2	10.00	2	20.00	1	50.00	4	75.00	0	100.0	-5
sec-Butylbenzene			0.500	-17	2.000	1	5.000	6	10.00	6	20.00	4	50.00	0	75.00	2	100.0	-2
para-Isopropyl Toluene			0.500	-16	2.000	-1	5.000	4	10.00	5	20.00	5	50.00	2	75.00	2	100.0	-1
1,3-Dichlorobenzene			0.500	-4	2.000	-2	5.000	1	10.00	1	20.00	0	50.00	6	75.00	2	100.0	-5
1,4-Dichlorobenzene			0.500	-4	2.000	-1	5.000	1	10.00	1	20.00	0	50.00	6	75.00	1	100.0	-5
n-Butylbenzene			0.500	-10	2.000	-2	5.000	5	10.00	3	20.00	3	50.00	1	75.00	1	100.0	-2
1,2-Dichlorobenzene			0.500	-11	2.000	0	5.000	0	10.00	2	20.00	1	50.00	8	75.00	3	100.0	-3
1,2-Dibromo-3-Chloropropane					2.000	-14	5.000	6	10.00	3	20.00	-8	50.00	10	75.00	3	100.0	-1
1,2,4-Trichlorobenzene			0.500	-7	2.000	-2	5.000	0	10.00	0	20.00	1	50.00	7	75.00	3	100.0	-1
Hexachlorobutadiene			0.500	-31	2.000	-5	5.000	6	10.00	3	20.00	9	50.00	1	75.00	9	100.0	8
Naphthalene			0.500	-10	2.000	-4	5.000	0	10.00	0	20.00	-3	50.00	10	75.00	5	100.0	2
1,2,3-Trichlorobenzene			0.500	-7	2.000	-7	5.000	-2	10.00	0	20.00	0	50.00	10	75.00	6	100.0	-1
Dibromofluoromethane	50.00	0	50.00	-1	50.00	2	50.00	-1	50.00	0	50.00	-1	50.00	0	50.00	0	50.00	1
1,2-Dichloroethane-d4	50.00	2	50.00	2	50.00	2	50.00	2	50.00	1	50.00	-2	50.00	-1	50.00	-3	50.00	-4
Toluene-d8	50.00	0	50.00	0	50.00	-1	50.00	0	50.00	-1	50.00	0	50.00	1	50.00	0	50.00	0
Bromofluorobenzene	50.00	0	50.00	2	50.00	-1	50.00	0	50.00	1	50.00	0	50.00	0	50.00	0	50.00	-1

BO 01/20/10 [Chloromethane]: Corrected fronting or tailing peak integration in 2PPB (jaj14).

BO 01/20/10 [Chloroethane]: Corrected baseline noise or negative peak in multiple levels.

BO 01/20/10 [1,1-Dichloroethene]: Corrected fronting or tailing peak integration1PPB (jaj13).

BO 01/20/10 [Isopropyl Ether (DIPE)]: Corrected fronting or tailing peak integration1PPB (jaj13).

BO 01/22/10 [n-Hexane]: DO NOT USE

Analyst: BO

Date: 01/22/10

Reviewer: LW

Date: 01/22/10

m=manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor; QUAD=Quadratic regression

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490027869001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA10
Calnum : 490027869001

Name : 826GOX10
Cal Date : 19-JAN-2010

Type : WATER

ICV 490027869021 (jaj21 20-JAN-2010) stds: S13817 (10000X), S13615 (2500X)
ICV 490027869022 (jaj22 20-JAN-2010) stds: S13559 (10000X), S13639 (10000X),
S13492 (10000X), S13615 (2500X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	490027869021	25.00	27.46	ug/L	10	25	
Chloromethane	490027869021	25.00	25.14	ug/L	1	25	
Vinyl Chloride	490027869021	25.00	24.91	ug/L	0	25	
Bromomethane	490027869021	25.00	25.54	ug/L	2	25	
Chloroethane	490027869021	25.00	26.12	ug/L	4	25	
Trichlorofluoromethane	490027869021	25.00	24.17	ug/L	-3	25	
Acetone	490027869022	25.00	25.77	ug/L	3	25	
1,1-Dichloroethene	490027869022	25.00	26.60	ug/L	6	25	
Iodomethane	490027869022	25.00	21.78	ug/L	-13	25	
Methylene Chloride	490027869022	25.00	25.48	ug/L	2	25	
Carbon Disulfide	490027869022	25.00	22.36	ug/L	-11	25	
MTBE	490027869022	25.00	23.83	ug/L	-5	25	
trans-1,2-Dichloroethene	490027869022	25.00	26.75	ug/L	7	25	
Vinyl Acetate	490027869022	25.00	25.72	ug/L	3	25	
1,1-Dichloroethane	490027869022	25.00	26.55	ug/L	6	25	
2-Butanone	490027869022	25.00	24.40	ug/L	-2	25	
2,2-Dichloropropane	490027869022	25.00	25.34	ug/L	1	25	
cis-1,2-Dichloroethene	490027869022	25.00	26.87	ug/L	7	25	
Chloroform	490027869022	25.00	26.37	ug/L	5	25	
Bromochloromethane	490027869022	25.00	26.60	ug/L	6	25	
1,1,1-Trichloroethane	490027869022	25.00	27.92	ug/L	12	25	
1,1-Dichloropropene	490027869022	25.00	28.30	ug/L	13	25	
Carbon Tetrachloride	490027869022	25.00	28.51	ug/L	14	25	
1,2-Dichloroethane	490027869022	25.00	25.99	ug/L	4	25	
Benzene	490027869022	25.00	27.78	ug/L	11	25	
Trichloroethene	490027869022	25.00	28.04	ug/L	12	25	
1,2-Dichloropropane	490027869022	25.00	26.34	ug/L	5	25	
Bromodichloromethane	490027869022	25.00	26.54	ug/L	6	25	
Dibromomethane	490027869022	25.00	26.27	ug/L	5	25	
4-Methyl-2-Pentanone	490027869022	25.00	24.92	ug/L	0	25	
cis-1,3-Dichloropropene	490027869022	25.00	26.68	ug/L	7	25	
Toluene	490027869022	25.00	27.42	ug/L	10	25	
trans-1,3-Dichloropropene	490027869022	25.00	24.15	ug/L	-3	25	
1,1,2-Trichloroethane	490027869022	25.00	26.11	ug/L	4	25	
2-Hexanone	490027869022	25.00	25.89	ug/L	4	25	
1,3-Dichloropropane	490027869022	25.00	26.99	ug/L	8	25	
Tetrachloroethene	490027869022	25.00	27.37	ug/L	9	25	
Dibromochloromethane	490027869022	25.00	26.43	ug/L	6	25	
1,2-Dibromoethane	490027869022	25.00	27.39	ug/L	10	25	
Chlorobenzene	490027869022	25.00	26.86	ug/L	7	25	
1,1,1,2-Tetrachloroethane	490027869022	25.00	27.37	ug/L	9	25	
Ethylbenzene	490027869022	25.00	27.80	ug/L	11	25	
m,p-Xylenes	490027869022	50.00	55.23	ug/L	10	25	
o-Xylene	490027869022	25.00	27.24	ug/L	9	25	
Styrene	490027869022	25.00	28.01	ug/L	12	25	
Bromoform	490027869022	25.00	26.32	ug/L	5	25	
Isopropylbenzene	490027869022	25.00	24.49	ug/L	-2	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	490027869022	25.00	25.59	ug/L	2	25	
1,2,3-Trichloropropane	490027869022	25.00	26.29	ug/L	5	25	
Propylbenzene	490027869022	25.00	27.54	ug/L	10	25	
Bromobenzene	490027869022	25.00	26.97	ug/L	8	25	
1,3,5-Trimethylbenzene	490027869022	25.00	27.50	ug/L	10	25	
2-Chlorotoluene	490027869022	25.00	27.75	ug/L	11	25	
4-Chlorotoluene	490027869022	25.00	26.75	ug/L	7	25	
tert-Butylbenzene	490027869022	25.00	27.62	ug/L	10	25	
1,2,4-Trimethylbenzene	490027869022	25.00	26.71	ug/L	7	25	
sec-Butylbenzene	490027869022	25.00	27.97	ug/L	12	25	
para-Isopropyl Toluene	490027869022	25.00	27.08	ug/L	8	25	
1,3-Dichlorobenzene	490027869022	25.00	26.62	ug/L	6	25	
1,4-Dichlorobenzene	490027869022	25.00	26.46	ug/L	6	25	
n-Butylbenzene	490027869022	25.00	27.91	ug/L	12	25	
1,2-Dichlorobenzene	490027869022	25.00	27.02	ug/L	8	25	
1,2-Dibromo-3-Chloropropane	490027869022	25.00	27.27	ug/L	9	25	
1,2,4-Trichlorobenzene	490027869022	25.00	26.94	ug/L	8	25	
Hexachlorobutadiene	490027869022	25.00	27.97	ug/L	12	25	
Naphthalene	490027869022	25.00	27.76	ug/L	11	25	
1,2,3-Trichlorobenzene	490027869022	25.00	27.97	ug/L	12	25	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220680 MSVOA Water: EPA 8260B

Inst : MSVOA13
 Calnum : 940202186001
 Units : ug/L

Date : 20-MAY-2010 20:20

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	mek12	940202186012	.25/.5PPB	20-MAY-2010 20:20	S14651 (20000X), S14417 (20000X), S14420 (20000X), S14574 (10000X), S14658 (2500X)
L2	mek13	940202186013	0.5/1PPB	20-MAY-2010 20:49	S14651 (10000X), S14417 (10000X), S14420 (10000X), S14574 (50000X), S14658 (2500X)
L3	mek14	940202186014	2PPB	20-MAY-2010 21:17	S14651 (25000X), S14417 (25000X), S14420 (50000X), S14574 (25000X), S14658 (2500X)
L4	mek15	940202186015	5PPB	20-MAY-2010 21:46	S14651 (10000X), S14417 (10000X), S14420 (20000X), S14574 (10000X), S14658 (2500X)
L5	mek16	940202186016	10PPB	20-MAY-2010 22:14	S14651 (5000X), S14417 (5000X), S14420 (10000X), S14574 (5000X), S14658 (2500X)
L6	mek17	940202186017	20PPB	20-MAY-2010 22:42	S14415 (25000X), S14386 (25000X), S14228 (50000X), S14158 (25000X), S14658 (2500X)
L7	mek18	940202186018	50PPB	20-MAY-2010 23:11	S14415 (10000X), S14386 (10000X), S14228 (20000X), S14158 (10000X), S14658 (2500X)
L8	mek19	940202186019	75PPB	20-MAY-2010 23:39	S14415 (6667X), S14386 (6667X), S14228 (13330X), S14158 (6667X), S14658 (2500X)
L9	mek20	940202186020	100PPB	21-MAY-2010 00:08	S14415 (5000X), S14386 (5000X), S14228 (10000X), S14158 (5000X), S14658 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.6207	0.5838	0.6649	0.6860	0.7912	0.8488	0.8310	0.8209	AVRG	R		1.36814		0.7309	14	15	0.05	0.99	
Chloromethane		0.7068	0.6553	0.7333	0.8055	0.8634	0.8988	0.8936	0.8785	AVRG	R		1.24316		0.8044	12	15	0.10	0.99	
Vinyl Chloride	0.7561	0.8019	0.7712	0.8661	0.8744	0.9374	1.0053	1.0040	1.0014	AVRG	R		1.12250		0.8909	11	15	0.05	0.99	
Bromomethane		0.3338	0.3966	0.4162	0.4244	0.4282	0.4059	0.3840	0.4043	AVRG	R		2.50519		0.3992	8	15	0.05	0.99	
Chloroethane		0.4623	0.4522	0.4837	0.4870	0.5084	0.5146	0.5008	0.5093	AVRG	R		2.04171		0.4898	5	15	0.05	0.99	
Trichlorofluoromethane		0.8870	0.8131	0.9233	0.9498	0.9355	0.9804	0.9289	0.9327	AVRG	R		1.08834		0.9188	5	15	0.05	0.99	
Acetone			0.4242m	0.3903	0.3618	0.3501	0.3024	0.3102	0.2760	AVRG	R		2.89861		0.3450	15	15	0.05	0.99	
1,1-Dichloroethene		0.5830m	0.5196m	0.5076m	0.5260m	0.5146	0.4791	0.4753	0.4681	AVRG	R		1.96401		0.5092	7	15	0.05	0.99	
Iodomethane				0.1546	0.2033	0.2593	0.4125	0.4200	0.4593	QUAD	A	-1.7238	0.37728	9.812E-4	0.3182	0.998	15	0.05	0.99	
Methylene Chloride		0.6859	0.6558	0.6308	0.6387	0.6423	0.5841	0.5856	0.5742	AVRG	R		1.60084		0.6247	6	15	0.05	0.99	
Carbon Disulfide		2.0831	1.9579	1.9925	2.0372	2.0434	1.8813	1.9261	1.8479	AVRG	R		0.50731		1.9712	4	15	0.05	0.99	
MTBE		2.0694	2.1590	2.1357	2.1851	2.2273	2.0224	2.0569	2.0152	AVRG	R		0.47418		2.1089	4	15	0.05	0.99	
trans-1,2-Dichloroethene		0.4681m	0.6412m	0.5737m	0.5792	0.5994m	0.5424	0.5483	0.5344	AVRG	R		1.78302		0.5608	9	15	0.05	0.99	
Vinyl Acetate			1.5899	1.4761	1.6134	1.7650	1.6690	1.6626	1.6821	AVRG	R		0.61092		1.6369	6	15	0.05	0.99	
1,1-Dichloroethane		1.2529	1.2811	1.2825	1.3264	1.3520	1.2089	1.2378	1.1968	AVRG	R		0.78907		1.2673	4	15	0.10	0.99	
2-Butanone			0.5307m	0.5429m	0.5254m	0.5175m	0.4717	0.4656	0.4459	AVRG	R		2.00006		0.5000	8	15	0.05	0.99	
2,2-Dichloropropane		0.9422m	0.9694m	0.9620m	0.9768m	0.9320m	0.9013	0.8898	0.8933	AVRG	R		1.07140		0.9334	4	15	0.05	0.99	
cis-1,2-Dichloroethene		0.7800m	0.6959m	0.6414m	0.6814m	0.6828m	0.6242	0.6466	0.6170	AVRG	R		1.48995		0.6712	8	15	0.05	0.99	
Chloroform		0.9850	1.0973	1.0934	1.1400	1.1669	1.0631	1.0942	1.0593	AVRG	R		0.91962		1.0874	5	15	0.05	0.99	
Bromochloromethane		0.2360	0.2830	0.2799	0.2903	0.2850	0.2559	0.2631	0.2524	AVRG	R		3.72874		0.2682	7	15	0.05	0.99	
1,1,1-Trichloroethane		1.0569	0.9443	0.9704	1.0015	0.9661	0.9221	0.9493	0.9101	AVRG	R		1.03616		0.9651	5	15	0.05	0.99	
1,1-Dichloropropene		0.5176	0.4857	0.4966	0.5108	0.5008	0.4883	0.5134	0.4861	AVRG	R		2.00042		0.4999	3	15	0.05	0.99	
Carbon Tetrachloride		0.3725	0.4250	0.4225	0.4420	0.4265	0.4231	0.4411	0.4183	AVRG	R		2.37313		0.4214	5	15	0.05	0.99	
1,2-Dichloroethane		0.4749	0.5358	0.5362	0.5405	0.5517	0.5012	0.5220	0.4995	AVRG	R		1.92221		0.5202	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.5330	1.4859	1.5120	1.5540	1.5906	1.4879	1.5473	1.4785	AVRG	R		0.65632		1.5236	3	15	0.05	0.99	
Trichloroethene		0.3452	0.3380	0.3570	0.3747	0.3593	0.3425	0.3578	0.3389	AVRG	R		2.84365		0.3517	4	15	0.05	0.99	
1,2-Dichloropropane		0.3847	0.4276	0.4243	0.4361m	0.4448m	0.4107	0.4254m	0.4096m	AVRG	R		2.37864		0.4204	4	15	0.05	0.99	
Bromodichloromethane		0.4375	0.4666	0.4695	0.4890	0.5056	0.4698	0.4939	0.4729	AVRG	R		2.10258		0.4756	4	15	0.05	0.99	
Dibromomethane		0.2054	0.2259	0.2181	0.2292	0.2313	0.2134	0.2189	0.2095	AVRG	R		4.56695		0.2190	4	15	0.05	0.99	
4-Methyl-2-Pentanone			0.5563	0.5495	0.5438	0.5631	0.5119	0.5160	0.5011	AVRG	R		1.87080		0.5345	5	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5623	0.6395	0.6190	0.6478	0.6683	0.6239	0.6451	0.6252	AVRG	R		1.59009		0.6289	5	15	0.05	0.99	
Toluene		1.6921	1.7145	1.6419	1.7495	1.7354	1.6280	1.6839	1.5946	AVRG	R		0.59524		1.6800	3	15	0.05	0.99	
trans-1,3-Dichloropropene		0.6046	0.6205	0.6291	0.6350	0.6622	0.6155	0.6318	0.6068	AVRG	R		1.59826		0.6257	3	15	0.05	0.99	
1,1,2-Trichloroethane		0.1839	0.1951	0.2035	0.2022	0.2088	0.1877	0.1943	0.1855	AVRG	R		5.12492		0.1951	5	15	0.05	0.99	
2-Hexanone			0.4220	0.4180	0.4173	0.4152	0.3812	0.3834	0.3652	AVRG	R		2.49792		0.4003	6	15	0.05	0.99	
1,3-Dichloropropane		0.6517	0.6708	0.6748	0.6912	0.7161	0.6567	0.6724	0.6407	AVRG	R		1.48853		0.6718	4	15	0.05	0.99	
Tetrachloroethene		0.3185	0.3340	0.3306	0.3517	0.3299	0.3249	0.3388	0.3234	AVRG	R		3.01688		0.3315	3	15	0.05	0.99	
Dibromochloromethane		0.3009	0.3377	0.3340	0.3483	0.3635	0.3469	0.3576	0.3442	AVRG	R		2.92692		0.3417	6	15	0.05	0.99	
1,2-Dibromoethane		0.2965	0.3538	0.3671	0.3525	0.3673	0.3412	0.3503	0.3360	AVRG	R		2.89354		0.3456	7	15	0.05	0.99	
Chlorobenzene		0.9838	1.0143	1.0272	1.0550	1.0640	0.9976	1.0317	0.9910	AVRG	R		0.97985		1.0206	3	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3218	0.3567	0.3333	0.3586	0.3590	0.3443	0.3589	0.3435	AVRG	R		2.88170		0.3470	4	15	0.05	0.99	
Ethylbenzene		1.9938	1.9169m	1.9192m	1.9906m	1.9496m	1.8867	1.9671	1.8648	AVRG	R		0.51651		1.9361	2	15	0.05	0.99	
m,p-Xylenes	0.6166	0.6577	0.6688	0.6786	0.7217	0.7209	0.7023	0.7338	0.7014	AVRG	R		1.45122		0.6891	5	15	0.05	0.99	
o-Xylene		0.6480	0.6310	0.6561	0.6972	0.7092	0.6840	0.7157	0.6856	AVRG	R		1.47415		0.6784	4	15	0.05	0.99	
Styrene		1.0580	1.1437	1.1524	1.2337	1.2661	1.2221	1.2811	1.2309	AVRG	R		0.83437		1.1985	6	15	0.05	0.99	
Bromoform		0.2064	0.2141	0.2291	0.2400	0.2568	0.2531	0.2649	0.2584	AVRG	R		4.16049		0.2404	9	15	0.10	0.99	
Isopropylbenzene		3.3630	3.4369	3.4563	3.5006	3.3397	3.2747	3.3878	3.2372	AVRG	R		0.29634		3.3745	3	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.9987	1.0397	1.0276	1.0082	1.0169	0.9250	0.9369	0.9138	AVRG	R		1.01691		0.9834	5	15	0.30	0.99	
1,2,3-Trichloropropane		1.1331	1.1044	1.0664	1.0621	1.0294	0.9529	0.9565	0.9367	AVRG	R		0.97070		1.0302	7	15	0.05	0.99	
Propylbenzene		4.4394m	4.4068m	4.3807	4.5104	4.2339	4.1508	4.2797	4.0513	AVRG	R		0.23220		4.3066	4	15	0.05	0.99	
Bromobenzene		0.7893	0.7962	0.7925	0.7879	0.7883	0.7384	0.7656	0.7411	AVRG	R		1.29046		0.7749	3	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.8633	2.8522	2.9209	3.0036	2.8832	2.7809	2.8899	2.7498	AVRG	R		0.34868		2.8680	3	15	0.05	0.99	
2-Chlorotoluene		2.9160m	2.9162m	2.9394	2.9685	2.8906	2.7401	2.8100	2.6889	AVRG	R		0.34981		2.8587	4	15	0.05	0.99	
4-Chlorotoluene		2.7315m	2.6877m	2.6732	2.6941	2.6721	2.5128	2.5876	2.4836	AVRG	R		0.38018		2.6303	3	15	0.05	0.99	
tert-Butylbenzene		2.3683m	2.4888m	2.5651	2.6293	2.4529	2.4420	2.5329	2.3865	AVRG	R		0.40270		2.4832	4	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.9380	2.9085	3.0032	3.0755	3.0054	2.8972	2.9892	2.8551	AVRG	R		0.33795		2.9590	2	15	0.05	0.99	
sec-Butylbenzene		3.6863	3.8931	3.9316	4.0827	3.7750	3.8453	3.9276	3.6834	AVRG	R		0.25953		3.8531	4	15	0.05	0.99	
para-Isopropyl Toluene		3.0877m	3.1738	3.2140	3.2934	3.1250	3.1329	3.2259	3.0654	AVRG	R		0.31598		3.1648	2	15	0.05	0.99	
1,3-Dichlorobenzene		1.4066	1.5103	1.5760	1.6115	1.5884	1.5067	1.5506	1.4931	AVRG	R		0.65342		1.5304	4	15	0.05	0.99	
1,4-Dichlorobenzene		1.6731	1.6824	1.6526	1.6836	1.6723	1.5716	1.6114	1.5609	AVRG	R		0.61032		1.6385	3	15	0.05	0.99	
n-Butylbenzene		3.1020m	3.1692m	3.3104	3.3975	3.1589	3.1698	3.2415	3.0878	AVRG	R		0.31205		3.2046	3	15	0.05	0.99	
1,2-Dichlorobenzene		1.5047	1.5004	1.5244	1.5736	1.5410	1.4524	1.5065	1.4475	AVRG	R		0.66388		1.5063	3	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.2342m	0.2411m	0.2385m	0.2341m	0.2143	0.2111	0.2058	AVRG	R		4.43289		0.2256	6	15	0.05	0.99	
1,2,4-Trichlorobenzene		1.0460	1.1527	1.1143	1.1545	1.1506	1.1011	1.1470	1.1125	AVRG	R		0.89101		1.1223	3	15	0.05	0.99	
Hexachlorobutadiene		0.5217	0.5491	0.5174	0.5362	0.4943	0.5214	0.5356	0.5083	AVRG	R		1.91204		0.5230	3	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		3.0383	3.3321	3.3047	3.3896	3.4430	3.2662	3.3505	3.2186	AVRG	R		0.30368		3.2929	4	15	0.05	0.99	
1,2,3-Trichlorobenzene		1.0017	1.0967	1.0560	1.0841	1.1051	1.0550	1.0923	1.0477	AVRG	R		0.93691		1.0673	3	15	0.05	0.99	
Dibromofluoromethane	0.5221	0.5260	0.5289	0.5291	0.5242	0.5311	0.5252	0.5275	0.5238	AVRG	R		1.89962		0.5264	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.4167	0.4231	0.4259	0.4240	0.4248	0.4258	0.4342	0.4303	0.4298	AVRG	R		2.34705		0.4261	1	15	0.05	0.99	
Toluene-d8	1.4326	1.4339	1.4384	1.4106	1.4261	1.4255	1.4237	1.4062	1.3969	AVRG	R		0.70346		1.4215	1	15	0.05	0.99	
Bromofluorobenzene	1.0316	1.0440	1.0247	1.0269	0.9963	0.9844	0.9829	0.9776	0.9776	AVRG	R		0.99490		1.0051	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-15	2.000	-20	5.000	-9	10.00	-6	20.00	8	50.00	16	75.00	14	100.0	12
Chloromethane			1.000	-12	2.000	-19	5.000	-9	10.00	0	20.00	7	50.00	12	75.00	11	100.0	9
Vinyl Chloride	0.500	-15	1.000	-10	2.000	-13	5.000	-3	10.00	-2	20.00	5	50.00	13	75.00	13	100.0	12
Bromomethane			1.000	-16	2.000	-1	5.000	4	10.00	6	20.00	7	50.00	2	75.00	-4	100.0	1
Chloroethane			1.000	-6	2.000	-8	5.000	-1	10.00	-1	20.00	4	50.00	5	75.00	2	100.0	4
Trichlorofluoromethane			1.000	-3	2.000	-12	5.000	0	10.00	3	20.00	2	50.00	7	75.00	1	100.0	2
Acetone					2.000	23	5.000	13	10.00	5	20.00	1	50.00	-12	75.00	-10	100.0	-20
1,1-Dichloroethene			0.500	15	2.000	2	5.000	0	10.00	3	20.00	1	50.00	-6	75.00	-7	100.0	-8
Iodomethane							5.000	30	10.00	-3	20.00	-12	50.00	4	75.00	-2	100.0	0
Methylene Chloride			0.500	10	2.000	5	5.000	1	10.00	2	20.00	3	50.00	-6	75.00	-6	100.0	-8
Carbon Disulfide			0.500	6	2.000	-1	5.000	1	10.00	3	20.00	4	50.00	-5	75.00	-2	100.0	-6
MTBE			0.500	-2	2.000	2	5.000	1	10.00	4	20.00	6	50.00	-4	75.00	-2	100.0	-4
trans-1,2-Dichloroethene			0.500	-17	2.000	14	5.000	2	10.00	3	20.00	7	50.00	-3	75.00	-2	100.0	-5
Vinyl Acetate					2.000	-3	5.000	-10	10.00	-1	20.00	8	50.00	2	75.00	2	100.0	3
1,1-Dichloroethane			0.500	-1	2.000	1	5.000	1	10.00	5	20.00	7	50.00	-5	75.00	-2	100.0	-6
2-Butanone					2.000	6	5.000	9	10.00	5	20.00	4	50.00	-6	75.00	-7	100.0	-11
2,2-Dichloropropane			0.500	1	2.000	4	5.000	3	10.00	5	20.00	0	50.00	-3	75.00	-5	100.0	-4
cis-1,2-Dichloroethene			0.500	16	2.000	4	5.000	-4	10.00	2	20.00	2	50.00	-7	75.00	-4	100.0	-8
Chloroform			0.500	-9	2.000	1	5.000	1	10.00	5	20.00	7	50.00	-2	75.00	1	100.0	-3
Bromochloromethane			0.500	-12	2.000	6	5.000	4	10.00	8	20.00	6	50.00	-5	75.00	-2	100.0	-6
1,1,1-Trichloroethane			0.500	10	2.000	-2	5.000	1	10.00	4	20.00	0	50.00	-4	75.00	-2	100.0	-6
1,1-Dichloropropene			0.500	4	2.000	-3	5.000	-1	10.00	2	20.00	0	50.00	-2	75.00	3	100.0	-3
Carbon Tetrachloride			0.500	-12	2.000	1	5.000	0	10.00	5	20.00	1	50.00	0	75.00	5	100.0	-1
1,2-Dichloroethane			0.500	-9	2.000	3	5.000	3	10.00	4	20.00	6	50.00	-4	75.00	0	100.0	-4
Benzene			0.500	1	2.000	-2	5.000	-1	10.00	2	20.00	4	50.00	-2	75.00	2	100.0	-3
Trichloroethene			0.500	-2	2.000	-4	5.000	2	10.00	7	20.00	2	50.00	-3	75.00	2	100.0	-4
1,2-Dichloropropane			0.500	-8	2.000	2	5.000	1	10.00	4	20.00	6	50.00	-2	75.00	1	100.0	-3
Bromodichloromethane			0.500	-8	2.000	-2	5.000	-1	10.00	3	20.00	6	50.00	-1	75.00	4	100.0	-1
Dibromomethane			0.500	-6	2.000	3	5.000	0	10.00	5	20.00	6	50.00	-3	75.00	0	100.0	-4
4-Methyl-2-Pentanone					2.000	4	5.000	3	10.00	2	20.00	5	50.00	-4	75.00	-3	100.0	-6
cis-1,3-Dichloropropene			0.500	-11	2.000	2	5.000	-2	10.00	3	20.00	6	50.00	-1	75.00	3	100.0	-1
Toluene			0.500	1	2.000	2	5.000	-2	10.00	4	20.00	3	50.00	-3	75.00	0	100.0	-5
trans-1,3-Dichloropropene			0.500	-3	2.000	-1	5.000	1	10.00	1	20.00	6	50.00	-2	75.00	1	100.0	-3
1,1,2-Trichloroethane			0.500	-6	2.000	0	5.000	4	10.00	4	20.00	7	50.00	-4	75.00	0	100.0	-5
2-Hexanone					2.000	5	5.000	4	10.00	4	20.00	4	50.00	-5	75.00	-4	100.0	-9
1,3-Dichloropropane			0.500	-3	2.000	0	5.000	0	10.00	3	20.00	7	50.00	-2	75.00	0	100.0	-5
Tetrachloroethene			0.500	-4	2.000	1	5.000	0	10.00	6	20.00	0	50.00	-2	75.00	2	100.0	-2
Dibromochloromethane			0.500	-12	2.000	-1	5.000	-2	10.00	2	20.00	6	50.00	2	75.00	5	100.0	1
1,2-Dibromoethane			0.500	-14	2.000	2	5.000	6	10.00	2	20.00	6	50.00	-1	75.00	1	100.0	-3
Chlorobenzene			0.500	-4	2.000	-1	5.000	1	10.00	3	20.00	4	50.00	-2	75.00	1	100.0	-3
1,1,1,2-Tetrachloroethane			0.500	-7	2.000	3	5.000	-4	10.00	3	20.00	3	50.00	-1	75.00	3	100.0	-1
Ethylbenzene			0.500	3	2.000	-1	5.000	-1	10.00	3	20.00	1	50.00	-3	75.00	2	100.0	-4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	-11	1.000	-5	4.000	-3	10.00	-2	20.00	5	40.00	5	100.0	2	150.0	6	200.0	2
o-Xylene			0.500	-4	2.000	-7	5.000	-3	10.00	3	20.00	5	50.00	1	75.00	6	100.0	1
Styrene			0.500	-12	2.000	-5	5.000	-4	10.00	3	20.00	6	50.00	2	75.00	7	100.0	3
Bromoform			0.500	-14	2.000	-11	5.000	-5	10.00	0	20.00	7	50.00	5	75.00	10	100.0	8
Isopropylbenzene			0.500	0	2.000	2	5.000	2	10.00	4	20.00	-1	50.00	-3	75.00	0	100.0	-4
1,1,2,2-Tetrachloroethane			0.500	2	2.000	6	5.000	5	10.00	3	20.00	3	50.00	-6	75.00	-5	100.0	-7
1,2,3-Trichloropropane			0.500	10	2.000	7	5.000	4	10.00	3	20.00	0	50.00	-8	75.00	-7	100.0	-9
Propylbenzene			0.500	3	2.000	2	5.000	2	10.00	5	20.00	-2	50.00	-4	75.00	-1	100.0	-6
Bromobenzene			0.500	2	2.000	3	5.000	2	10.00	2	20.00	2	50.00	-5	75.00	-1	100.0	-4
1,3,5-Trimethylbenzene			0.500	0	2.000	-1	5.000	2	10.00	5	20.00	1	50.00	-3	75.00	1	100.0	-4
2-Chlorotoluene			0.500	2	2.000	2	5.000	3	10.00	4	20.00	1	50.00	-4	75.00	-2	100.0	-6
4-Chlorotoluene			0.500	4	2.000	2	5.000	2	10.00	2	20.00	2	50.00	-4	75.00	-2	100.0	-6
tert-Butylbenzene			0.500	-5	2.000	0	5.000	3	10.00	6	20.00	-1	50.00	-2	75.00	2	100.0	-4
1,2,4-Trimethylbenzene			0.500	-1	2.000	-2	5.000	1	10.00	4	20.00	2	50.00	-2	75.00	1	100.0	-4
sec-Butylbenzene			0.500	-4	2.000	1	5.000	2	10.00	6	20.00	-2	50.00	0	75.00	2	100.0	-4
para-Isopropyl Toluene			0.500	-2	2.000	0	5.000	2	10.00	4	20.00	-1	50.00	-1	75.00	2	100.0	-3
1,3-Dichlorobenzene			0.500	-8	2.000	-1	5.000	3	10.00	5	20.00	4	50.00	-2	75.00	1	100.0	-2
1,4-Dichlorobenzene			0.500	2	2.000	3	5.000	1	10.00	3	20.00	2	50.00	-4	75.00	-2	100.0	-5
n-Butylbenzene			0.500	-3	2.000	-1	5.000	3	10.00	6	20.00	-1	50.00	-1	75.00	1	100.0	-4
1,2-Dichlorobenzene			0.500	0	2.000	0	5.000	1	10.00	4	20.00	2	50.00	-4	75.00	0	100.0	-4
1,2-Dibromo-3-Chloropropane					2.000	4	5.000	7	10.00	6	20.00	4	50.00	-5	75.00	-6	100.0	-9
1,2,4-Trichlorobenzene			0.500	-7	2.000	3	5.000	-1	10.00	3	20.00	3	50.00	-2	75.00	2	100.0	-1
Hexachlorobutadiene			0.500	0	2.000	5	5.000	-1	10.00	3	20.00	-5	50.00	0	75.00	2	100.0	-3
Naphthalene			0.500	-8	2.000	1	5.000	0	10.00	3	20.00	5	50.00	-1	75.00	2	100.0	-2
1,2,3-Trichlorobenzene			0.500	-6	2.000	3	5.000	-1	10.00	2	20.00	4	50.00	-1	75.00	2	100.0	-2
Dibromofluoromethane	50.00	-1	50.00	0	50.00	0	50.00	1	50.00	0	50.00	1	50.00	0	50.00	0	50.00	-1
1,2-Dichloroethane-d4	50.00	-2	50.00	-1	50.00	0	50.00	0	50.00	0	50.00	0	50.00	2	50.00	1	50.00	1
Toluene-d8	50.00	1	50.00	1	50.00	1	50.00	-1	50.00	0	50.00	0	50.00	0	50.00	-1	50.00	-2
Bromofluorobenzene	50.00	3	50.00	4	50.00	2	50.00	2	50.00	-1	50.00	-2	50.00	-2	50.00	-3	50.00	-3

BO 05/21/10 [Acetone]: Corrected baseline noise or negative peak in 2PPB (mek14).

BO 05/21/10 [1,1-Dichloroethene]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [trans-1,2-Dichloroethene]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [2-Butanone]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [2,2-Dichloropropane]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [cis-1,2-Dichloroethene]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [1,2-Dichloropropane]: Separated from coeluting peak in multiple levels.
BO 05/21/10 [Ethylbenzene]: Separated from coeluting peak in multiple levels.
BO 05/21/10 [Propylbenzene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [2-Chlorotoluene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [4-Chlorotoluene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [tert-Butylbenzene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [para-Isopropyl Toluene]: Corrected baseline noise or negative peak1PPB (mek13).
BO 05/21/10 [n-Butylbenzene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [1,2-Dibromo-3-Chloropropane]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [Isopropyl Ether (DIPE)]: Corrected baseline noise or negative peak1PPB (mek13).
BO 05/21/10 [Ethanol]: Corrected fronting or tailing peak integration in 50PPB (mek18).

Analyst: BJP

Date: 06/14/10

Reviewer: LW

Date: 06/14/10

m=manual integration

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA13
Calnum : 940202186001

Cal Date : 20-MAY-2010

ICV 940203930005 (mel05 21-MAY-2010) stds: S14605 (10000X), S14658 (2500X)
ICV 940203930006 (mel06 21-MAY-2010) stds: S14253 (10000X), S14323 (10000X),
S14573 (10000X), S14658 (2500X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	940203930005	25.00	20.83	ug/L	-17	25	
Chloromethane	940203930005	25.00	24.77	ug/L	-1	25	
Vinyl Chloride	940203930005	25.00	23.21	ug/L	-7	25	
Bromomethane	940203930005	25.00	17.38	ug/L	-30	25	v-
Chloroethane	940203930005	25.00	25.88	ug/L	4	25	
Trichlorofluoromethane	940203930005	25.00	25.52	ug/L	2	25	
Acetone	940203930006	25.00	25.92	ug/L	4	25	
1,1-Dichloroethene	940203930006	25.00	23.46	ug/L	-6	25	
Iodomethane	940203930006	25.00	15.33	ug/L	-39	25	v-
Methylene Chloride	940203930006	25.00	25.01	ug/L	0	25	
Carbon Disulfide	940203930006	25.00	22.32	ug/L	-11	25	
MTBE	940203930006	25.00	24.51	ug/L	-2	25	
trans-1,2-Dichloroethene	940203930006	25.00	26.08	ug/L	4	25	
Vinyl Acetate	940203930006	25.00	31.55	ug/L	26	25	v+
1,1-Dichloroethane	940203930006	25.00	26.05	ug/L	4	25	
2-Butanone	940203930006	25.00	26.78	ug/L	7	25	
2,2-Dichloropropane	940203930006	25.00	29.40	ug/L	18	25	
cis-1,2-Dichloroethene	940203930006	25.00	24.94	ug/L	0	25	
Chloroform	940203930006	25.00	26.29	ug/L	5	25	
Bromochloromethane	940203930006	25.00	25.11	ug/L	0	25	
1,1,1-Trichloroethane	940203930006	25.00	25.70	ug/L	3	25	
1,1-Dichloropropene	940203930006	25.00	24.52	ug/L	-2	25	
Carbon Tetrachloride	940203930006	25.00	25.53	ug/L	2	25	
1,2-Dichloroethane	940203930006	25.00	25.50	ug/L	2	25	
Benzene	940203930006	25.00	25.07	ug/L	0	25	
Trichloroethene	940203930006	25.00	25.21	ug/L	1	25	
1,2-Dichloropropane	940203930006	25.00	24.84	ug/L	-1	25	
Bromodichloromethane	940203930006	25.00	25.58	ug/L	2	25	
Dibromomethane	940203930006	25.00	25.43	ug/L	2	25	
4-Methyl-2-Pentanone	940203930006	25.00	25.84	ug/L	3	25	
cis-1,3-Dichloropropene	940203930006	25.00	25.84	ug/L	3	25	
Toluene	940203930006	25.00	24.98	ug/L	0	25	
trans-1,3-Dichloropropene	940203930006	25.00	23.66	ug/L	-5	25	
1,1,2-Trichloroethane	940203930006	25.00	24.52	ug/L	-2	25	
2-Hexanone	940203930006	25.00	25.59	ug/L	2	25	
1,3-Dichloropropane	940203930006	25.00	25.29	ug/L	1	25	
Tetrachloroethene	940203930006	25.00	25.29	ug/L	1	25	
Dibromochloromethane	940203930006	25.00	24.86	ug/L	-1	25	
1,2-Dibromoethane	940203930006	25.00	24.78	ug/L	-1	25	
Chlorobenzene	940203930006	25.00	25.36	ug/L	1	25	
1,1,1,2-Tetrachloroethane	940203930006	25.00	24.65	ug/L	-1	25	
Ethylbenzene	940203930006	25.00	25.47	ug/L	2	25	
m,p-Xylenes	940203930006	50.00	52.43	ug/L	5	25	
o-Xylene	940203930006	25.00	25.99	ug/L	4	25	
Styrene	940203930006	25.00	26.03	ug/L	4	25	
Bromoform	940203930006	25.00	25.80	ug/L	3	25	
Isopropylbenzene	940203930006	25.00	22.24	ug/L	-11	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	940203930006	25.00	24.33	ug/L	-3	25	
1,2,3-Trichloropropane	940203930006	25.00	24.36	ug/L	-3	25	
Propylbenzene	940203930006	25.00	25.73	ug/L	3	25	
Bromobenzene	940203930006	25.00	25.26	ug/L	1	25	
1,3,5-Trimethylbenzene	940203930006	25.00	25.88	ug/L	4	25	
2-Chlorotoluene	940203930006	25.00	25.74	ug/L	3	25	
4-Chlorotoluene	940203930006	25.00	25.53	ug/L	2	25	
tert-Butylbenzene	940203930006	25.00	25.53	ug/L	2	25	
1,2,4-Trimethylbenzene	940203930006	25.00	26.03	ug/L	4	25	
sec-Butylbenzene	940203930006	25.00	26.50	ug/L	6	25	
para-Isopropyl Toluene	940203930006	25.00	25.25	ug/L	1	25	
1,3-Dichlorobenzene	940203930006	25.00	26.01	ug/L	4	25	
1,4-Dichlorobenzene	940203930006	25.00	25.40	ug/L	2	25	
n-Butylbenzene	940203930006	25.00	27.77	ug/L	11	25	
1,2-Dichlorobenzene	940203930006	25.00	25.73	ug/L	3	25	
1,2-Dibromo-3-Chloropropane	940203930006	25.00	24.78	ug/L	-1	25	
1,2,4-Trichlorobenzene	940203930006	25.00	24.98	ug/L	0	25	
Hexachlorobutadiene	940203930006	25.00	24.98	ug/L	0	25	
Naphthalene	940203930006	25.00	25.73	ug/L	3	25	
1,2,3-Trichlorobenzene	940203930006	25.00	25.44	ug/L	2	25	

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : QC549567 IDF : 1.0
 Seqnum : 470249763005.3 File : hfm05 Time : 22-JUN-2010 12:32
 Cal : 470241127001 Caldate : 16-JUN-2010 Caltype : WATER
 Standards: S14594 (10000X), S14688 (10000X), S14846 (10000X), S14573 (10000X),
 S14572 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.9832	1.2807	25.00	29.12	ug/L	16	20	0.0500	u
Chloromethane	1.4844	1.6675	25.00	28.08	ug/L	12	20	0.1000	u
Vinyl Chloride	1.1275	1.2284	25.00	27.24	ug/L	9	20	0.0500	u
Bromomethane	0.6785	0.7133	25.00	26.28	ug/L	5	20	0.0500	u
Chloroethane	0.5798	0.6762	25.00	29.16	ug/L	17	20	0.0500	u
Trichlorofluoromethane	1.0267	1.2181	25.00	29.66	ug/L	19	20	0.0500	u
Iodomethane	0.6588	0.7570	25.00	25.37	ug/L	1	20	0.0500	u
Acetone	0.1921	0.1856	25.00	25.93	ug/L	4	20	0.0500	u
1,1-Dichloroethene	0.5971	0.6543	25.00	27.39	ug/L	10	20	0.0500	u
Methylene Chloride	0.6920	0.6611	25.00	23.88	ug/L	-4	20	0.0500	u
Carbon Disulfide	3.1353	2.7630	25.00	22.03	ug/L	-12	20	0.0500	u
MTBE	1.0870	1.0383	25.00	23.88	ug/L	-4	20	0.0500	u
trans-1,2-Dichloroethene	0.7767	0.7859	25.00	25.30	ug/L	1	20	0.0500	u
Vinyl Acetate	0.6081	1.1636	25.00	47.84	ug/L	91	20	0.0500	c+ u v- ***
1,1-Dichloroethane	1.5849	1.7327	25.00	27.33	ug/L	9	20	0.1000	u
2-Butanone	0.2766	0.2807	25.00	25.38	ug/L	2	20	0.0500	u
cis-1,2-Dichloroethene	0.7152	0.7074	25.00	24.73	ug/L	-1	20	0.0500	u
2,2-Dichloropropane	0.9359	1.2144	25.00	32.44	ug/L	30	20	0.0500	c+ u ***
Chloroform	1.1337	1.2855	25.00	28.35	ug/L	13	20	0.0500	u
Bromochloromethane	0.2108	0.2244	25.00	26.61	ug/L	6	20	0.0500	u
1,1,1-Trichloroethane	0.9170	1.0889	25.00	29.69	ug/L	19	20	0.0500	u
1,1-Dichloropropene	0.6426	0.6818	25.00	26.53	ug/L	6	20	0.0500	u
Carbon Tetrachloride	0.3974	0.4511	25.00	28.38	ug/L	14	20	0.0500	u
1,2-Dichloroethane	0.3861	0.3950	25.00	25.58	ug/L	2	20	0.0500	u
Benzene	1.5548	1.6447	25.00	26.45	ug/L	6	20	0.0500	u
Trichloroethene	0.4506	0.4445	25.00	24.66	ug/L	-1	20	0.0500	u
1,2-Dichloropropane	0.4380	0.4210	25.00	24.03	ug/L	-4	20	0.0500	u
Bromodichloromethane	0.4031	0.4132	25.00	25.62	ug/L	2	20	0.0500	u
Dibromomethane	0.1635	0.1615	25.00	24.70	ug/L	-1	20	0.0500	u
4-Methyl-2-Pentanone	0.3188	0.3163	25.00	24.81	ug/L	-1	20	0.0500	u
cis-1,3-Dichloropropene	0.4825	0.4855	25.00	25.16	ug/L	1	20	0.0500	u
Toluene	1.2501	1.3144	25.00	26.29	ug/L	5	20	0.0500	u
trans-1,3-Dichloropropene	0.5309	0.5209	25.00	24.53	ug/L	-2	20	0.0500	u
1,1,2-Trichloroethane	0.1674	0.1608	25.00	24.00	ug/L	-4	20	0.0500	u
2-Hexanone	0.3057	0.3235	25.00	26.45	ug/L	6	20	0.0500	u
1,3-Dichloropropane	0.5313	0.5390	25.00	25.36	ug/L	1	20	0.0500	u
Tetrachloroethene	0.4432	0.4764	25.00	26.88	ug/L	8	20	0.0500	u
Dibromochloromethane	0.2762	0.2686	25.00	24.31	ug/L	-3	20	0.0500	u
1,2-Dibromoethane	0.2718	0.2720	25.00	25.02	ug/L	0	20	0.0500	u
Chlorobenzene	1.1495	1.2458	25.00	27.09	ug/L	8	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.2949	0.3137	25.00	26.59	ug/L	6	20	0.0500	u
Ethylbenzene	2.4645	2.7611	25.00	28.01	ug/L	12	20	0.0500	u
m,p-Xylenes	0.8525	0.9134	50.00	53.57	ug/L	7	20	0.0500	u
o-Xylene	0.7633	0.8252	25.00	27.03	ug/L	8	20	0.0500	u
Styrene	1.1500	1.2080	25.00	26.26	ug/L	5	20	0.0500	u
Bromoform	0.1340	0.1286	25.00	23.98	ug/L	-4	20	0.1000	u y
Isopropylbenzene	5.9119	5.9777	25.00	25.28	ug/L	1	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.8230	0.9930	25.00	30.16	ug/L	21	20	0.3000	c+ u ***
1,2,3-Trichloropropane	0.1979	0.2032	25.00	25.67	ug/L	3	20	0.0500	u y
Propylbenzene	8.1781	9.4401	25.00	28.86	ug/L	15	20	0.0500	u
Bromobenzene	0.9367	0.9768	25.00	26.07	ug/L	4	20	0.0500	u
1,3,5-Trimethylbenzene	4.6969	5.2989	25.00	28.20	ug/L	13	20	0.0500	u
2-Chlorotoluene	4.7727	5.4211	25.00	28.40	ug/L	14	20	0.0500	u
4-Chlorotoluene	4.3284	4.9450	25.00	28.56	ug/L	14	20	0.0500	u
tert-Butylbenzene	3.8104	4.3720	25.00	28.68	ug/L	15	20	0.0500	u
1,2,4-Trimethylbenzene	4.4422	5.2003	25.00	29.27	ug/L	17	20	0.0500	u
sec-Butylbenzene	6.7433	8.4071	25.00	31.17	ug/L	25	20	0.0500	c+ u ***
para-Isopropyl Toluene	4.8835	5.5699	25.00	28.51	ug/L	14	20	0.0500	u
1,3-Dichlorobenzene	1.9427	2.0913	25.00	26.91	ug/L	8	20	0.0500	u
1,4-Dichlorobenzene	1.9096	2.0374	25.00	26.67	ug/L	7	20	0.0500	u
n-Butylbenzene	5.5295	7.0701	25.00	31.97	ug/L	28	20	0.0500	c+ u ***
1,2-Dichlorobenzene	1.5815	1.7469	25.00	27.61	ug/L	10	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1394	0.1346	25.00	24.13	ug/L	-3	20	0.0500	u
1,2,4-Trichlorobenzene	0.8695	0.9485	25.00	27.27	ug/L	9	20	0.0500	u
Hexachlorobutadiene	0.5292	0.6688	25.00	31.59	ug/L	26	20	0.0500	c+ u ***
Naphthalene	1.5465	1.7676	25.00	28.57	ug/L	14	20	0.0500	u
1,2,3-Trichlorobenzene	0.7185	0.8058	25.00	28.04	ug/L	12	20	0.0500	u
Dibromofluoromethane	0.5173	0.5329	50.00	51.51	ug/L	3	20	0.0500	u
1,2-Dichloroethane-d4	0.2585	0.2555	50.00	49.42	ug/L	-1	20	0.0500	u
Toluene-d8	1.7005	1.7264	50.00	50.76	ug/L	2	20	0.0500	u
Bromofluorobenzene	1.3419	1.3668	50.00	50.93	ug/L	2	20	0.0500	u

ISTD (ICAL hfg14)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	300864	319818	6.30	9.81	9.81	0.00
1,4-Difluorobenzene	542097	592511	9.30	10.93	10.94	0.01
Chlorobenzene-d5	359798	398901	10.87	15.07	15.07	0.00
1,4-Dichlorobenzene-d4	140701	145564	3.46	17.79	17.80	0.01

5% spike rule

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV u = use v = ICV y = RL raised

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : QC549901 IDF : 1.0
 Seqnum : 470252482004.8 File : hfo04 Time : 24-JUN-2010 10:12
 Cal : 470241127001 Caldate : 16-JUN-2010 Caltype : WATER
 Standards: S14594 (10000X), S14688 (10000X), S14846 (10000X), S14573 (10000X),
 S14572 (5000X)

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
Freon 12	0.9832	1.2158	25.00	27.85	ug/L	11	20	0.0500	u
Chloromethane	1.4844	1.6708	25.00	28.14	ug/L	13	20	0.1000	u
Vinyl Chloride	1.1275	1.1901	25.00	26.39	ug/L	6	20	0.0500	u
Bromomethane	0.6785	0.5935	25.00	21.87	ug/L	-13	20	0.0500	u
Chloroethane	0.5798	0.6827	25.00	29.44	ug/L	18	20	0.0500	u
Trichlorofluoromethane	1.0267	1.2243	25.00	29.81	ug/L	19	20	0.0500	u
Iodomethane	0.6588	0.7366	25.00	24.77	ug/L	-1	20	0.0500	u
Acetone	0.1921	0.1565	25.00	21.61	ug/L	-14	20	0.0500	u
1,1-Dichloroethene	0.5971	0.5902	25.00	24.71	ug/L	-1	20	0.0500	u
Methylene Chloride	0.6920	0.6479	25.00	23.41	ug/L	-6	20	0.0500	u
Carbon Disulfide	3.1353	2.6128	25.00	20.83	ug/L	-17	20	0.0500	u
MTBE	1.0870	0.9365	25.00	21.54	ug/L	-14	20	0.0500	u
trans-1,2-Dichloroethene	0.7767	0.7182	25.00	23.12	ug/L	-8	20	0.0500	u
Vinyl Acetate	0.6081	1.2091	25.00	49.71	ug/L	99	20	0.0500	c+ u v- ***
1,1-Dichloroethane	1.5849	1.6787	25.00	26.48	ug/L	6	20	0.1000	u
2-Butanone	0.2766	0.2491	25.00	22.52	ug/L	-10	20	0.0500	u
cis-1,2-Dichloroethene	0.7152	0.7183	25.00	25.11	ug/L	0	20	0.0500	u
2,2-Dichloropropane	0.9359	1.2282	25.00	32.81	ug/L	31	20	0.0500	c+ u ***
Chloroform	1.1337	1.2301	25.00	27.12	ug/L	8	20	0.0500	u
Bromochloromethane	0.2108	0.1988	25.00	23.58	ug/L	-6	20	0.0500	u
1,1,1-Trichloroethane	0.9170	1.0596	25.00	28.89	ug/L	16	20	0.0500	u
1,1-Dichloropropene	0.6426	0.7103	25.00	27.63	ug/L	11	20	0.0500	u
Carbon Tetrachloride	0.3974	0.4668	25.00	29.37	ug/L	17	20	0.0500	u
1,2-Dichloroethane	0.3861	0.3743	25.00	24.23	ug/L	-3	20	0.0500	u
Benzene	1.5548	1.6165	25.00	25.99	ug/L	4	20	0.0500	u
Trichloroethene	0.4506	0.4201	25.00	23.30	ug/L	-7	20	0.0500	u
1,2-Dichloropropane	0.4380	0.4125	25.00	23.54	ug/L	-6	20	0.0500	u
Bromodichloromethane	0.4031	0.3902	25.00	24.20	ug/L	-3	20	0.0500	u
Dibromomethane	0.1635	0.1528	25.00	23.37	ug/L	-7	20	0.0500	u
4-Methyl-2-Pentanone	0.3188	0.2662	25.00	20.88	ug/L	-16	20	0.0500	u
cis-1,3-Dichloropropene	0.4825	0.4707	25.00	24.39	ug/L	-2	20	0.0500	u
Toluene	1.2501	1.2744	25.00	25.49	ug/L	2	20	0.0500	u
trans-1,3-Dichloropropene	0.5309	0.4683	25.00	22.06	ug/L	-12	20	0.0500	u
1,1,2-Trichloroethane	0.1674	0.1598	25.00	23.86	ug/L	-5	20	0.0500	u
2-Hexanone	0.3057	0.2619	25.00	21.42	ug/L	-14	20	0.0500	u
1,3-Dichloropropane	0.5313	0.4803	25.00	22.60	ug/L	-10	20	0.0500	u
Tetrachloroethene	0.4432	0.4396	25.00	24.80	ug/L	-1	20	0.0500	u
Dibromochloromethane	0.2762	0.2479	25.00	22.44	ug/L	-10	20	0.0500	u
1,2-Dibromoethane	0.2718	0.2454	25.00	22.57	ug/L	-10	20	0.0500	u
Chlorobenzene	1.1495	1.1293	25.00	24.56	ug/L	-2	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.2949	0.2987	25.00	25.32	ug/L	1	20	0.0500	u
Ethylbenzene	2.4645	2.5193	25.00	25.56	ug/L	2	20	0.0500	u
m,p-Xylenes	0.8525	0.8668	50.00	50.84	ug/L	2	20	0.0500	u
o-Xylene	0.7633	0.7618	25.00	24.95	ug/L	0	20	0.0500	u
Styrene	1.1500	1.1644	25.00	25.31	ug/L	1	20	0.0500	u
Bromoform	0.1340	0.1168	25.00	21.79	ug/L	-13	20	0.1000	u y
Isopropylbenzene	5.9119	5.5359	25.00	23.41	ug/L	-6	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.8230	0.9092	25.00	27.62	ug/L	10	20	0.3000	u
1,2,3-Trichloropropane	0.1979	0.1790	25.00	22.61	ug/L	-10	20	0.0500	u y
Propylbenzene	8.1781	8.8288	25.00	26.99	ug/L	8	20	0.0500	u
Bromobenzene	0.9367	0.8868	25.00	23.67	ug/L	-5	20	0.0500	u
1,3,5-Trimethylbenzene	4.6969	5.1497	25.00	27.41	ug/L	10	20	0.0500	u
2-Chlorotoluene	4.7727	5.3020	25.00	27.77	ug/L	11	20	0.0500	u
4-Chlorotoluene	4.3284	4.3838	25.00	25.32	ug/L	1	20	0.0500	u
tert-Butylbenzene	3.8104	4.1464	25.00	27.20	ug/L	9	20	0.0500	u
1,2,4-Trimethylbenzene	4.4422	4.6509	25.00	26.17	ug/L	5	20	0.0500	u
sec-Butylbenzene	6.7433	7.9475	25.00	29.46	ug/L	18	20	0.0500	u
para-Isopropyl Toluene	4.8835	5.3511	25.00	27.39	ug/L	10	20	0.0500	u
1,3-Dichlorobenzene	1.9427	2.0908	25.00	26.91	ug/L	8	20	0.0500	u
1,4-Dichlorobenzene	1.9096	1.9771	25.00	25.88	ug/L	4	20	0.0500	u
n-Butylbenzene	5.5295	6.6429	25.00	30.03	ug/L	20	20	0.0500	u
1,2-Dichlorobenzene	1.5815	1.6472	25.00	26.04	ug/L	4	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1394	0.1191	25.00	21.35	ug/L	-15	20	0.0500	u
1,2,4-Trichlorobenzene	0.8695	0.7999	25.00	23.00	ug/L	-8	20	0.0500	u
Hexachlorobutadiene	0.5292	0.5732	25.00	27.08	ug/L	8	20	0.0500	u
Naphthalene	1.5465	1.2806	25.00	20.70	ug/L	-17	20	0.0500	u
1,2,3-Trichlorobenzene	0.7185	0.5872	25.00	20.43	ug/L	-18	20	0.0500	u
Dibromofluoromethane	0.5173	0.5333	50.00	51.54	ug/L	3	20	0.0500	u
1,2-Dichloroethane-d4	0.2585	0.2542	50.00	49.17	ug/L	-2	20	0.0500	u
Toluene-d8	1.7005	1.6589	50.00	48.78	ug/L	-2	20	0.0500	u
Bromofluorobenzene	1.3419	1.3027	50.00	48.54	ug/L	-3	20	0.0500	u

ISTD (ICAL hfg14)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	300864	347037	15.35	9.81	9.80	-0.01
1,4-Difluorobenzene	542097	627833	15.82	10.93	10.93	0.00
Chlorobenzene-d5	359798	442520	22.99	15.07	15.06	-0.01
1,4-Dichlorobenzene-d4	140701	163361	16.11	17.79	17.79	0.00

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV u = use v = ICV y = RL raised

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.8230	0.9012	25.00	27.37	ug/L	9	20	0.3000	
1,2,3-Trichloropropane	0.1979	0.1910	25.00	24.12	ug/L	-4	20	0.0500	
Propylbenzene	8.1781	8.7335	25.00	26.70	ug/L	7	20	0.0500	
Bromobenzene	0.9367	0.8884	25.00	23.71	ug/L	-5	20	0.0500	
1,3,5-Trimethylbenzene	4.6969	4.8569	25.00	25.85	ug/L	3	20	0.0500	
2-Chlorotoluene	4.7727	5.0027	25.00	26.21	ug/L	5	20	0.0500	
4-Chlorotoluene	4.3284	4.3533	25.00	25.14	ug/L	1	20	0.0500	
tert-Butylbenzene	3.8104	4.0786	25.00	26.76	ug/L	7	20	0.0500	
1,2,4-Trimethylbenzene	4.4422	4.5653	25.00	25.69	ug/L	3	20	0.0500	
sec-Butylbenzene	6.7433	7.4059	25.00	27.46	ug/L	10	20	0.0500	
para-Isopropyl Toluene	4.8835	4.9562	25.00	25.37	ug/L	1	20	0.0500	
1,3-Dichlorobenzene	1.9427	1.9251	25.00	24.77	ug/L	-1	20	0.0500	
1,4-Dichlorobenzene	1.9096	1.8901	25.00	24.75	ug/L	-1	20	0.0500	
n-Butylbenzene	5.5295	6.1879	25.00	27.98	ug/L	12	20	0.0500	
1,2-Dichlorobenzene	1.5815	1.5094	25.00	23.86	ug/L	-5	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.1394	0.1237	25.00	22.19	ug/L	-11	20	0.0500	
1,2,4-Trichlorobenzene	0.8695	0.7994	25.00	22.98	ug/L	-8	20	0.0500	
Hexachlorobutadiene	0.5292	0.5473	25.00	25.85	ug/L	3	20	0.0500	
Naphthalene	1.5465	1.4460	25.00	23.38	ug/L	-6	20	0.0500	
1,2,3-Trichlorobenzene	0.7185	0.7016	25.00	24.41	ug/L	-2	20	0.0500	
Dibromofluoromethane	0.5173	0.5305	50.00	51.27	ug/L	3	20	0.0500	
1,2-Dichloroethane-d4	0.2585	0.2531	50.00	48.95	ug/L	-2	20	0.0500	
Toluene-d8	1.7005	1.6717	50.00	49.16	ug/L	-2	20	0.0500	
Bromofluorobenzene	1.3419	1.2931	50.00	48.18	ug/L	-4	20	0.0500	

ISTD (ICAL hfg14)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	300864	359443	19.47	9.81	9.81	0.00
1,4-Difluorobenzene	542097	656316	21.07	10.93	10.94	0.01
Chlorobenzene-d5	359798	432605	20.24	15.07	15.08	0.01
1,4-Dichlorobenzene-d4	140701	172917	22.90	17.79	17.80	0.01

MCT 06/25/10 : 2-Chloroethylvinylether was high in CCV but the associated samples were used for 8020 & Fuel oxygenated compounds list, Iodomethane and MTBE. [general version]

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : QC549704 IDF : 1.0
 Seqnum : 480251057006.1 File : ifn06 Time : 23-JUN-2010 11:31
 Cal : 480169480001 Caldate : 27-APR-2010 Caltype : WATER
 Standards: S14737 (13333X), S14573 (13333X), S14688 (13333X), S14845 (13333X),
 S14956 (5000X)

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
Freon 12	0.5332	0.6617	18.75	23.27	ug/L	24	20	0.0500	c+ u ***
Chloromethane	0.7623	0.8426	18.75	20.73	ug/L	11	20	0.1000	u
Vinyl Chloride	0.5614	0.6154	18.75	20.55	ug/L	10	20	0.0500	u
Bromomethane	0.3441	0.4289	18.75	23.37	ug/L	25	20	0.0500	c+ u ***
Chloroethane	0.3725	0.4363	18.75	21.96	ug/L	17	20	0.0500	u
Trichlorofluoromethane	0.6201	0.7463	18.75	22.57	ug/L	20	20	0.0500	u
Iodomethane	0.3558	0.5140	18.75	23.31	ug/L	24	20	0.0500	c+ u v- ***
Acetone	0.1153	0.1111	18.75	18.06	ug/L	-4	20	0.0500	u
1,1-Dichloroethene	0.3855	0.3602	18.75	17.52	ug/L	-7	20	0.0500	u
Methylene Chloride	0.4642	0.4744	18.75	19.16	ug/L	2	20	0.0500	u
Carbon Disulfide	1.6220	1.3158	18.75	15.21	ug/L	-19	20	0.0500	u
MTBE	0.8879	0.8310	18.75	17.55	ug/L	-6	20	0.0500	u
trans-1,2-Dichloroethene	0.4353	0.4553	18.75	19.61	ug/L	5	20	0.0500	u
Vinyl Acetate	0.8268	0.6590	18.75	14.95	ug/L	-20	20	0.0500	u
1,1-Dichloroethane	0.9027	0.8698	18.75	18.07	ug/L	-4	20	0.1000	u
2-Butanone	0.1638	0.1546	18.75	17.70	ug/L	-6	20	0.0500	u
cis-1,2-Dichloroethene	0.4744	0.5033	18.75	19.89	ug/L	6	20	0.0500	u
2,2-Dichloropropane	0.5698	0.6269	18.75	20.63	ug/L	10	20	0.0500	u
Chloroform	0.7719	0.8209	18.75	19.94	ug/L	6	20	0.0500	u
Bromochloromethane	0.2022	0.2161	18.75	20.04	ug/L	7	20	0.0500	u
1,1,1-Trichloroethane	0.5617	0.5968	18.75	19.92	ug/L	6	20	0.0500	u
1,1-Dichloropropene	0.3894	0.3903	18.75	18.80	ug/L	0	20	0.0500	u
Carbon Tetrachloride	0.3152	0.3494	18.75	20.79	ug/L	11	20	0.0500	u
1,2-Dichloroethane	0.3219	0.3224	18.75	18.78	ug/L	0	20	0.0500	u
Benzene	1.0408	1.0757	18.75	19.38	ug/L	3	20	0.0500	u
Trichloroethene	0.2741	0.3018	18.75	20.64	ug/L	10	20	0.0500	u
1,2-Dichloropropane	0.3399	0.3020	18.75	16.66	ug/L	-11	20	0.0500	u
Bromodichloromethane	0.3505	0.3648	18.75	19.52	ug/L	4	20	0.0500	u
Dibromomethane	0.1514	0.1616	18.75	20.02	ug/L	7	20	0.0500	u
4-Methyl-2-Pentanone	0.2362	0.1904	18.75	15.11	ug/L	-19	20	0.0500	u
cis-1,3-Dichloropropene	0.4228	0.4187	18.75	18.57	ug/L	-1	20	0.0500	u
Toluene	0.8322	0.8281	18.75	18.66	ug/L	0	20	0.0500	u
trans-1,3-Dichloropropene	0.4686	0.5182	18.75	20.74	ug/L	11	20	0.0500	u
1,1,2-Trichloroethane	0.1404	0.1405	18.75	18.76	ug/L	0	20	0.0500	u
2-Hexanone	0.2115	0.1891	18.75	16.76	ug/L	-11	20	0.0500	u
1,3-Dichloropropane	0.4588	0.4461	18.75	18.23	ug/L	-3	20	0.0500	u
Tetrachloroethene	0.3116	0.3622	18.75	21.80	ug/L	16	20	0.0500	u
Dibromochloromethane	0.3038	0.3080	18.75	19.01	ug/L	1	20	0.0500	u
1,2-Dibromoethane	0.2559	0.2656	18.75	19.46	ug/L	4	20	0.0500	u
Chlorobenzene	0.8575	0.9348	18.75	20.44	ug/L	9	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3045	0.3313	18.75	20.40	ug/L	9	20	0.0500	u
Ethylbenzene	1.4822	1.6175	18.75	20.46	ug/L	9	20	0.0500	u
m,p-Xylenes	0.5355	0.6042	37.50	42.31	ug/L	13	20	0.0500	u
o-Xylene	0.5400	0.6137	18.75	21.31	ug/L	14	20	0.0500	u
Styrene	0.9526	1.0484	18.75	20.64	ug/L	10	20	0.0500	u
Bromoform	0.1734	0.1978	18.75	21.40	ug/L	14	20	0.1000	u
Isopropylbenzene	2.8605	2.6222	18.75	17.19	ug/L	-8	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.6164	0.5877	18.75	17.88	ug/L	-5	20	0.3000	u
1,2,3-Trichloropropane	0.1477	0.1420	18.75	18.03	ug/L	-4	20	0.0500	u
Propylbenzene	3.4604	3.6837	18.75	19.96	ug/L	6	20	0.0500	u
Bromobenzene	0.7358	0.8147	18.75	20.76	ug/L	11	20	0.0500	u
1,3,5-Trimethylbenzene	2.2339	2.4502	18.75	20.57	ug/L	10	20	0.0500	u
2-Chlorotoluene	2.3331	2.4757	18.75	19.90	ug/L	6	20	0.0500	u
4-Chlorotoluene	2.2491	2.3076	18.75	19.24	ug/L	3	20	0.0500	u
tert-Butylbenzene	1.8666	2.0981	18.75	21.08	ug/L	12	20	0.0500	u
1,2,4-Trimethylbenzene	2.2848	2.4881	18.75	20.42	ug/L	9	20	0.0500	u
sec-Butylbenzene	2.9259	3.2538	18.75	20.85	ug/L	11	20	0.0500	u
para-Isopropyl Toluene	2.2172	2.4551	18.75	20.76	ug/L	11	20	0.0500	u
1,3-Dichlorobenzene	1.3016	1.4568	18.75	20.99	ug/L	12	20	0.0500	u
1,4-Dichlorobenzene	1.3396	1.4373	18.75	20.12	ug/L	7	20	0.0500	u
n-Butylbenzene	2.1289	2.2919	18.75	20.19	ug/L	8	20	0.0500	u
1,2-Dichlorobenzene	1.1901	1.3170	18.75	20.75	ug/L	11	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1022	0.0875	18.75	16.06	ug/L	-14	20	0.0500	u
1,2,4-Trichlorobenzene	0.6730	0.7850	18.75	21.87	ug/L	17	20	0.0500	u
Hexachlorobutadiene	0.3555	0.4178	18.75	22.04	ug/L	18	20	0.0500	u
Naphthalene	1.1586	1.3535	18.75	21.90	ug/L	17	20	0.0500	u
1,2,3-Trichlorobenzene	0.5884	0.6964	18.75	22.19	ug/L	18	20	0.0500	u
Dibromofluoromethane	0.5496	0.5253	50.00	47.79	ug/L	-4	20	0.0500	u
1,2-Dichloroethane-d4	0.3139	0.3092	50.00	49.25	ug/L	-2	20	0.0500	u
Toluene-d8	1.4449	1.3235	50.00	45.80	ug/L	-8	20	0.0500	u
Bromofluorobenzene	1.0576	0.9986	50.00	47.21	ug/L	-6	20	0.0500	u

ISTD (ICAL idr12)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2485414	2112494	-15.00	12.38	12.36	-0.02
1,4-Difluorobenzene	3818086	3203333	-16.10	13.67	13.65	-0.02
Chlorobenzene-d5	2849149	2588397	-9.15	17.67	17.66	-0.01
1,4-Dichlorobenzene-d4	1373915	1277981	-6.98	20.18	20.17	-0.01

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV u = use v = ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : QC549880 IDF : 1.0
 Seqnum : 480252482003.7 File : ifo03 Time : 24-JUN-2010 08:58
 Cal : 480169480001 Caldate : 27-APR-2010 Caltype : WATER
 Standards: S14737 (10000X), S14573 (10000X), S14688 (10000X), S14845 (10000X),
 S14956 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.5332	0.5408	25.00	25.36	ug/L	1	20	0.0500	u
Chloromethane	0.7623	0.6571	25.00	21.55	ug/L	-14	20	0.1000	u
Vinyl Chloride	0.5614	0.5224	25.00	23.26	ug/L	-7	20	0.0500	u
Bromomethane	0.3441	0.3681	25.00	26.74	ug/L	7	20	0.0500	u
Chloroethane	0.3725	0.3683	25.00	24.72	ug/L	-1	20	0.0500	u
Trichlorofluoromethane	0.6201	0.6438	25.00	25.96	ug/L	4	20	0.0500	u
Iodomethane	0.3558	0.5386	25.00	31.40	ug/L	26	20	0.0500	c+ u v- ***
Acetone	0.1153	0.0997	25.00	21.62	ug/L	-14	20	0.0500	u
1,1-Dichloroethene	0.3855	0.3346	25.00	21.69	ug/L	-13	20	0.0500	u
Methylene Chloride	0.4642	0.4319	25.00	23.26	ug/L	-7	20	0.0500	u
Carbon Disulfide	1.6220	1.1901	25.00	18.34	ug/L	-27	20	0.0500	c- u ***
MTBE	0.8879	0.7181	25.00	20.22	ug/L	-19	20	0.0500	u
trans-1,2-Dichloroethene	0.4353	0.4184	25.00	24.03	ug/L	-4	20	0.0500	u
Vinyl Acetate	0.8268	0.6468	25.00	19.56	ug/L	-22	20	0.0500	c- u ***
1,1-Dichloroethane	0.9027	0.7871	25.00	21.80	ug/L	-13	20	0.1000	u
2-Butanone	0.1638	0.1294	25.00	19.74	ug/L	-21	20	0.0500	c- u ***
cis-1,2-Dichloroethene	0.4744	0.4706	25.00	24.80	ug/L	-1	20	0.0500	u
2,2-Dichloropropane	0.5698	0.5704	25.00	25.03	ug/L	0	20	0.0500	u
Chloroform	0.7719	0.7270	25.00	23.55	ug/L	-6	20	0.0500	u
Bromochloromethane	0.2022	0.2045	25.00	25.28	ug/L	1	20	0.0500	u
1,1,1-Trichloroethane	0.5617	0.5192	25.00	23.11	ug/L	-8	20	0.0500	u
1,1-Dichloropropene	0.3894	0.3589	25.00	23.04	ug/L	-8	20	0.0500	u
Carbon Tetrachloride	0.3152	0.3124	25.00	24.78	ug/L	-1	20	0.0500	u
1,2-Dichloroethane	0.3219	0.2680	25.00	20.81	ug/L	-17	20	0.0500	u
Benzene	1.0408	1.0074	25.00	24.20	ug/L	-3	20	0.0500	u
Trichloroethene	0.2741	0.2709	25.00	24.70	ug/L	-1	20	0.0500	u
1,2-Dichloropropane	0.3399	0.2918	25.00	21.46	ug/L	-14	20	0.0500	u
Bromodichloromethane	0.3505	0.3372	25.00	24.05	ug/L	-4	20	0.0500	u
Dibromomethane	0.1514	0.1502	25.00	24.81	ug/L	-1	20	0.0500	u
4-Methyl-2-Pentanone	0.2362	0.1774	25.00	18.77	ug/L	-25	20	0.0500	c- u ***
cis-1,3-Dichloropropene	0.4228	0.3968	25.00	23.46	ug/L	-6	20	0.0500	u
Toluene	0.8322	0.8461	25.00	25.42	ug/L	2	20	0.0500	u
trans-1,3-Dichloropropene	0.4686	0.5307	25.00	28.31	ug/L	13	20	0.0500	u
1,1,2-Trichloroethane	0.1404	0.1420	25.00	25.30	ug/L	1	20	0.0500	u
2-Hexanone	0.2115	0.1812	25.00	21.41	ug/L	-14	20	0.0500	u
1,3-Dichloropropane	0.4588	0.4286	25.00	23.36	ug/L	-7	20	0.0500	u
Tetrachloroethene	0.3116	0.3767	25.00	30.23	ug/L	21	20	0.0500	c+ u ***
Dibromochloromethane	0.3038	0.3141	25.00	25.85	ug/L	3	20	0.0500	u
1,2-Dibromoethane	0.2559	0.2668	25.00	26.06	ug/L	4	20	0.0500	u
Chlorobenzene	0.8575	0.9603	25.00	27.99	ug/L	12	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3045	0.3352	25.00	27.52	ug/L	10	20	0.0500	u
Ethylbenzene	1.4822	1.6265	25.00	27.43	ug/L	10	20	0.0500	u
m,p-Xylenes	0.5355	0.5955	50.00	55.60	ug/L	11	20	0.0500	u
o-Xylene	0.5400	0.6024	25.00	27.89	ug/L	12	20	0.0500	u
Styrene	0.9526	1.0411	25.00	27.32	ug/L	9	20	0.0500	u
Bromoform	0.1734	0.1959	25.00	28.25	ug/L	13	20	0.1000	u
Isopropylbenzene	2.8605	2.7066	25.00	23.65	ug/L	-5	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.6164	0.5843	25.00	23.70	ug/L	-5	20	0.3000	u
1,2,3-Trichloropropane	0.1477	0.1361	25.00	23.03	ug/L	-8	20	0.0500	u
Propylbenzene	3.4604	3.5641	25.00	25.75	ug/L	3	20	0.0500	u
Bromobenzene	0.7358	0.8184	25.00	27.81	ug/L	11	20	0.0500	u
1,3,5-Trimethylbenzene	2.2339	2.3772	25.00	26.60	ug/L	6	20	0.0500	u
2-Chlorotoluene	2.3331	2.3141	25.00	24.80	ug/L	-1	20	0.0500	u
4-Chlorotoluene	2.2491	2.1964	25.00	24.41	ug/L	-2	20	0.0500	u
tert-Butylbenzene	1.8666	2.1343	25.00	28.59	ug/L	14	20	0.0500	u
1,2,4-Trimethylbenzene	2.2848	2.4353	25.00	26.65	ug/L	7	20	0.0500	u
sec-Butylbenzene	2.9259	3.2382	25.00	27.67	ug/L	11	20	0.0500	u
para-Isopropyl Toluene	2.2172	2.3830	25.00	26.87	ug/L	7	20	0.0500	u
1,3-Dichlorobenzene	1.3016	1.3809	25.00	26.52	ug/L	6	20	0.0500	u
1,4-Dichlorobenzene	1.3396	1.4221	25.00	26.54	ug/L	6	20	0.0500	u
n-Butylbenzene	2.1289	2.2794	25.00	26.77	ug/L	7	20	0.0500	u
1,2-Dichlorobenzene	1.1901	1.2962	25.00	27.23	ug/L	9	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1022	0.0759	25.00	18.57	ug/L	-26	20	0.0500	c- u ***
1,2,4-Trichlorobenzene	0.6730	0.7797	25.00	28.96	ug/L	16	20	0.0500	u
Hexachlorobutadiene	0.3555	0.3997	25.00	28.11	ug/L	12	20	0.0500	u
Naphthalene	1.1586	1.3282	25.00	28.66	ug/L	15	20	0.0500	u
1,2,3-Trichlorobenzene	0.5884	0.7031	25.00	29.87	ug/L	19	20	0.0500	u
Dibromofluoromethane	0.5496	0.4821	50.00	43.86	ug/L	-12	20	0.0500	u
1,2-Dichloroethane-d4	0.3139	0.2619	50.00	41.71	ug/L	-17	20	0.0500	u
Toluene-d8	1.4449	1.4044	50.00	48.60	ug/L	-3	20	0.0500	u
Bromofluorobenzene	1.0576	0.9590	50.00	45.34	ug/L	-9	20	0.0500	u

ISTD (ICAL idr12)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2485414	2605673	4.84	12.38	12.36	-0.02
1,4-Difluorobenzene	3818086	3961660	3.76	13.67	13.65	-0.02
Chlorobenzene-d5	2849149	2962109	3.96	17.67	17.66	-0.01
1,4-Dichlorobenzene-d4	1373915	1503291	9.42	20.18	20.17	-0.01

TDL 06/24/10 : Standard info fixed in LIMS [general version]

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV u = use v = ICV

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.6164	0.6025	10.00	9.774	ug/L	-2	20	0.3000	
1,2,3-Trichloropropane	0.1477	0.1409	10.00	9.536	ug/L	-5	20	0.0500	
Propylbenzene	3.4604	3.8877	10.00	11.23	ug/L	12	20	0.0500	
Bromobenzene	0.7358	0.8407	10.00	11.43	ug/L	14	20	0.0500	
1,3,5-Trimethylbenzene	2.2339	2.5986	10.00	11.63	ug/L	16	20	0.0500	
2-Chlorotoluene	2.3331	2.6342	10.00	11.29	ug/L	13	20	0.0500	
4-Chlorotoluene	2.2491	2.3674	10.00	10.53	ug/L	5	20	0.0500	
tert-Butylbenzene	1.8666	2.2041	10.00	11.81	ug/L	18	20	0.0500	
1,2,4-Trimethylbenzene	2.2848	2.5155	10.00	11.01	ug/L	10	20	0.0500	
sec-Butylbenzene	2.9259	3.4881	10.00	11.92	ug/L	19	20	0.0500	
para-Isopropyl Toluene	2.2172	2.5554	10.00	11.53	ug/L	15	20	0.0500	
1,3-Dichlorobenzene	1.3016	1.5106	10.00	11.61	ug/L	16	20	0.0500	
1,4-Dichlorobenzene	1.3396	1.4911	10.00	11.13	ug/L	11	20	0.0500	
n-Butylbenzene	2.1289	2.4314	10.00	11.42	ug/L	14	20	0.0500	
1,2-Dichlorobenzene	1.1901	1.3669	10.00	11.49	ug/L	15	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.1022	0.0858	10.00	8.395	ug/L	-16	20	0.0500	
1,2,4-Trichlorobenzene	0.6730	0.7891	10.00	11.72	ug/L	17	20	0.0500	
Hexachlorobutadiene	0.3555	0.4308	10.00	12.12	ug/L	21	20	0.0500	c+ ***
Naphthalene	1.1586	1.3803	10.00	11.91	ug/L	19	20	0.0500	
1,2,3-Trichlorobenzene	0.5884	0.7055	10.00	11.99	ug/L	20	20	0.0500	
Dibromofluoromethane	0.5496	0.5140	50.00	46.76	ug/L	-6	20	0.0500	
1,2-Dichloroethane-d4	0.3139	0.2916	50.00	46.45	ug/L	-7	20	0.0500	
Toluene-d8	1.4449	1.3404	50.00	46.38	ug/L	-7	20	0.0500	
Bromofluorobenzene	1.0576	1.0136	50.00	47.92	ug/L	-4	20	0.0500	

ISTD (ICAL idr12)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2485414	2232032	-10.19	12.38	12.35	-0.03
1,4-Difluorobenzene	3818086	3383801	-11.37	13.67	13.64	-0.03
Chlorobenzene-d5	2849149	2713777	-4.75	17.67	17.66	-0.01
1,4-Dichlorobenzene-d4	1373915	1297883	-5.53	20.18	20.17	-0.01

TDL 06/25/10 [Vinyl Acetate]: Corrected automatically drawn baseline. [general version]

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV m = manual integration

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA10 Run Name : QC549698 IDF : 1.0
 Seqnum : 490251053003.5 File : jfn03 Time : 23-JUN-2010 09:07
 Cal : 490027869001 Caldate : 19-JAN-2010 Caltype : WATER
 Standards: S14688 (12500X), S14573 (12500X), S14845 (12500X), S14594 (12500X),
 S14757 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.6144	0.8014	20.00	24.18	ug/L	21	20	0.0500	c+ u ***
Chloromethane	0.9887	1.0345	20.00	20.93	ug/L	5	20	0.1000	u
Vinyl Chloride	0.7734	0.8867	20.00	22.93	ug/L	15	20	0.0500	u
Bromomethane	0.4602	0.4325	20.00	18.80	ug/L	-6	20	0.0500	u
Chloroethane	0.4539	0.5255	20.00	23.16	ug/L	16	20	0.0500	u
Trichlorofluoromethane	0.6225	0.8040	20.00	23.76	ug/L	19	20	0.0500	u
Iodomethane	0.5986	0.3169	20.00	10.59	ug/L	-47	20	0.0500	c- u ***
Acetone	0.1678	0.2359	20.00	28.11	ug/L	41	20	0.0500	c+ u ***
1,1-Dichloroethene	0.5696	0.4866	20.00	17.09	ug/L	-15	20	0.0500	u
Methylene Chloride	0.7544	0.6698	20.00	17.76	ug/L	-11	20	0.0500	u
Carbon Disulfide	2.3825	1.7668	20.00	14.83	ug/L	-26	20	0.0500	c- u ***
MTBE	1.6272	1.3173	20.00	16.19	ug/L	-19	20	0.0500	u
trans-1,2-Dichloroethene	0.6687	0.5941	20.00	17.77	ug/L	-11	20	0.0500	u
Vinyl Acetate	1.4687	1.3130	20.00	17.88	ug/L	-11	20	0.0500	u
1,1-Dichloroethane	1.1872	1.1257	20.00	18.96	ug/L	-5	20	0.1000	u
2-Butanone	0.2678	0.2893	20.00	21.61	ug/L	8	20	0.0500	u
cis-1,2-Dichloroethene	0.7037	0.6448	20.00	18.33	ug/L	-8	20	0.0500	u
2,2-Dichloropropane	0.6877	0.7584	20.00	22.06	ug/L	10	20	0.0500	u
Chloroform	1.0137	1.0102	20.00	19.93	ug/L	0	20	0.0500	u
Bromochloromethane	0.3338	0.3038	20.00	18.21	ug/L	-9	20	0.0500	u
1,1,1-Trichloroethane	0.6595	0.7103	20.00	21.54	ug/L	8	20	0.0500	u
1,1-Dichloropropene	0.4369	0.4721	20.00	21.61	ug/L	8	20	0.0500	u
Carbon Tetrachloride	0.2948	0.3536	20.00	23.99	ug/L	20	20	0.0500	u
1,2-Dichloroethane	0.3751	0.3912	20.00	20.86	ug/L	4	20	0.0500	u
Benzene	1.3652	1.4046	20.00	20.58	ug/L	3	20	0.0500	u
Trichloroethene	0.3410	0.3429	20.00	20.11	ug/L	1	20	0.0500	u
1,2-Dichloropropane	0.4171	0.4031	20.00	19.33	ug/L	-3	20	0.0500	u
Bromodichloromethane	0.4369	0.4365	20.00	19.98	ug/L	0	20	0.0500	u
Dibromomethane	0.2305	0.2208	20.00	19.16	ug/L	-4	20	0.0500	u
4-Methyl-2-Pentanone	0.3262	0.3277	20.00	20.10	ug/L	0	20	0.0500	u
cis-1,3-Dichloropropene	0.5790	0.5596	20.00	19.33	ug/L	-3	20	0.0500	u
Toluene	0.9653	0.9966	20.00	20.65	ug/L	3	20	0.0500	u
trans-1,3-Dichloropropene	0.5740	0.4945	20.00	17.23	ug/L	-14	20	0.0500	u
1,1,2-Trichloroethane	0.2005	0.1938	20.00	19.33	ug/L	-3	20	0.0500	u
2-Hexanone	0.2578	0.2882	20.00	22.36	ug/L	12	20	0.0500	u
1,3-Dichloropropane	0.5943	0.5849	20.00	19.68	ug/L	-2	20	0.0500	u
Tetrachloroethene	0.3708	0.4182	20.00	22.55	ug/L	13	20	0.0500	u
Dibromochloromethane	0.3751	0.3582	20.00	19.10	ug/L	-5	20	0.0500	u
1,2-Dibromoethane	0.3515	0.3362	20.00	19.13	ug/L	-4	20	0.0500	u
Chlorobenzene	1.0826	1.0642	20.00	19.66	ug/L	-2	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3342	0.3394	20.00	20.31	ug/L	2	20	0.0500	u
Ethylbenzene	1.7697	1.8926	20.00	21.39	ug/L	7	20	0.0500	u
m,p-Xylenes	0.6731	0.6982	40.00	41.49	ug/L	4	20	0.0500	u
o-Xylene	0.6638	0.6853	20.00	20.65	ug/L	3	20	0.0500	u
Styrene	1.1877	1.1638	20.00	19.60	ug/L	-2	20	0.0500	u
Bromoform	0.2304	0.2228	20.00	19.34	ug/L	-3	20	0.1000	u
Isopropylbenzene	3.3307	3.1627	20.00	18.99	ug/L	-5	20	0.0500	u

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.9320	0.8436	20.00	18.10	ug/L	-9	20	0.3000	u
1,2,3-Trichloropropane	0.7453	0.7321	20.00	19.64	ug/L	-2	20	0.0500	u
Propylbenzene	4.2189	4.5900	20.00	21.76	ug/L	9	20	0.0500	u
Bromobenzene	0.8895	0.9090	20.00	20.44	ug/L	2	20	0.0500	u
1,3,5-Trimethylbenzene	2.7183	2.9359	20.00	21.60	ug/L	8	20	0.0500	u
2-Chlorotoluene	2.7188	2.8917	20.00	21.27	ug/L	6	20	0.0500	u
4-Chlorotoluene	2.5819	2.6582	20.00	20.59	ug/L	3	20	0.0500	u
tert-Butylbenzene	2.2466	2.4791	20.00	22.07	ug/L	10	20	0.0500	u
1,2,4-Trimethylbenzene	2.8433	2.9620	20.00	20.84	ug/L	4	20	0.0500	u
sec-Butylbenzene	3.5685	4.0545	20.00	22.72	ug/L	14	20	0.0500	u
para-Isopropyl Toluene	2.7756	2.9683	20.00	21.39	ug/L	7	20	0.0500	u
1,3-Dichlorobenzene	1.6979	1.6483	20.00	19.42	ug/L	-3	20	0.0500	u
1,4-Dichlorobenzene	1.7457	1.6981	20.00	19.45	ug/L	-3	20	0.0500	u
n-Butylbenzene	2.7600	3.0025	20.00	21.76	ug/L	9	20	0.0500	u
1,2-Dichlorobenzene	1.5721	1.5408	20.00	19.60	ug/L	-2	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1152	0.1112	20.00	19.32	ug/L	-3	20	0.0500	u
1,2,4-Trichlorobenzene	0.9215	0.8617	20.00	18.70	ug/L	-6	20	0.0500	u
Hexachlorobutadiene	0.2803	0.3567	20.00	25.45	ug/L	27	20	0.0500	c+ u ***
Naphthalene	1.9986	1.4588	20.00	14.60	ug/L	-27	20	0.0500	c- u ***
1,2,3-Trichlorobenzene	0.7961	0.7610	20.00	19.12	ug/L	-4	20	0.0500	u
Dibromofluoromethane	0.5727	0.5687	50.00	49.65	ug/L	-1	20	0.0500	u
1,2-Dichloroethane-d4	0.2764	0.3122	50.00	56.46	ug/L	13	20	0.0500	u
Toluene-d8	1.3484	1.3776	50.00	51.08	ug/L	2	20	0.0500	u
Bromofluorobenzene	0.9907	1.0170	50.00	51.32	ug/L	3	20	0.0500	u

ISTD (ICAL jaj18)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	704216	548025	-22.18	10.97	10.93	-0.04
1,4-Difluorobenzene	1214372	918582	-24.36	12.14	12.10	-0.04
Chlorobenzene-d5	1037725	776162	-25.21	16.07	16.04	-0.03
1,4-Dichlorobenzene-d4	517916	383250	-26.00	18.78	18.75	-0.03

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias - = low bias c = CCV u = use

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.9320	0.8610	10.00	9.239	ug/L	-8	20	0.3000	
1,2,3-Trichloropropane	0.7453	0.7583	10.00	10.17	ug/L	2	20	0.0500	
Propylbenzene	4.2189	4.5167	10.00	10.71	ug/L	7	20	0.0500	
Bromobenzene	0.8895	0.8850	10.00	9.950	ug/L	-1	20	0.0500	
1,3,5-Trimethylbenzene	2.7183	2.9212	10.00	10.75	ug/L	7	20	0.0500	
2-Chlorotoluene	2.7188	2.9093	10.00	10.70	ug/L	7	20	0.0500	
4-Chlorotoluene	2.5819	2.5865	10.00	10.02	ug/L	0	20	0.0500	
tert-Butylbenzene	2.2466	2.4694	10.00	10.99	ug/L	10	20	0.0500	
1,2,4-Trimethylbenzene	2.8433	2.9370	10.00	10.33	ug/L	3	20	0.0500	
sec-Butylbenzene	3.5685	4.0683	10.00	11.40	ug/L	14	20	0.0500	
para-Isopropyl Toluene	2.7756	2.9170	10.00	10.51	ug/L	5	20	0.0500	
1,3-Dichlorobenzene	1.6979	1.6634	10.00	9.797	ug/L	-2	20	0.0500	
1,4-Dichlorobenzene	1.7457	1.7219	10.00	9.864	ug/L	-1	20	0.0500	
n-Butylbenzene	2.7600	3.0085	10.00	10.90	ug/L	9	20	0.0500	
1,2-Dichlorobenzene	1.5721	1.5852	10.00	10.08	ug/L	1	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.1152	0.1079	10.00	9.373	ug/L	-6	20	0.0500	
1,2,4-Trichlorobenzene	0.9215	0.8933	10.00	9.694	ug/L	-3	20	0.0500	
Hexachlorobutadiene	0.2803	0.3599	10.00	12.84	ug/L	28	20	0.0500	c+ ***
Naphthalene	1.9986	1.5595	10.00	7.803	ug/L	-22	20	0.0500	c- ***
1,2,3-Trichlorobenzene	0.7961	0.7811	10.00	9.812	ug/L	-2	20	0.0500	
Dibromofluoromethane	0.5727	0.5754	50.00	50.24	ug/L	0	20	0.0500	
1,2-Dichloroethane-d4	0.2764	0.3257	50.00	58.90	ug/L	18	20	0.0500	
Toluene-d8	1.3484	1.3601	50.00	50.44	ug/L	1	20	0.0500	
Bromofluorobenzene	0.9907	1.0010	50.00	50.52	ug/L	1	20	0.0500	

ISTD (ICAL jaj18)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	704216	504307	-28.39	10.97	10.94	-0.03
1,4-Difluorobenzene	1214372	838046	-30.99	12.14	12.11	-0.03
Chlorobenzene-d5	1037725	719629	-30.65	16.07	16.04	-0.03
1,4-Dichlorobenzene-d4	517916	360726	-30.35	18.78	18.75	-0.03

Analyst: TDL

Date: 06/25/10

Reviewer: LW

Date: 06/28/10

+ = high bias - = low bias c = CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : 20PPB IDF : 1.0
 Seqnum : 940248172020.2 File : mfl20 Time : 21-JUN-2010 17:34
 Cal : 940202186001 Caldate : 20-MAY-2010
 Standards: S14722 (25000X), S14747 (25000X), S14228 (50000X), S14330 (25000X),
 S14658 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.7309	0.9326	20.00	25.52	ug/L	28	20	0.0500	c+ ***
Chloromethane	0.8044	0.8431	20.00	20.96	ug/L	5	20	0.1000	
Vinyl Chloride	0.8909	0.9052	20.00	20.32	ug/L	2	20	0.0500	
Bromomethane	0.3992	0.3425	20.00	17.16	ug/L	-14	20	0.0500	
Chloroethane	0.4898	0.4341	20.00	17.73	ug/L	-11	20	0.0500	
Trichlorofluoromethane	0.9188	1.1346	20.00	24.70	ug/L	23	20	0.0500	c+ ***
Acetone	0.3450	0.4186	20.00	24.27	ug/L	21	20	0.0500	c+ ***
1,1-Dichloroethene	0.5092	0.4312	20.00	16.94	ug/L	-15	20	0.0500	
Iodomethane	0.3182	0.2791	20.00	18.48	ug/L	-8	20	0.0500	
Methylene Chloride	0.6247	0.5388	20.00	17.25	ug/L	-14	20	0.0500	
Carbon Disulfide	1.9712	1.8889	20.00	19.17	ug/L	-4	20	0.0500	
MTBE	2.1089	2.0592	20.00	19.53	ug/L	-2	20	0.0500	
trans-1,2-Dichloroethene	0.5608	0.5110	20.00	18.22	ug/L	-9	20	0.0500	
Vinyl Acetate	1.6369	1.6587	20.00	20.27	ug/L	1	20	0.0500	
1,1-Dichloroethane	1.2673	1.1650	20.00	18.39	ug/L	-8	20	0.1000	
2-Butanone	0.5000	0.4716	20.00	18.86	ug/L	-6	20	0.0500	
2,2-Dichloropropane	0.9334	1.0964	20.00	23.49	ug/L	17	20	0.0500	
cis-1,2-Dichloroethene	0.6712	0.5727	20.00	17.07	ug/L	-15	20	0.0500	
Chloroform	1.0874	1.1172	20.00	20.55	ug/L	3	20	0.0500	
Bromochloromethane	0.2682	0.2508	20.00	18.71	ug/L	-6	20	0.0500	
1,1,1-Trichloroethane	0.9651	1.0464	20.00	21.69	ug/L	8	20	0.0500	
1,1-Dichloropropene	0.4999	0.5359	20.00	21.44	ug/L	7	20	0.0500	
Carbon Tetrachloride	0.4214	0.5641	20.00	26.78	ug/L	34	20	0.0500	c+ ***
1,2-Dichloroethane	0.5202	0.6550	20.00	25.18	ug/L	26	20	0.0500	c+ ***
Benzene	1.5236	1.5216	20.00	19.97	ug/L	0	20	0.0500	
Trichloroethene	0.3517	0.3694	20.00	21.01	ug/L	5	20	0.0500	
1,2-Dichloropropane	0.4204	0.4145	20.00	19.72	ug/L	-1	20	0.0500	
Bromodichloromethane	0.4756	0.5511	20.00	23.17	ug/L	16	20	0.0500	
Dibromomethane	0.2190	0.2328	20.00	21.26	ug/L	6	20	0.0500	
4-Methyl-2-Pentanone	0.5345	0.5517	20.00	20.64	ug/L	3	20	0.0500	
cis-1,3-Dichloropropene	0.6289	0.6742	20.00	21.44	ug/L	7	20	0.0500	
Toluene	1.6800	1.6894	20.00	20.11	ug/L	1	20	0.0500	
trans-1,3-Dichloropropene	0.6257	0.6854	20.00	21.91	ug/L	10	20	0.0500	
1,1,2-Trichloroethane	0.1951	0.1931	20.00	19.79	ug/L	-1	20	0.0500	
2-Hexanone	0.4003	0.4111	20.00	20.54	ug/L	3	20	0.0500	
1,3-Dichloropropane	0.6718	0.6874	20.00	20.46	ug/L	2	20	0.0500	
Tetrachloroethene	0.3315	0.3781	20.00	22.81	ug/L	14	20	0.0500	
Dibromochloromethane	0.3417	0.3808	20.00	22.29	ug/L	11	20	0.0500	
1,2-Dibromoethane	0.3456	0.3452	20.00	19.97	ug/L	0	20	0.0500	
Chlorobenzene	1.0206	1.0570	20.00	20.71	ug/L	4	20	0.3000	
1,1,1,2-Tetrachloroethane	0.3470	0.3870	20.00	22.30	ug/L	12	20	0.0500	
Ethylbenzene	1.9361	2.0055	20.00	20.72	ug/L	4	20	0.0500	
m,p-Xylenes	0.6891	0.7467	40.00	43.34	ug/L	8	20	0.0500	
o-Xylene	0.6784	0.6967	20.00	20.54	ug/L	3	20	0.0500	
Styrene	1.1985	1.2286	20.00	20.50	ug/L	3	20	0.0500	
Bromoform	0.2404	0.2694	20.00	22.42	ug/L	12	20	0.1000	
Isopropylbenzene	3.3745	3.3661	20.00	19.95	ug/L	0	20	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.9834	0.8948	20.00	18.20	ug/L	-9	20	0.3000	
1,2,3-Trichloropropane	1.0302	1.0097	20.00	19.60	ug/L	-2	20	0.0500	
Propylbenzene	4.3066	4.3526	20.00	20.21	ug/L	1	20	0.0500	
Bromobenzene	0.7749	0.7662	20.00	19.78	ug/L	-1	20	0.0500	
1,3,5-Trimethylbenzene	2.8680	2.9141	20.00	20.32	ug/L	2	20	0.0500	
2-Chlorotoluene	2.8587	2.8758	20.00	20.12	ug/L	1	20	0.0500	
4-Chlorotoluene	2.6303	2.6154	20.00	19.89	ug/L	-1	20	0.0500	
tert-Butylbenzene	2.4832	2.5341	20.00	20.41	ug/L	2	20	0.0500	
1,2,4-Trimethylbenzene	2.9590	2.9800	20.00	20.14	ug/L	1	20	0.0500	
sec-Butylbenzene	3.8531	3.9527	20.00	20.52	ug/L	3	20	0.0500	
para-Isopropyl Toluene	3.1648	3.3961	20.00	21.46	ug/L	7	20	0.0500	
1,3-Dichlorobenzene	1.5304	1.5870	20.00	20.74	ug/L	4	20	0.0500	
1,4-Dichlorobenzene	1.6385	1.6437	20.00	20.06	ug/L	0	20	0.0500	
n-Butylbenzene	3.2046	3.3958	20.00	21.19	ug/L	6	20	0.0500	
1,2-Dichlorobenzene	1.5063	1.4898	20.00	19.78	ug/L	-1	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.2256	0.2383	20.00	21.13	ug/L	6	20	0.0500	
1,2,4-Trichlorobenzene	1.1223	1.2311	20.00	21.94	ug/L	10	20	0.0500	
Hexachlorobutadiene	0.5230	0.6864	20.00	26.25	ug/L	31	20	0.0500	c+ ***
Naphthalene	3.2929	3.0241	20.00	18.37	ug/L	-8	20	0.0500	
1,2,3-Trichlorobenzene	1.0673	1.1491	20.00	21.53	ug/L	8	20	0.0500	
Dibromofluoromethane	0.5264	0.5029	50.00	47.76	ug/L	-4	20	0.0500	
1,2-Dichloroethane-d4	0.4261	0.5318	50.00	62.40	ug/L	25	20	0.0500	c+
Toluene-d8	1.4215	1.4047	50.00	49.41	ug/L	-1	20	0.0500	
Bromofluorobenzene	1.0051	0.9528	50.00	47.40	ug/L	-5	20	0.0500	

ISTD (ICAL mek18)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	316611	275055	-13.13	11.63	11.62	-0.01
1,4-Difluorobenzene	577014	439378	-23.85	12.47	12.46	-0.01
Chlorobenzene-d5	558006	423958	-24.02	15.28	15.27	-0.01
1,4-Dichlorobenzene-d4	319977	246512	-22.96	17.34	17.34	0.00

TDL 06/22/10 [Ethanol]: Corrected automatically drawn baseline. [general version]

TDL 06/22/10 [Isopropanol]: Corrected automatically drawn baseline. [general version]

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias c = CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220680 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : 20PPB IDF : 1.0
 Seqnum : 940251064012.1 File : mfn12 Time : 23-JUN-2010 13:17
 Cal : 940202186001 Caldate : 20-MAY-2010
 Standards: S14722 (25000X), S14747 (25000X), S14228 (50000X), S14330 (25000X),
 S14658 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.7309	0.7924	20.00	21.68	ug/L	8	20	0.0500	
Chloromethane	0.8044	0.6220	20.00	15.46	ug/L	-23	20	0.1000	c- ***
Vinyl Chloride	0.8909	0.7292	20.00	16.37	ug/L	-18	20	0.0500	
Bromomethane	0.3992	0.2538	20.00	12.71	ug/L	-36	20	0.0500	c- ***
Chloroethane	0.4898	0.4021	20.00	16.42	ug/L	-18	20	0.0500	
Trichlorofluoromethane	0.9188	1.0475	20.00	22.80	ug/L	14	20	0.0500	
Acetone	0.3450	0.2975	20.00	17.25	ug/L	-14	20	0.0500	
1,1-Dichloroethene	0.5092	0.4051	20.00	15.91	ug/L	-20	20	0.0500	
Iodomethane	0.3182	0.1377	20.00	11.52	ug/L	-42	20	0.0500	c- ***
Methylene Chloride	0.6247	0.4866	20.00	15.58	ug/L	-22	20	0.0500	c- ***
Carbon Disulfide	1.9712	1.7148	20.00	17.40	ug/L	-13	20	0.0500	
MTBE	2.1089	1.6798	20.00	15.93	ug/L	-20	20	0.0500	
trans-1,2-Dichloroethene	0.5608	0.4731	20.00	16.87	ug/L	-16	20	0.0500	
Vinyl Acetate	1.6369	1.3323	20.00	16.28	ug/L	-19	20	0.0500	
1,1-Dichloroethane	1.2673	1.0286	20.00	16.23	ug/L	-19	20	0.1000	
2-Butanone	0.5000	0.3537	20.00	14.15	ug/L	-29	20	0.0500	c- ***
2,2-Dichloropropane	0.9334	0.9598	20.00	20.57	ug/L	3	20	0.0500	
cis-1,2-Dichloroethene	0.6712	0.5122	20.00	15.26	ug/L	-24	20	0.0500	c- ***
Chloroform	1.0874	0.9925	20.00	18.26	ug/L	-9	20	0.0500	
Bromochloromethane	0.2682	0.2322	20.00	17.31	ug/L	-13	20	0.0500	
1,1,1-Trichloroethane	0.9651	0.9368	20.00	19.41	ug/L	-3	20	0.0500	
1,1-Dichloropropene	0.4999	0.4780	20.00	19.12	ug/L	-4	20	0.0500	
Carbon Tetrachloride	0.4214	0.5206	20.00	24.71	ug/L	24	20	0.0500	c+ ***
1,2-Dichloroethane	0.5202	0.5832	20.00	22.42	ug/L	12	20	0.0500	
Benzene	1.5236	1.4417	20.00	18.92	ug/L	-5	20	0.0500	
Trichloroethene	0.3517	0.3478	20.00	19.78	ug/L	-1	20	0.0500	
1,2-Dichloropropane	0.4204	0.3893	20.00	18.52	ug/L	-7	20	0.0500	
Bromodichloromethane	0.4756	0.5016	20.00	21.09	ug/L	5	20	0.0500	
Dibromomethane	0.2190	0.2155	20.00	19.68	ug/L	-2	20	0.0500	
4-Methyl-2-Pentanone	0.5345	0.4511	20.00	16.88	ug/L	-16	20	0.0500	
cis-1,3-Dichloropropene	0.6289	0.6136	20.00	19.51	ug/L	-2	20	0.0500	
Toluene	1.6800	1.5903	20.00	18.93	ug/L	-5	20	0.0500	
trans-1,3-Dichloropropene	0.6257	0.5943	20.00	19.00	ug/L	-5	20	0.0500	
1,1,2-Trichloroethane	0.1951	0.1795	20.00	18.40	ug/L	-8	20	0.0500	
2-Hexanone	0.4003	0.3173	20.00	15.85	ug/L	-21	20	0.0500	c- ***
1,3-Dichloropropane	0.6718	0.6208	20.00	18.48	ug/L	-8	20	0.0500	
Tetrachloroethene	0.3315	0.3730	20.00	22.51	ug/L	13	20	0.0500	
Dibromochloromethane	0.3417	0.3675	20.00	21.51	ug/L	8	20	0.0500	
1,2-Dibromoethane	0.3456	0.3293	20.00	19.06	ug/L	-5	20	0.0500	
Chlorobenzene	1.0206	1.0435	20.00	20.45	ug/L	2	20	0.3000	
1,1,1,2-Tetrachloroethane	0.3470	0.3693	20.00	21.29	ug/L	6	20	0.0500	
Ethylbenzene	1.9361	1.8364	20.00	18.97	ug/L	-5	20	0.0500	
m,p-Xylenes	0.6891	0.6894	40.00	40.02	ug/L	0	20	0.0500	
o-Xylene	0.6784	0.6365	20.00	18.77	ug/L	-6	20	0.0500	
Styrene	1.1985	1.1662	20.00	19.46	ug/L	-3	20	0.0500	
Bromoform	0.2404	0.2785	20.00	23.18	ug/L	16	20	0.1000	
Isopropylbenzene	3.3745	2.9020	20.00	17.20	ug/L	-14	20	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.9834	0.8283	20.00	16.85	ug/L	-16	20	0.3000	
1,2,3-Trichloropropane	1.0302	0.9307	20.00	18.07	ug/L	-10	20	0.0500	
Propylbenzene	4.3066	3.7133	20.00	17.24	ug/L	-14	20	0.0500	
Bromobenzene	0.7749	0.7722	20.00	19.93	ug/L	0	20	0.0500	
1,3,5-Trimethylbenzene	2.8680	2.5017	20.00	17.45	ug/L	-13	20	0.0500	
2-Chlorotoluene	2.8587	2.5817	20.00	18.06	ug/L	-10	20	0.0500	
4-Chlorotoluene	2.6303	2.2963	20.00	17.46	ug/L	-13	20	0.0500	
tert-Butylbenzene	2.4832	2.1493	20.00	17.31	ug/L	-13	20	0.0500	
1,2,4-Trimethylbenzene	2.9590	2.6362	20.00	17.82	ug/L	-11	20	0.0500	
sec-Butylbenzene	3.8531	3.2065	20.00	16.64	ug/L	-17	20	0.0500	
para-Isopropyl Toluene	3.1648	2.7952	20.00	17.66	ug/L	-12	20	0.0500	
1,3-Dichlorobenzene	1.5304	1.5128	20.00	19.77	ug/L	-1	20	0.0500	
1,4-Dichlorobenzene	1.6385	1.5828	20.00	19.32	ug/L	-3	20	0.0500	
n-Butylbenzene	3.2046	2.6743	20.00	16.69	ug/L	-17	20	0.0500	
1,2-Dichlorobenzene	1.5063	1.4029	20.00	18.63	ug/L	-7	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.2256	0.2132	20.00	18.90	ug/L	-6	20	0.0500	
1,2,4-Trichlorobenzene	1.1223	1.0780	20.00	19.21	ug/L	-4	20	0.0500	
Hexachlorobutadiene	0.5230	0.5823	20.00	22.27	ug/L	11	20	0.0500	
Naphthalene	3.2929	2.6634	20.00	16.18	ug/L	-19	20	0.0500	
1,2,3-Trichlorobenzene	1.0673	1.0184	20.00	19.08	ug/L	-5	20	0.0500	
Dibromofluoromethane	0.5264	0.4703	50.00	44.67	ug/L	-11	20	0.0500	
1,2-Dichloroethane-d4	0.4261	0.4572	50.00	53.65	ug/L	7	20	0.0500	
Toluene-d8	1.4215	1.3794	50.00	48.52	ug/L	-3	20	0.0500	
Bromofluorobenzene	1.0051	0.8917	50.00	44.36	ug/L	-11	20	0.0500	

ISTD (ICAL mek18)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	316611	486045	53.51	11.63	11.62	-0.01
1,4-Difluorobenzene	577014	733518	27.12	12.47	12.46	-0.01
Chlorobenzene-d5	558006	703739	26.12	15.28	15.27	-0.01
1,4-Dichlorobenzene-d4	319977	406188	26.94	17.34	17.34	0.00

Analyst: TDL

Date: 06/25/10

Reviewer: LW

Date: 06/28/10

+ = high bias - = low bias c = CCV

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 470249763

Date : 06/22/10
 Sequence : MSVOA08 hfm

Reference : hfg14
 Analyzed : 06/17/10 00:40

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	300864	9.81	542097	10.93	359798	15.07	140701	17.79
		LOWER LIMIT	150432	9.31	271049	10.43	179899	14.57	70351	17.29
		UPPER LIMIT	601728	10.31	1084194	11.43	719596	15.57	281402	18.29
004	CCV		319967	9.81	602877	10.94	406120	15.07	152544	17.80
005	CCV/BS	QC549567	319818	9.81	592511	10.94	398901	15.07	145564	17.80
006	BSD	QC549568	317840	9.81	573169	10.94	382865	15.07	146590	17.79
008	BLANK	QC549566	316865	9.80	592089	10.94	390235	15.07	141365	17.80
009	SAMPLE	220802-002	284601	9.81	517524	10.94	347764	15.07	124060	17.80
010	SAMPLE	220658-002	297430	9.80	546909	10.94	357392	15.07	127417	17.80
011	SAMPLE	220680-006	286507	9.80	527899	10.94	361681	15.07	120525	17.80
012	SAMPLE	220775-001	293760	9.80	534127	10.94	353767	15.07	128683	17.80
013	SAMPLE	220775-002	279807	9.80	524324	10.94	346493	15.07	121660	17.80
014	SAMPLE	220775-003	282505	9.80	544921	10.94	370007	15.07	125899	17.80
015	SAMPLE	220775-004	292606	9.81	539145	10.94	365989	15.07	127718	17.79
016	SAMPLE	220775-006	287355	9.80	545934	10.94	362368	15.07	129410	17.80
017	SAMPLE	220775-007	305953	9.81	572737	10.94	373697	15.07	138287	17.79
018	SAMPLE	220775-008	294572	9.80	551810	10.94	387920	15.07	132380	17.80
019	SAMPLE	220775-009	288504	9.80	562623	10.94	382734	15.07	135823	17.80
020	SAMPLE	220680-009	290688	9.81	535554	10.94	367945	15.07	128005	17.79
021	SAMPLE	220702-004	291277	9.81	539461	10.94	372431	15.07	124791	17.79
022	SAMPLE	220821-004	285633	9.80	524774	10.94	361940	15.07	125392	17.80
023	SAMPLE	220821-003	280454	9.81	527187	10.94	367436	15.07	127195	17.79

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 470252482

Date : 06/24/10
 Sequence : MSVOA08 hfo

Reference : hfg14
 Analyzed : 06/17/10 00:40

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	300864	9.81	542097	10.93	359798	15.07	140701	17.79
		LOWER LIMIT	150432	9.31	271049	10.43	179899	14.57	70351	17.29
		UPPER LIMIT	601728	10.31	1084194	11.43	719596	15.57	281402	18.29
004	CCV/BS	QC549901	347037	9.80	627833	10.93	442520	15.06	163361	17.79
005	BSD	QC549902	286995	9.81	537734	10.93	370177	15.07	139804	17.79
006	CCV/BS	QC549903	315439	9.80	557953	10.94	387913	15.07	147141	17.80
007	BSD	QC549904	317864	9.81	570435	10.93	405230	15.07	149489	17.79
009	BLANK	QC549900	318708	9.81	583057	10.93	370600	15.07	135930	17.79
010	IB		252871	9.81	588569	10.94	502273	15.07	192627	17.79
011	SAMPLE	220795-003	295067	9.81	563060	10.94	386992	15.07	141443	17.79
012	SAMPLE	220794-001	318180	9.80	581381	10.94	386298	15.07	136809	17.80
013	SAMPLE	220794-002	310372	9.80	594162	10.94	407387	15.07	150789	17.80
014	SAMPLE	220794-004	363612	9.81	644064	10.94	448096	15.07	159182	17.79
017	CCV		359443	9.81	656316	10.94	432605	15.08	172917	17.80
018	CCV		334315	9.80	587950	10.94	402560	15.07	158974	17.80
020	BLANK	QC549980	318867	9.81	592252	10.94	416156	15.07	134326	17.79
021	SAMPLE	220680-010	301094	9.81	571328	10.94	383150	15.07	135079	17.79
022	SAMPLE	220680-011	291732	9.81	534412	10.93	372579	15.07	128868	17.79
023	SAMPLE	220709-013	295822	9.80	549267	10.94	383132	15.07	127557	17.80
024	SAMPLE	220709-002	301831	9.81	573276	10.94	361250	15.07	130766	17.79
025	SAMPLE	220709-003	285712	9.80	570139	10.94	376360	15.07	129783	17.80
026	SAMPLE	220709-004	281973	9.81	527630	10.94	345743	15.07	127034	17.79
027	SAMPLE	220709-005	284256	9.80	549654	10.94	360313	15.07	126411	17.79
028	SAMPLE	220709-011	272432	9.80	549957	10.94	377715	15.07	127548	17.80
029	SAMPLE	220709-012	278433	9.80	537384	10.94	351282	15.07	121729	17.79
030	SAMPLE	220877-001	276039	9.80	532588	10.94	366591	15.07	126827	17.79
031	SAMPLE	220877-002	273732	9.81	534685	10.93	328360	15.07	117253	17.79
032	SAMPLE	220794-001	252291	9.80	479594	10.94	340940	15.07	121011	17.79
033	SAMPLE	220794-002	333466	9.80	597760	10.93	400212	15.07	155103	17.80
034	SAMPLE	220794-004	376858	9.81	659839	10.93	436318	15.07	165745	17.79
035	SAMPLE	220795-003	388635	9.80	672926	10.93	463722	15.07	169603	17.80

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 470252482

Date : 06/24/10
 Sequence : MSVOA08 hfo

Reference : hfi10
 Analyzed : 06/18/10 15:55

#	Type	Sample ID	CLBZD5-TIC	RT
		ICAL STD	1435731	15.07
		LOWER LIMIT	717866	14.57
		UPPER LIMIT	2871462	15.57
006	CCV/BS	QC549903	1484588	15.07
011	SAMPLE	220795-003	1459482	15.07
012	SAMPLE	220794-001	1490650	15.07
013	SAMPLE	220794-002	1617827	15.07
014	SAMPLE	220794-004	1655602	15.07
018	CCV		1558856	15.07
030	SAMPLE	220877-001	1415575	15.07
031	SAMPLE	220877-002	1278540	15.06

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 480251057

Date : 06/23/10
 Sequence : MSVOA09 ifn

Reference : idr12
 Analyzed : 04/27/10 23:09

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	2485414	12.38	3818086	13.67	2849149	17.67	1373915	20.18
		LOWER LIMIT	1242707	11.88	1909043	13.17	1424575	17.17	686958	19.68
		UPPER LIMIT	4970828	12.88	7636172	14.17	5698298	18.17	2747830	20.68
003	CCV/BS	QC549704	2014960	12.36	3042367	13.64	2471872	17.65	1276011	20.17
006	CCV/BS	QC549704	2112494	12.36	3203333	13.65	2588397	17.66	1277981	20.17
007	BSD	QC549705	2083951	12.36	3046314	13.65	2401973	17.66	1230149	20.17
008	IB	IB	1866690	12.36	2767157	13.65	2426376	17.66	1271610	20.17
009	BLANK	QC549706	1874838	12.36	2754331	13.65	2224752	17.66	1066880	20.17
010	SAMPLE	220802-003	1843082	12.35	2727408	13.64	2037928	17.66	1029958	20.17
011	SAMPLE	220709-016	1732688	12.35	2558270	13.64	2036303	17.66	994220	20.17
012	SAMPLE	220709-013	1697860	12.36	2523902	13.65	1976020	17.66	1004761	20.17
013	SAMPLE	220709-014	1835940	12.35	2688566	13.64	2187755	17.66	1100365	20.17
014	SAMPLE	220709-015	1920727	12.35	2826635	13.64	2312643	17.66	1126035	20.17
015	SAMPLE	220680-002	1874955	12.35	2847429	13.64	2236170	17.66	1107929	20.16
016	MSS	220680-003	1889065	12.35	2787339	13.64	2200470	17.66	1123713	20.18
017	SAMPLE	220680-005	2060343	12.36	3036764	13.65	2473032	17.66	1203638	20.17
018	SAMPLE	220709-006	2162357	12.35	3157780	13.64	2468830	17.65	1242315	20.17
019	SAMPLE	220709-007	2144509	12.35	3163646	13.64	2463968	17.66	1242606	20.17
020	SAMPLE	220793-016	2114875	12.35	3106461	13.64	2415153	17.66	1247954	20.17
021	SAMPLE	220723-011	2052222	12.35	3109413	13.64	2407225	17.66	1181747	20.17
022	SAMPLE	220723-012	2056821	12.35	3069852	13.64	2428856	17.65	1209958	20.17
023	MS	QC549831	2109136	12.36	3059013	13.65	2385160	17.66	1269678	20.17
024	MSD	QC549832	2205719	12.35	3242580	13.64	2507462	17.66	1293342	20.17
025	IB	IB	2333168	12.35	3391442	13.64	2664904	17.66	1358093	20.17
026	IB	IB	2116868	12.35	3123646	13.64	2697096	17.66	1429442	20.17
027	IB	IB	2140242	12.35	3171737	13.64	2732296	17.66	1436662	20.17

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 480252482

Date : 06/24/10
 Sequence : MSVOA09 ifo

Reference : idr12
 Analyzed : 04/27/10 23:09

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	2485414	12.38	3818086	13.67	2849149	17.67	1373915	20.18
		LOWER LIMIT	1242707	11.88	1909043	13.17	1424575	17.17	686958	19.68
		UPPER LIMIT	4970828	12.88	7636172	14.17	5698298	18.17	2747830	20.68
003	CCV/BS	QC549880	2605673	12.36	3961660	13.65	2962109	17.66	1503291	20.17
004	BSD	QC549881	2516659	12.37	3594318	13.65	2821923	17.66	1437093	20.17
005	IB	IB	2578224	12.37	3775224	13.66	2876969	17.66	1441621	20.17
006	BLANK	QC549882	2490482	12.37	3519519	13.65	2730046	17.66	1388150	20.17
007	SAMPLE	220879-002	2410655	12.36	3474286	13.65	2739317	17.66	1346791	20.17
008	SAMPLE	220879-001	2258964	12.36	3355513	13.65	2599351	17.65	1285297	20.16
009	MSS	220723-002	2268668	12.36	3337497	13.64	2639482	17.66	1297383	20.16
010	SAMPLE	220821-003	2217095	12.36	3278380	13.64	2562523	17.66	1261991	20.17
011	MS	QC549929	2251266	12.36	3343843	13.64	2558520	17.66	1297793	20.16
012	MSD	QC549930	2280148	12.35	3405948	13.64	2629182	17.66	1355594	20.17
014	CCV		2232032	12.35	3383801	13.64	2713777	17.66	1297883	20.17
015	IB	IB	2158001	12.36	3176671	13.65	2748222	17.66	1424161	20.16
016	BLANK	QC549961	2264291	12.37	3243401	13.65	2688285	17.66	1280115	20.17
017	SAMPLE	220723-003	2243408	12.36	3260107	13.65	2541536	17.66	1249350	20.17
018	SAMPLE	220723-009	2095973	12.36	3215151	13.65	2488706	17.66	1240942	20.17
019	SAMPLE	220709-008	2107869	12.36	3176976	13.65	2530640	17.66	1237538	20.17
020	SAMPLE	220709-009	2253905	12.38	3428375	13.66	2655035	17.67	1316720	20.18
021	SAMPLE	220680-004	2315225	12.37	3368963	13.65	2681666	17.66	1340768	20.17
022	SAMPLE	220780-010	2381381	12.37	3409895	13.66	2750580	17.66	1347692	20.17
023	SAMPLE	220780-011	2332173	12.36	3429195	13.65	2675005	17.66	1310527	20.17
024	SAMPLE	220680-012	2384683	12.36	3498924	13.65	2742049	17.66	1335722	20.18
025	SAMPLE	220723-001	2433826	12.37	3493260	13.66	2694472	17.66	1307212	20.17
026	SAMPLE	220723-004	2368201	12.37	3545920	13.65	2736151	17.66	1316743	20.17
027	SAMPLE	220723-005	2324465	12.37	3393975	13.65	2767031	17.66	1310575	20.17
028	SAMPLE	220723-006	2320792	12.37	3459844	13.66	2791429	17.66	1337641	20.17
029	SAMPLE	220723-007	2231313	12.37	3356562	13.66	2610105	17.66	1260549	20.17
030	SAMPLE	220723-008	2232464	12.37	3333659	13.66	2514098	17.66	1250613	20.17
031	SAMPLE	220723-010	2200579	12.37	3286148	13.66	2564440	17.66	1245800	20.17
032	IB	IB	1966276	12.38	2996856	13.66	2619847	17.66	1376945	20.17
033	IB	IB	1999905	12.36	3101002	13.65	2700992	17.67	1445524	20.17
034	IB	IB	1945416	12.37	3012870	13.66	2650783	17.66	1394566	20.17

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 490251053

Date : 06/23/10
 Sequence : MSVOA10 jfn

Reference : jaj18
 Analyzed : 01/19/10 22:26

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	704216	10.97	1214372	12.14	1037725	16.07	517916	18.78
		LOWER LIMIT	352108	10.47	607186	11.64	518863	15.57	258958	18.28
		UPPER LIMIT	1408432	11.47	2428744	12.64	2075450	16.57	1035832	19.28
003	CCV/BS	QC549698	548025	10.93	918582	12.10	776162	16.04	383250	18.75
004	BSD	QC549699	549834	10.93	930099	12.10	787862	16.04	389856	18.75
005	CCV/BS	QC549702	504946	10.94	853695	12.11	743289	16.04	366194	18.75
006	CCV/BS	QC549702	523477	10.93	859026	12.11	744118	16.03	370489	18.74
008	BLANK	QC549700	523504	10.94	839662	12.12	737128	16.05	366800	18.76
009	SAMPLE	220804-005	507065	10.93	837681	12.10	734668	16.04	363453	18.75
010	SAMPLE	220804-001	501882	10.93	837299	12.10	713497	16.04	355575	18.75
011	SAMPLE	220870-002	506925	10.94	845053	12.11	715114	16.04	362388	18.75
012	SAMPLE	220870-003	509539	10.93	854699	12.11	737664	16.04	366925	18.74
014	CCV		504307	10.94	838046	12.11	719629	16.04	360726	18.75
016	BLANK	QC549701	511594	10.94	845401	12.11	734369	16.04	363353	18.74
017	SAMPLE	220680-001	532481	10.94	884585	12.11	745706	16.04	366473	18.75
018	SAMPLE	220723-022	509971	10.93	838226	12.11	733017	16.04	356776	18.75
019	SAMPLE	220723-013	506754	10.93	843050	12.11	722841	16.04	368365	18.75
020	SAMPLE	220723-014	490142	10.94	828603	12.11	703240	16.05	354708	18.75
021	SAMPLE	220723-016	501884	10.93	847869	12.10	727169	16.04	357875	18.75
022	SAMPLE	220723-017	507911	10.93	852637	12.11	726619	16.04	368943	18.75
023	SAMPLE	220723-019	512609	10.94	831732	12.11	739963	16.04	362555	18.75
024	SAMPLE	220723-020	489728	10.94	843394	12.11	723722	16.05	358391	18.75
025	SAMPLE	220723-023	501429	10.93	834794	12.11	724266	16.04	362157	18.75
026	SAMPLE	220709-009	489482	10.93	820743	12.11	716947	16.04	357162	18.75
027	SAMPLE	220723-018	502931	10.93	837786	12.10	725653	16.04	358163	18.75
028	SAMPLE	220680-008	504837	10.94	853767	12.11	732026	16.04	369496	18.75
029	SAMPLE	220709-008	512485	10.94	867730	12.11	745511	16.04	371128	18.75
030	SAMPLE	220723-015	509294	10.94	854113	12.11	739321	16.05	366338	18.75
031	SAMPLE	220723-025	513545	10.94	860352	12.11	742753	16.04	361820	18.75
032	SAMPLE	220723-024	498437	10.93	853107	12.11	739197	16.04	364171	18.75

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 940248172

Date : 06/21/10
 Sequence : MSVOA13 mfl

Reference : mek18
 Analyzed : 05/20/10 23:11

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	316611	11.63	577014	12.47	558006	15.28	319977	17.34
		LOWER LIMIT	158306	11.13	288507	11.97	279003	14.78	159989	16.84
		UPPER LIMIT	633222	12.13	1154028	12.97	1116012	15.78	639954	17.84
005	CCV	20PPB	459198	11.62	700370	12.46	661822	15.27	371699	17.34
006	CCV/BS	QC549366	473463	11.63	731308	12.46	712372	15.27	408489	17.34
008	CCV/BS	QC549366	463646	11.63	708023	12.46	673051	15.27	384423	17.34
010	CCV/BS	QC549366	521364	11.63	791051	12.46	748990	15.27	428089	17.34
012	CCV/BS	QC549366	338288	11.63	519553	12.46	487569	15.27	277428	17.34
017	CCV/BS	QC549366	268798	11.62	422263	12.46	395165	15.27	224633	17.34
020	CCV	20PPB	275055	11.62	439378	12.46	423958	15.27	246512	17.34
021	BS	QC549366	270760	11.63	439443	12.46	419110	15.27	245074	17.34
022	BSD	QC549367	260567	11.64	425642	12.47	411356	15.28	240014	17.34
024	BLANK	QC549368	247013	11.64	409410	12.47	389634	15.28	206970	17.34
025	SAMPLE	220680-006	244889	11.63	403921	12.46	380907	15.27	203362	17.34
026	SAMPLE	220680-007	236878	11.64	398437	12.47	376238	15.28	198847	17.34
027	SAMPLE	220680-013	239013	11.63	396891	12.46	375366	15.27	201594	17.34
028	SAMPLE	220646-031	234190	11.63	393313	12.46	369671	15.27	195254	17.34
029	SAMPLE	220700-001	229320	11.64	393049	12.47	370842	15.28	196145	17.34
030	SAMPLE	220646-022	234069	11.63	392086	12.46	370256	15.28	196965	17.34
031	SAMPLE	220646-025	230054	11.63	387917	12.46	366630	15.27	196228	17.34
032	SAMPLE	220646-026	228012	11.65	375569	12.48	357682	15.28	194474	17.34
033	SAMPLE	220646-027	221865	11.63	378496	12.46	357495	15.27	193493	17.34
034	SAMPLE	220646-028	220105	11.67	377291	12.49	357675	15.29	192125	17.34
035	MSS	220670-004	223085	11.63	375154	12.46	356420	15.27	190152	17.34
036	SAMPLE	220646-019	219188	11.63	378664	12.46	357800	15.27	192067	17.34
037	SAMPLE	220646-029	226181	11.63	377792	12.46	358360	15.27	191506	17.34
038	SAMPLE	220646-023	224008	11.63	375239	12.46	355886	15.27	190891	17.34
039	SAMPLE	220646-024	221841	11.63	374898	12.46	347226	15.27	185028	17.34
040	SAMPLE	220680-008	221795	11.63	380462	12.46	360589	15.27	193320	17.34
041	SAMPLE	220680-009	222179	11.63	387668	12.46	364310	15.27	194358	17.34
042	MS	QC549475	238921	11.63	385961	12.46	378506	15.27	210992	17.34
043	MSD	QC549476	239054	11.63	390667	12.46	379424	15.27	214439	17.34
044	IB	NP	225334	11.63	378751	12.46	361284	15.27	189121	17.34
045	IB	NP	219650	11.63	374171	12.46	354500	15.27	187099	17.34
046	IB	NP	216328	11.63	373257	12.46	351300	15.27	186527	17.34

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 940251064

Date : 06/23/10
 Sequence : MSVOA13 mfn

Reference : mek18
 Analyzed : 05/20/10 23:11

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	316611	11.63	577014	12.47	558006	15.28	319977	17.34
		LOWER LIMIT	158306	11.13	288507	11.97	279003	14.78	159989	16.84
		UPPER LIMIT	633222	12.13	1154028	12.97	1116012	15.78	639954	17.84
008	CCV	20PPB	549855	11.62	829652	12.46	800253	15.27	456312	17.34
010	CCV	20PPB	532102	11.62	809138	12.46	779246	15.27	451986	17.34
012	CCV	20PPB	486045	11.62	733518	12.46	703739	15.27	406188	17.34
013	BS	QC549695	492265	11.62	750286	12.46	739405	15.27	430483	17.34
014	BSD	QC549696	505758	11.62	770069	12.46	757886	15.27	443412	17.34
016	BLANK	QC549697	457645	11.63	733480	12.46	700561	15.27	382648	17.34
017	SAMPLE	220709-001	454549	11.63	745804	12.46	696518	15.27	376967	17.34
018	SAMPLE	220709-010	456234	11.63	743835	12.46	688816	15.27	373319	17.34
019	SAMPLE	220709-002	436638	11.63	711801	12.46	671056	15.27	368970	17.34
020	SAMPLE	220709-003	434672	11.63	721243	12.46	678670	15.27	376198	17.34
021	SAMPLE	220709-004	432353	11.63	707458	12.46	682048	15.27	372078	17.34
022	SAMPLE	220709-005	429663	11.63	709840	12.46	674495	15.27	371728	17.34
023	SAMPLE	220709-011	428313	11.64	707826	12.47	676622	15.27	370255	17.34
024	SAMPLE	220709-012	432588	11.63	711787	12.46	676143	15.27	375976	17.34
025	SAMPLE	220832-001	439953	11.63	711737	12.46	672431	15.27	374249	17.34
026	SAMPLE	220832-002	448649	11.63	705609	12.46	665693	15.27	370385	17.34
027	SAMPLE	220832-005	426506	11.63	704793	12.46	670147	15.27	372296	17.34
028	SAMPLE	220832-006	420656	11.63	697576	12.46	669100	15.27	369005	17.34
029	SAMPLE	220846-001	416530	11.63	690515	12.46	658399	15.27	363620	17.33
030	SAMPLE	220832-003	436307	11.64	694636	12.47	654766	15.27	359372	17.34
031	SAMPLE	220832-004	408037	11.63	677954	12.46	649131	15.27	357389	17.34
032	SAMPLE	220680-004	409532	11.63	688474	12.46	664432	15.27	373718	17.33
033	SAMPLE	220680-010	434227	11.63	712256	12.46	688484	15.27	372699	17.34
034	SAMPLE	220680-011	424795	11.63	706631	12.46	671945	15.27	368691	17.33
035	SAMPLE	220680-012	423680	11.63	696592	12.46	670116	15.27	365038	17.34
036	IB	NP	433854	11.62	695540	12.46	671022	15.27	365638	17.34
037	IB	NP	433831	11.63	706392	12.46	672750	15.27	367165	17.33
038	IB	NP	413355	11.63	675468	12.46	637766	15.27	347796	17.34

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 470249763

Instrument : MSVOA08 Begun : 06/22/10 10:43
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	hfm01	X	IB			06/22/10 10:43	1.0	1	
002	hfm02	TUN	BFB			06/22/10 11:16	1.0	2	
003	hfm03	TUN	BFB			06/22/10 11:26	1.0	2	
004	hfm04	CCV				06/22/10 11:55	1.0	3 4 5 6 1	
005	hfm05	CCV/BS	QC549567	Water	164269	06/22/10 12:32	1.0	7 8 9 10 1	
006	hfm06	BSD	QC549568	Water	164269	06/22/10 13:09	1.0	7 8 9 10 1	
007	hfm07	X	IB			06/22/10 13:47	1.0	1	
008	hfm08	BLANK	QC549566	Water	164269	06/22/10 14:24	1.0	1	
009	hfm09	SAMPLE	220802-002	Water	164269	06/22/10 15:02	1.0	1	
010	hfm10	SAMPLE	220658-002	Water	164269	06/22/10 15:39	1.0	1	headspace <= 1 mL
011	hfm11	SAMPLE	220680-006	Water	164269	06/22/10 16:16	1.0	1	
012	hfm12	SAMPLE	220775-001	Water	164269	06/22/10 16:53	1.0	1	
013	hfm13	SAMPLE	220775-002	Water	164269	06/22/10 17:30	1.0	1	
014	hfm14	SAMPLE	220775-003	Water	164269	06/22/10 18:08	1.0	1	
015	hfm15	SAMPLE	220775-004	Water	164269	06/22/10 18:45	1.0	1	
016	hfm16	SAMPLE	220775-006	Water	164269	06/22/10 19:22	1.0	1	
017	hfm17	SAMPLE	220775-007	Water	164269	06/22/10 19:59	1.0	1	
018	hfm18	SAMPLE	220775-008	Water	164269	06/22/10 20:36	1.0	1	
019	hfm19	SAMPLE	220775-009	Water	164269	06/22/10 21:14	1.0	1	1:DCE12C=190
020	hfm20	SAMPLE	220680-009	Water	164269	06/22/10 21:51	7.143	1	
021	hfm21	SAMPLE	220702-004	Water	164269	06/22/10 22:28	10.0	1	
022	hfm22	SAMPLE	220821-004	Water	164269	06/22/10 23:05	6250	1	1:ACE=78
023	hfm23	SAMPLE	220821-003	Water	164269	06/22/10 23:43	1000	1	1:ACE=5900
024	hfm24	X	IB			06/23/10 00:20	1.0	1	
025	hfm25	X	IB			06/23/10 00:57	1.0	1	
026	hfm26	X	IB			06/23/10 01:34	1.0	1	
027	hfm27	X	IB			06/23/10 02:11	1.0	1	

MCT 06/23/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 27.

BJP 06/23/10 : Matrix spikes were not performed for this analysis in batch 164269 due to insufficient sample amount.

Analyst: MCT Date: 06/23/10 Reviewer: LW Date: 06/24/10

Standards used: 1=S14572 2=S13652 3=S14747 4=S14228 5=S14722 6=S14230 7=S14594 8=S14688 9=S14846 10=S14573

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 480252482

Instrument : MSVOA09
 Method : EPA 8260B

Begun : 06/24/10 08:02
 SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ifo01	X	IB			06/24/10 08:02	1.0	1	
002	ifo02	TUN	BFB			06/24/10 08:31	1.0	2	
003	ifo03	CCV/BS	QC549880	Water	164347	06/24/10 08:58	1.0	3 4 5 6 1	
004	ifo04	BSD	QC549881	Water	164347	06/24/10 09:42	1.0	3 4 5 6 1	
005	ifo05	IB	IB			06/24/10 10:17	1.0	1	
006	ifo06	BLANK	QC549882	Water	164347	06/24/10 10:50	1.0	1	
007	ifo07	SAMPLE	220879-002	Water	164347	06/24/10 11:30	1.0	1	
008	ifo08	SAMPLE	220879-001	Water	164347	06/24/10 12:03	1.0	1	
009	ifo09	MSS	220723-002	Water	164347	06/24/10 12:37	1.0	1	
010	ifo10	SAMPLE	220821-003	Water	164347	06/24/10 13:15	2000	1	headspace <= 1 mL, 1:ACE=2600
011	ifo11	MS	QC549929	Water	164347	06/24/10 13:49	1.0	3 4 5 6 1	
012	ifo12	MSD	QC549930	Water	164347	06/24/10 14:23	1.0	3 4 5 6 1	
013	ifo13	TUN	BFB			06/24/10 15:18	1.0	2	
014	ifo14	CCV				06/24/10 15:45	1.0	3 4 5 6 1	
015	ifo15	IB	IB			06/24/10 16:30	1.0	1	
016	ifo16	BLANK	QC549961	Water	164347	06/24/10 17:04	1.0	1	
017	ifo17	SAMPLE	220723-003	Water	164347	06/24/10 17:38	1.0	1	
018	ifo18	SAMPLE	220723-009	Water	164347	06/24/10 18:12	1.0	1	
019	ifo19	SAMPLE	220709-008	Water	164347	06/24/10 18:46	1.0	1	
020	ifo20	SAMPLE	220709-009	Water	164347	06/24/10 19:20	1.0	1	
021	ifo21	SAMPLE	220680-004	Water	164347	06/24/10 19:54	1.0	1	headspace <= 1 mL
022	ifo22	SAMPLE	220780-010	Water	164347	06/24/10 20:27	1.0	1	
023	ifo23	SAMPLE	220780-011	Water	164347	06/24/10 21:01	1.0	1	
024	ifo24	SAMPLE	220680-012	Water	164347	06/24/10 21:34	12.50	1	
025	ifo25	SAMPLE	220723-001	Water	164347	06/24/10 22:08	6.25	1	
026	ifo26	SAMPLE	220723-004	Water	164347	06/24/10 22:41	25.0	1	
027	ifo27	SAMPLE	220723-005	Water	164347	06/24/10 23:15	20.0	1	
028	ifo28	SAMPLE	220723-006	Water	164347	06/24/10 23:48	2.0	1	
029	ifo29	SAMPLE	220723-007	Water	164347	06/25/10 00:21	1.429	1	
030	ifo30	SAMPLE	220723-008	Water	164347	06/25/10 00:54	7.143	1	
031	ifo31	SAMPLE	220723-010	Water	164347	06/25/10 01:28	5.0	1	
032	ifo32	IB	IB			06/25/10 02:02	1.0	1	
033	ifo33	IB	IB			06/25/10 02:36	1.0	1	
034	ifo34	IB	IB			06/25/10 03:09	1.0	1	

TDL 06/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

BJP 06/25/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 13 through 34.

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/25/10

Standards used: 1=S14956 2=S13652 3=S14737 4=S14573 5=S14688 6=S14845

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 490027869

Instrument : MSVOA10 Begun : 01/19/10 08:29
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	jaj01	X	IB			01/19/10 08:29	1.0	1
002	jaj02	X	LOW PT			01/19/10 09:26	1.0	1
003	jaj03	X	LOW PT			01/19/10 10:09	1.0	1
004	jaj04	X	LOW PT			01/19/10 10:43	1.0	1
005	jaj05	X	LOW PT			01/19/10 11:49	1.0	1
006	jaj06	X	LOW PT			01/19/10 14:28	1.0	1
007	jaj07	X	LOW PT			01/19/10 15:02	1.0	1
008	jaj08	TUN	BFB			01/19/10 15:39	1.0	2
009	jaj09	X	IB			01/19/10 17:14	1.0	1
010	jaj10	X	IB			01/19/10 17:49	1.0	1
011	jaj11	IB	CALIB IB			01/19/10 18:23	1.0	1
012	jaj12	ICAL	.25/.5PPB			01/19/10 18:58	1.0	3 4 5 6 1
013	jaj13	ICAL	0.5/1PPB			01/19/10 19:32	1.0	3 4 5 6 1
014	jaj14	ICAL	2PPB			01/19/10 20:07	1.0	3 4 5 6 1
015	jaj15	ICAL	5PPB			01/19/10 20:42	1.0	3 4 5 6 1
016	jaj16	ICAL	10PPB			01/19/10 21:17	1.0	3 4 5 6 1
017	jaj17	ICAL	20PPB			01/19/10 21:51	1.0	7 8 9 10 1
018	jaj18	ICAL	50PPB			01/19/10 22:26	1.0	7 8 9 10 1
019	jaj19	ICAL	75PPB			01/19/10 23:01	1.0	7 8 9 10 1
020	jaj20	ICAL	100PPB			01/19/10 23:35	1.0	7 8 9 10 1
021	jaj21	ICV	25PPB			01/20/10 00:10	1.0	11 1
022	jaj22	ICV	25PPB			01/20/10 00:44	1.0	12 13 14 1
023	jaj23	X	IB			01/20/10 01:19	1.0	1
024	jaj24	X	IB			01/20/10 01:54	1.0	1
025	jaj25	X	IB			01/20/10 02:28	1.0	1

BO 01/20/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Analyst: BO Date: 01/20/10 Reviewer: LW Date: 01/22/10
 Standards used: 1=S13615 2=S13652 3=S13745 4=S13746 5=S13747 6=S13748 7=S13680 8=S13586 9=S13625 10=S13503 11=S13817
 12=S13559 13=S13639 14=S13492

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 490251053

Instrument : MSVOA10 Begun : 06/23/10 08:13
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	jfn01	X	IB			06/23/10 08:13	1.0	1	
002	jfn02	TUN	BFB			06/23/10 08:40	1.0	2	
003	jfn03	CCV/BS	QC549698	Water	164301	06/23/10 09:07	1.0	3 4 5 6 1	
004	jfn04	BSD	QC549699	Water	164301	06/23/10 09:54	1.0	3 4 5 6 1	
005	jfn05	CCV/BS	QC549702	Water	164301	06/23/10 10:36	1.0	7 1	
006	jfn06	CCV/BS	QC549702	Water	164301	06/23/10 11:10	1.0	7 1	
007	jfn07	X	IB			06/23/10 11:45	1.0	1	
008	jfn08	BLANK	QC549700	Water	164301	06/23/10 12:19	1.0	1	
009	jfn09	SAMPLE	220804-005	Water	164301	06/23/10 12:54	5.0	1	
010	jfn10	SAMPLE	220804-001	Water	164301	06/23/10 13:28	10.0	1	
011	jfn11	SAMPLE	220870-002	Water	164301	06/23/10 14:17	4.0	1	
012	jfn12	SAMPLE	220870-003	Water	164301	06/23/10 14:52	14.29	1	
013	jfn13	TUN	BFB			06/23/10 15:22	1.0	2	
014	jfn14	CCV				06/23/10 15:49	1.0	3 4 5 6 1	
015	jfn15	X	IB			06/23/10 16:39	1.0	1	
016	jfn16	BLANK	QC549701	Water	164301	06/23/10 17:14	1.0	1	
017	jfn17	SAMPLE	220680-001	Water	164301	06/23/10 17:48	1.0	1	headspace > 1 mL
018	jfn18	SAMPLE	220723-022	Water	164301	06/23/10 18:23	1.0	1	
019	jfn19	SAMPLE	220723-013	Water	164301	06/23/10 18:57	1.0	1	
020	jfn20	SAMPLE	220723-014	Water	164301	06/23/10 19:32	1.0	1	
021	jfn21	SAMPLE	220723-016	Water	164301	06/23/10 20:07	1.0	1	
022	jfn22	SAMPLE	220723-017	Water	164301	06/23/10 20:42	1.0	1	
023	jfn23	SAMPLE	220723-019	Water	164301	06/23/10 21:16	1.0	1	
024	jfn24	SAMPLE	220723-020	Water	164301	06/23/10 21:51	1.0	1	2:DCE12C=320
025	jfn25	SAMPLE	220723-023	Water	164301	06/23/10 22:26	1.0	1	1:TCE=400
026	jfn26	SAMPLE	220709-009	Water	164301	06/23/10 23:00	2.0	1	
027	jfn27	SAMPLE	220723-018	Water	164301	06/23/10 23:35	3.333	1	
028	jfn28	SAMPLE	220680-008	Water	164301	06/24/10 00:09	4.0	1	
029	jfn29	SAMPLE	220709-008	Water	164301	06/24/10 00:44	4.0	1	
030	jfn30	SAMPLE	220723-015	Water	164301	06/24/10 01:18	5.0	1	
031	jfn31	SAMPLE	220723-025	Water	164301	06/24/10 01:53	10.0	1	
032	jfn32	SAMPLE	220723-024	Water	164301	06/24/10 02:27	12.50	1	
033	jfn33	X	IB			06/24/10 03:02	1.0	1	
034	jfn34	X	IB			06/24/10 03:36	1.0	1	
035	jfn35	X	IB			06/24/10 04:10	1.0	1	

PDM 06/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 001 through 035.

BJP 06/23/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 11 through 12.

PDM 06/24/10 : Matrix spikes were not performed for this analysis in batch 164301 due to insufficient sample amount.

Analyst: PDM Date: 06/24/10 Reviewer: LW Date: 06/24/10

Standards used: 1=S14757 2=S13652 3=S14688 4=S14573 5=S14845 6=S14594 7=S14540

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 940202186

Instrument : MSVOA13 Begun : 05/20/10 09:46
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	mek01	X	25PPB			05/20/10 09:46	1.0	1
002	mek02	X	IB			05/20/10 10:14	1.0	1
003	mek03	X	IB			05/20/10 10:41	1.0	1
004	mek04	X	IB			05/20/10 11:10	1.0	1
005	mek05	X	LOW PT			05/20/10 11:38	1.0	1
006	mek06	X	LOW PT			05/20/10 12:06	1.0	1
007	mek07	X	LOW PT			05/20/10 14:52	1.0	1
008	mek08	TUN	BFB			05/20/10 18:39	1.0	2
009	mek09	TUN	BFB			05/20/10 18:56	1.0	2
010	mek10	IB	IB			05/20/10 19:23	1.0	1
011	mek11	IB	CALIB IB			05/20/10 19:51	1.0	1
012	mek12	ICAL	.25/.5PPB			05/20/10 20:20	1.0	3 4 5 6 1
013	mek13	ICAL	0.5/1PPB			05/20/10 20:49	1.0	3 4 5 6 1
014	mek14	ICAL	2PPB			05/20/10 21:17	1.0	3 4 5 6 1
015	mek15	ICAL	5PPB			05/20/10 21:46	1.0	3 4 5 6 1
016	mek16	ICAL	10PPB			05/20/10 22:14	1.0	3 4 5 6 1
017	mek17	ICAL	20PPB			05/20/10 22:42	1.0	7 8 9 10 1
018	mek18	ICAL	50PPB			05/20/10 23:11	1.0	7 8 9 10 1
019	mek19	ICAL	75PPB			05/20/10 23:39	1.0	7 8 9 10 1
020	mek20	ICAL	100PPB			05/21/10 00:08	1.0	7 8 9 10 1
021	mek21	ICV	25PPB			05/21/10 00:36	1.0	11 1
022	mek22	ICV	25PPB			05/21/10 01:04	1.0	12 13 14 1
023	mek23	IB	IB			05/21/10 01:32	1.0	1
024	mek24	IB	IB			05/21/10 02:01	1.0	1
025	mek25	IB	IB			05/21/10 02:29	1.0	1

BJP 06/14/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Analyst: BJP Date: 06/14/10 Reviewer: LW Date: 06/14/10
 Standards used: 1=S14658 2=S13652 3=S14651 4=S14417 5=S14420 6=S14574 7=S14415 8=S14386 9=S14228 10=S14158 11=S14605
 12=S14253 13=S14323 14=S14573

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 940248172

Instrument : MSVOA13 Begun : 06/21/10 08:12
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	mfl01	X	IB			06/21/10 08:12	1.0	1	
002	mfl02	TUN	BFB			06/21/10 08:40	1.0	2	
003	mfl03	TUN	BFB			06/21/10 09:08	1.0	2	
004	mfl04	TUN	BFB			06/21/10 09:31	1.0	2	
005	mfl05	CCV	20PPB			06/21/10 10:00	1.0	3 4 5 6 1	
006	mfl06	CCV/BS	QC549366	Water	164219	06/21/10 10:40	1.0	7 8 9 10 1	
007	mfl07	TUN	BFB			06/21/10 11:12	1.0	2	
008	mfl08	CCV/BS	QC549366	Water	164219	06/21/10 11:41	1.0	7 8 9 10 1	
009	mfl09	TUN	BFB			06/21/10 12:20	1.0	2	
010	mfl10	CCV/BS	QC549366	Water	164219	06/21/10 12:47	1.0	7 8 9 10 1	
011	mfl11	TUN	BFB			06/21/10 13:21	1.0	2	
012	mfl12	CCV/BS	QC549366	Water	164219	06/21/10 13:52	1.0	7 8 9 10 1	
013	mfl13	TUN	BFB			06/21/10 14:53	1.0	2	
014	mfl14	TUN	BFB			06/21/10 15:12	1.0	2	
015	mfl15	TUN	BFB			06/21/10 15:36	1.0	2	
016	mfl16	TUN	BFB			06/21/10 15:46	1.0	2	
017	mfl17	CCV/BS	QC549366	Water	164219	06/21/10 16:14	1.0	7 8 9 10 1	
018	mfl18	TUN	BFB			06/21/10 16:55	1.0	2	
019	mfl19	TUN	BFB			06/21/10 17:05	1.0	2	
020	mfl20	CCV	20PPB			06/21/10 17:34	1.0	3 4 5 6 1	
021	mfl21	BS	QC549366	Water	164219	06/21/10 18:03	1.0	7 8 9 10 1	
022	mfl22	BSD	QC549367	Water	164219	06/21/10 18:32	1.0	7 8 9 10 1	
023	mfl23	X	IB			06/21/10 19:00	1.0	1	
024	mfl24	BLANK	QC549368	Water	164219	06/21/10 19:29	1.0	1	
025	mfl25	SAMPLE	220680-006	Water	164219	06/21/10 19:58	1.0	1	
026	mfl26	SAMPLE	220680-007	Water	164219	06/21/10 20:27	1.0	1	headspace <= 1 mL
027	mfl27	SAMPLE	220680-013	Water	164219	06/21/10 20:56	1.0	1	
028	mfl28	SAMPLE	220646-031	Water	164219	06/21/10 21:24	1.0	1	
029	mfl29	SAMPLE	220700-001	Water	164219	06/21/10 21:53	1.0	1	
030	mfl30	SAMPLE	220646-022	Water	164219	06/21/10 22:22	1.0	1	
031	mfl31	SAMPLE	220646-025	Water	164219	06/21/10 22:50	1.0	1	
032	mfl32	SAMPLE	220646-026	Water	164219	06/21/10 23:19	1.0	1	
033	mfl33	SAMPLE	220646-027	Water	164219	06/21/10 23:48	1.0	1	
034	mfl34	SAMPLE	220646-028	Water	164219	06/22/10 00:16	1.0	1	
035	mfl35	MSS	220670-004	Water	164219	06/22/10 00:45	1.0	1	
036	mfl36	SAMPLE	220646-019	Water	164219	06/22/10 01:13	6.25	1	
037	mfl37	SAMPLE	220646-029	Water	164219	06/22/10 01:42	10.0	1	
038	mfl38	SAMPLE	220646-023	Water	164219	06/22/10 02:10	12.50	1	
039	mfl39	SAMPLE	220646-024	Water	164219	06/22/10 02:38	14.29	1	
040	mfl40	SAMPLE	220680-008	Water	164219	06/22/10 03:07	6.25	1	
041	mfl41	SAMPLE	220680-009	Water	164219	06/22/10 03:35	7.143	1	
042	mfl42	MS	QC549475	Water	164219	06/22/10 04:03	1.0	7 8 9 10 1	
043	mfl43	MSD	QC549476	Water	164219	06/22/10 04:32	1.0	7 8 9 10 1	
044	mfl44	IB	NP			06/22/10 05:00	1.0	1	
045	mfl45	IB	NP			06/22/10 05:28	1.0	1	
046	mfl46	IB	NP			06/22/10 05:57	1.0	1	

PDM 06/21/10 : TUN adjusted file mfl04, mfl109, mfl111

TDL 06/22/10 : Tune adjusted before mfl13

TDL 06/22/10 : I verified that the vials loaded on the instrument matched the

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 940248172

Instrument : MSVOA13 Begun : 06/21/10 08:12
Method : EPA 8260B SOP Version : TVH_8260B_rv0

sequence data entry, for runs 1 through 46.

Analyst: TDL Date: 06/22/10 Reviewer: LW Date: 06/22/10

Standards used: 1=S14658 2=S13652 3=S14722 4=S14747 5=S14228 6=S14330 7=S14688 8=S14573 9=S14845 10=S14594

GC/MS VOLATILE ORGANICS

Batch #: 164219

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
1	220700-1	<2				13	RR 1x TCE low	WLP for BJS/PT/10
2	220670-4 MS	<2					RR 1x Jo confirm	
3	↓ -4 MSD	↓					↓	
4	220646-31	<2					RR 1x ISTD ↓	
5	↓ -19	<2			1		RR 6.25x VC > LR	
6	220646-22	↓					RR 1x ISTD ↓	
7	↓ -25	↓					↓	
8	220646-25	↓					↓	
9	↓ -27	↓					↓	
10	220646-28	↓					↓	
11	↓ -29	<2			4		↓ 10x ↓	
12	220680-6	↓					EB	
13	↓ -7	↓	Double				TB	
14	220680-8	<2			2		6.25x	
15	↓ -9	↓			3		7.14x	
16	220680-10	↓			5		12.5x	PUT OFF
17	↓ -11	↓					16.7x	} PUT OFF
18	220680-12	↓					20x	
19	↓ -13	<2					EB	
20	220646-24	<2			6		RR 14.2x ISTD ↓	
21	↓ -23	↓			7		RR 12.5x ↓	
22	220670-4	<2					RR 1x MS	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								

GC/MS VOLATILE ORGANICS

Batch #: 164300

Water Sample Prep Sheet

John 2/22/10

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
220709-001	A	<2	~5ml			13	PP TB	10/23/10 JAM
-002	C						IX	
-003								
-004								
-005								
-010	A		15ml				TB	
-011	C		air/sat				IX	
-012							IX	
220680-004	C				6		2X	
-010					7		0.25X	
-011					8		10.7X	
-012			bubble		10		20X	
220846-001	A	<2					IX	
210832-001							IX	
-002							IX	
-003							IX	
-004							IX	
-005							IX	
-010							IX	

GC/MS VOLATILE ORGANICS

Batch #: 164302

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head space?	Shelf	Dilin Flask	MS#	Comments	Initials & Date
1	220802-3							
2	220686-2	4.2	7 ml		100	9	TD @ 1X RL=0.5 for DBCP	TDC 6/24/10
3	3				6/24/10		OD	
4	MS						OD	
5	MSD						OD	
6	5						OD	
7	6						OD	
8	220709-6						OD	
9	7						OD	
10	13						OD	
11	14						OD	
12	15						OD	
13	16						OD	
14	22203-16						OD	
15	220723-11						OD	
16	12						OD	
17							OD	
18							OD	
19							OD	
20							OD	
21							OD	
22							OD	
23							OD	
24							OD	
25							OD	
26							OD	
27							OD	
28							OD	
29							OD	
30							OD	
31							OD	
32							OD	
33							OD	
34							OD	
35							OD	

GC/MS VOLATILE ORGANICS

Batch #: 164347

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head spacer?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
1	220819-1	<2		18		9	1x	6/24/10
2	220723-2	<2		13			TB	
3	MS	<2					1x	
4	MSD	<2					6.25x	
5		<2					1x	
6		<2					25x	
7		<2					20x	
8		<2					2x	
9		<2					1.42x	
10		<2					7.14x	
11		<2					1x	
12		<2					5x	
13		<2					PR	
14		<2					PR	
15	220821-3	<2	<1ml		2		@ 2000x	
16	220680-4	<2	<1ml		7		PR @ 1x	
17		<2					@ 12.5x	
18	220709-8	<2					@ 1x	
19		<2					@ 1x	
20	220780-10	<2					@ 1x	
21		<2					1x	
22		<2					1x	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
220795-003	B	<2			2	8	RR @ 4x for MIBE.	JMS 6/24/08
220794-001	A	<2			8	RR @ 4x for MIBE.		
220794-002	A	<2			9	RR @ 4x for MIBE.		
220794-004	A	<2			10	RR @ 4x for MIBE.		
220877-001	B	↓						
220877-002	B	↓						
220709-013	B	<2			3	RR @ 4x for MIBE.		
220709-014	B	<2						
220709-015	B	<2						
220709-016	B	<2						
220709-017	B	<2						
220709-018	B	<2						
220709-019	B	<2						
220709-020	B	<2						
220660-010	B	<2						
220795-003	A	<2	1ml		1	RR @ 4x for MIBE.		
220794-001	A	<2	1ml		2	RR @ 4x for MIBE.		
220794-002	B	↓						
220794-004	B	↓						



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 220709
ANALYTICAL REPORT

CH2M Hill
2625 South Plaza Drive
Tempe, AZ 85282-3397

Project : 383868.US.60.61.QS
Location : Quarterly UST
Level : III

Table with 2 columns: Sample ID and Lab ID. Lists various sample identifiers and their corresponding lab IDs.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Desiree N. Tetrault

Signature: Project Manager

Date: 06/28/2010

CASE NARRATIVE

Laboratory number: 220709
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/14/10
Samples Received: 06/14/10

This data package contains sample and QC results for sixteen water samples, requested for the above referenced project on 06/14/10. See attached cooler receipt form for any sample receipt problems or discrepancies.

Arizona Environmental Laboratory Licenses AZ0478 & AZ0747.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

Low response was observed for iodomethane in the ICV analyzed 05/21/10 18:24; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b". High response was observed for vinyl acetate; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low response was observed for vinyl acetate in the ICV analyzed 06/17/10 03:08; affected data was qualified with "b".

Low responses were observed for bromomethane and iodomethane in the ICV analyzed 04/28/10 01:25 and the ICV analyzed 05/21/10 16:57; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low responses were observed for many analytes in the CCV analyzed 06/23/10 13:17; these analytes met minimum response criteria, and affected data was qualified with "b". High response was observed for carbon tetrachloride; this analyte was not detected at or above the RL in the associated samples, and affected data was qualified with "b".

High responses were observed for bromomethane, Freon 12, and iodomethane in the CCV analyzed 06/23/10 11:31; these analytes were not detected at or above the RL in the associated samples, and affected data was qualified with "b".

Low responses were observed for a number of analytes in the CCV analyzed 06/24/10 15:45; these analytes met minimum response criteria. High responses were observed for bromomethane, hexachlorobutadiene, and iodomethane; these analytes were not detected at or above the RL in the associated samples.

Low responses were observed for a number of analytes in the CCV analyzed 06/24/10 08:58; these analytes met minimum response criteria, and affected

CASE NARRATIVE

Laboratory number: 220709
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/14/10
Samples Received: 06/14/10

Volatile Organics by GC/MS (EPA 8260B):

data was qualified with "b". High responses were observed for iodomethane and tetrachloroethene; affected data was qualified with "b".

High responses were observed for 2,2-dichloropropane and vinyl acetate in the CCV analyzed 06/24/10 10:12; affected data was qualified with "b".

High response was observed for vinyl acetate in the CCV analyzed 06/24/10 17:26.

Low response was observed for acetone in the CCV analyzed 06/24/10 17:26; this analyte met minimum response criteria. High response was observed for 2,2-dichloropropane; this analyte was not detected at or above the RL in the associated samples.

Low recoveries were observed for iodomethane and vinyl acetate in the BS/BSD for batch 164300; the associated RPDs were within limits. High recoveries were observed for carbon tetrachloride; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples.

High recoveries were observed for a number of analytes in the MS/MSD of ASE-55A-GW-10Q2 (lab # 220680-003); the BS/BSD were within limits, the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples.

High recoveries were observed for iodomethane and tetrachloroethene in the BS/BSD for batch 164347; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples.

High recoveries were observed for many analytes in the BS/BSD for batch 164352; the associated RPDs were within limits, and these analytes were not detected at or above the RL in the associated samples. High RPD was observed for 1,2,3-trichlorobenzene; this analyte was not detected at or above the RL in the associated samples.

High recovery was observed for 1,2,3-trichlorobenzene in the MS for batch 164347; the parent sample was not a project sample, the BS/BSD were within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples.

CASE NARRATIVE

Laboratory number: 220709
Client: CH2M Hill
Project: 383868.US.60.61.QS
Location: Quarterly UST
Request Date: 06/14/10
Samples Received: 06/14/10

Volatile Organics by GC/MS (EPA 8260B):

TB-008-GW-10Q2 (lab # 220709-001) and TB-004-GW-10Q2 (lab # 220709-010) were analyzed with more than 1 mL of headspace in the VOA vial.

No other analytical problems were encountered.

Chain of Custody

Amended 6/23 TN

220709

37220-10611

Curtis & Tompkins Laboratories
 2323 8th St.
 Berkeley, CA 94718
 415-861-8221

Honeywell Chain Of Custody / Analysis Request

40336.60347
 COCF 37330

Site Name: **CHUMHILL** Site Address: **PRICHARD, AZ**
 Client Contact: **CHUMHILL** Phone: **37330**
 Client Contact: **(name, co., address)**
 2925 South Plaza Drive, Suite 300
 Tempe, AZ 85282
 Analysis Turnaround Time (TAT): **10**
 Laboratory Contact: **Report Tier Level**
Full Report TAT: **10**

Location ID	Sample Identification		Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Containers	Units	Compositional	Total VOCs (SW8208)	Field Filtered Sample 7 (SW8158)	Phase: Sampling Program	Quantity UST	Lab Job #	Lab Job #	Authorized User:	Sampling Method (code)	Lab Sample Numbers
	Start Depth (ft)	End Depth (ft)																		
1	TB-008	-	-	6/10/08	0200	GW-GWS	WATER	TB	1	G	N	X								
2	ASE-125A	-	-	6/10/08	0230	GW-SUI	water	REG	5	G	N	X								
3	ASE-95A	-	-	6/10/08	0215	GW-SUI	water	REG	5	G	N	X								
4	ASE-96A	-	-	6/10/08	0215	GW-SUI	water	REG	5	G	N	X								
5	ASE-113A	-	-	6/10/08	0235	GW-SUI	water	REG	5	G	N	X								
6	ASE-114A	-	-	6/10/08	0235	GW-SUI	water	REG	5	G	N	X								
7	EB-008	-	-	6/10/08	0245	GW-SUI	water	EB	5	G	N	X								
8	ASE-90A	-	-	6/10/08	0330	GW-SUI	water	REG	5	G	N	X								
9	GW-1002	-	-	6/10/08	0234	GW-SUI	water	REG	5	G	N	X								

Retrieved by: **[Signature]** Date/Time: **6/11/08 1700** Company: **CHUMHILL**
 Received by: **[Signature]** Date/Time: **6/12/08 1:30** Company: **CHUMHILL**
 Preservatives: (Other, Specify):
 9 (Iron): 1 (4 Deg C); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, pH<2); 7 (H2SO4, pH<2); 8 (HCl, pH<2); 9 (HCl, pH<2); 10 (HNO3, pH<2); 11 (NaOH, pH>12); 12 (Ascorbic Acid); 13 (H2SO4, Na2S2O3); 4 Deg C, pH<2; 13 (Zn/Acetate); 14 (1-MeOP); 4 Deg C and 2-HydroSO4; 4 Deg C; 15 (NaOH, pH>12); 4 Deg C; 16 (Special Instructions)

COOLER RECEIPT CHECKLIST



Login # 220709 Date Received 6/12/10 Number of coolers 4
Client CH2M Hill Project SKP Harbor AZ

Date Opened 6/12/10 By (print) Ricky Grams (sign) [Signature]
Date Logged in 6/14/10 By (print) S. Evans (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info FedEx 8726 5964 8423

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many 1 Name Derek Fisher Date 6/11/10

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Cloth material, Foam blocks, Cardboard, Bags, Styrofoam, None, Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(°C) 0.5, 1, 1, 0.5

Samples Received on ice & cold without a temperature blank

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Samples # 008 + 009 LABEL TIMES ON VOA'S ARE SWITCHED.

Laboratory Job Number 220709

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Water

Total Extractable Hydrocarbons			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164090
Units:	ug/L	Received:	06/14/10
Diln Fac:	1.000	Prepared:	06/16/10

Field ID: ASE-125A-GW-10Q2 Sampled: 06/10/10
 Type: SAMPLE Analyzed: 06/18/10
 Lab ID: 220709-002

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	100	50-120	

Field ID: ASE-95A-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/18/10
 Lab ID: 220709-003

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	108	50-120	

Field ID: ASE-96A-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/18/10
 Lab ID: 220709-004

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	117	50-120	

Field ID: ASE-113A-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/23/10
 Lab ID: 220709-005

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	101	50-120	

Total Extractable Hydrocarbons			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164090
Units:	ug/L	Received:	06/14/10
Diln Fac:	1.000	Prepared:	06/16/10

Field ID: ASE-114A-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/23/10
 Lab ID: 220709-006

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	104	50-120	

Field ID: EB-008-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/21/10
 Lab ID: 220709-007

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	112	50-120	

Field ID: ASE-90A-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/23/10
 Lab ID: 220709-008

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	1,200	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	101	50-120	

Field ID: GW-10Q2-003 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/24/10
 Lab ID: 220709-009

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	1,100	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	119	50-120	

Total Extractable Hydrocarbons			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164090
Units:	ug/L	Received:	06/14/10
Diln Fac:	1.000	Prepared:	06/16/10

Field ID: BC-18-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/21/10
 Lab ID: 220709-012

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	120	50-120	

Field ID: ASE-126A-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/21/10
 Lab ID: 220709-013

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	118	50-120	

Field ID: ASE-105A-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/21/10
 Lab ID: 220709-014

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	116	50-120	

Field ID: ASE-112A-GW-10Q2 Sampled: 06/11/10
 Type: SAMPLE Analyzed: 06/23/10
 Lab ID: 220709-015

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	97	50-120	

ND= Not Detected
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164090
Units:	ug/L	Received:	06/14/10
Diln Fac:	1.000	Prepared:	06/16/10

Field ID:	EB-004-10Q	Sampled:	06/11/10
Type:	SAMPLE	Analyzed:	06/21/10
Lab ID:	220709-016		

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	116	50-120	

Type:	BLANK	Analyzed:	06/17/10
Lab ID:	QC548861		

Analyte	Result	RL	ADEQ Flags
Diesel C10-C22	ND	1,000	
Motor Oil C22-C32	ND	1,000	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	103	50-120	

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	164090
Units:	ug/L	Prepared:	06/16/10
Diln Fac:	1.000	Analyzed:	06/17/10

Type: BS Cleanup Method: EPA 3630C
 Lab ID: QC548862

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Diesel C10-C22	2,500	2,429	97	54-120	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	101	50-120	

Type: BSD Cleanup Method: EPA 3630C
 Lab ID: QC548863

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ Flags
Diesel C10-C22	2,500	2,339	94	54-120	4	31	

Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	100	50-120	

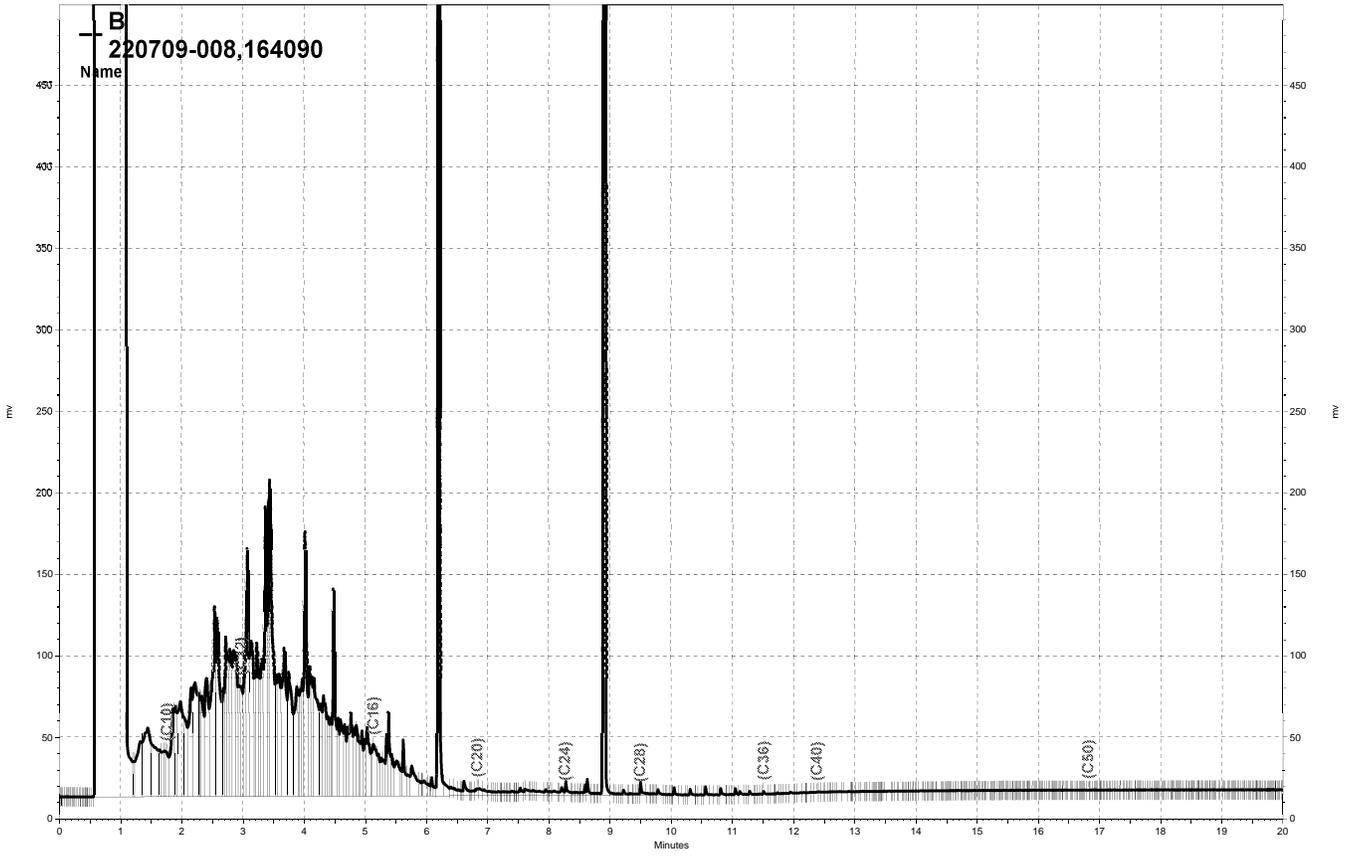
RPD= Relative Percent Difference

Batch QC Report

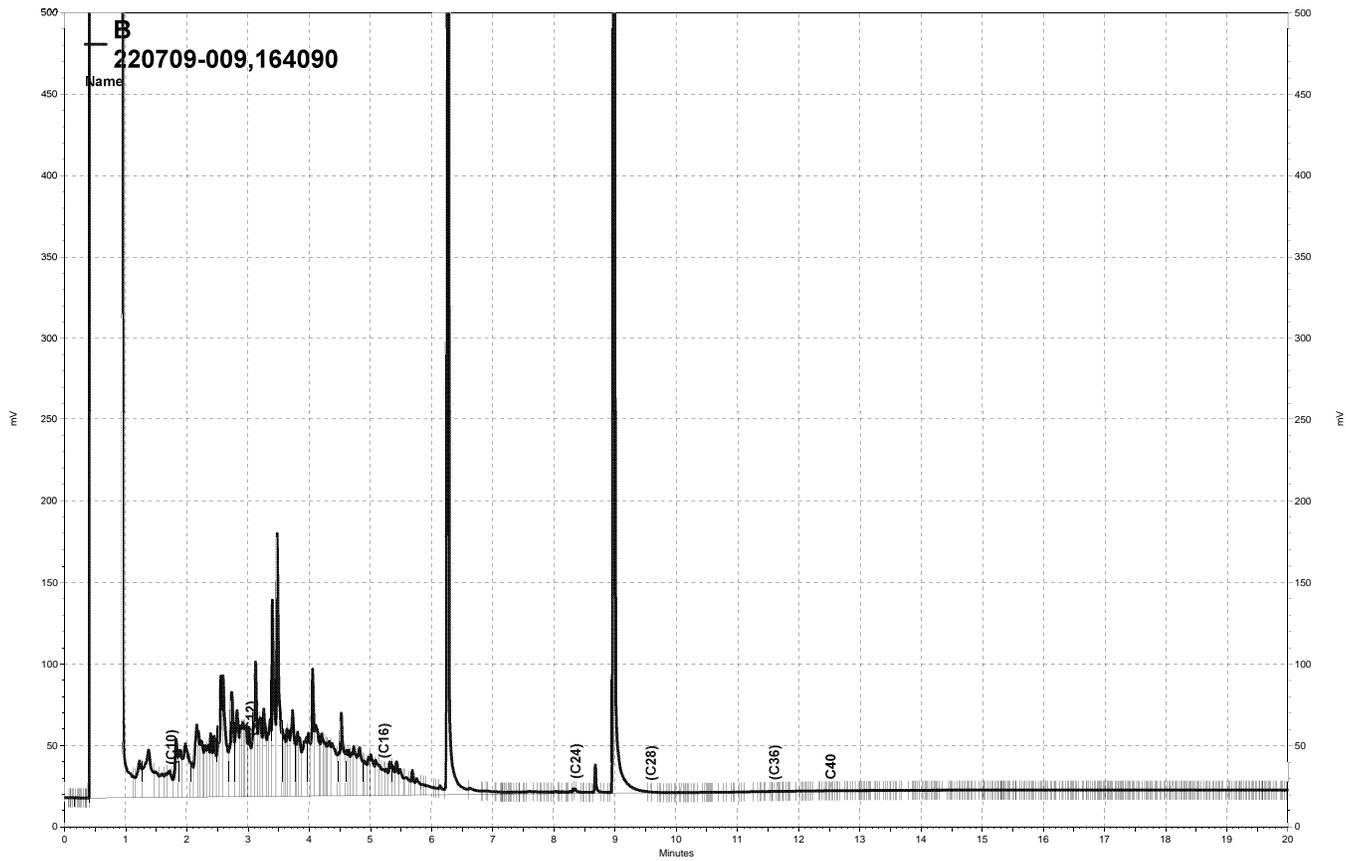
Total Extractable Hydrocarbons			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 3520C
Project#:	383868.US.60.61.QS	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC548864	Batch#:	164090
Matrix:	Water	Prepared:	06/16/10
Units:	ug/L	Analyzed:	06/17/10

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Motor Oil C22-C32	2,500	2,431	97	75-138	

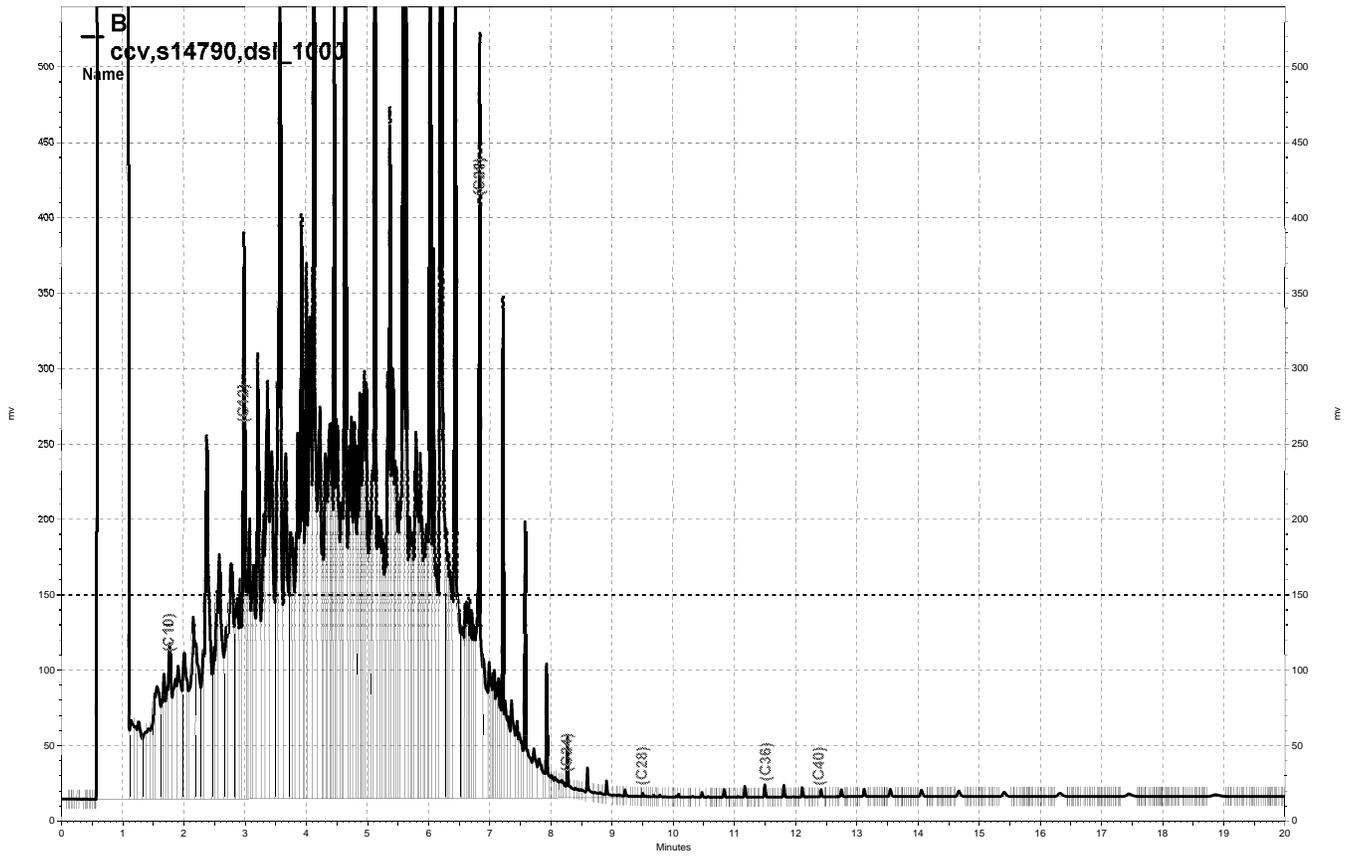
Surrogate	%REC	Limits	ADEQ Flags
o-Terphenyl	96	50-120	



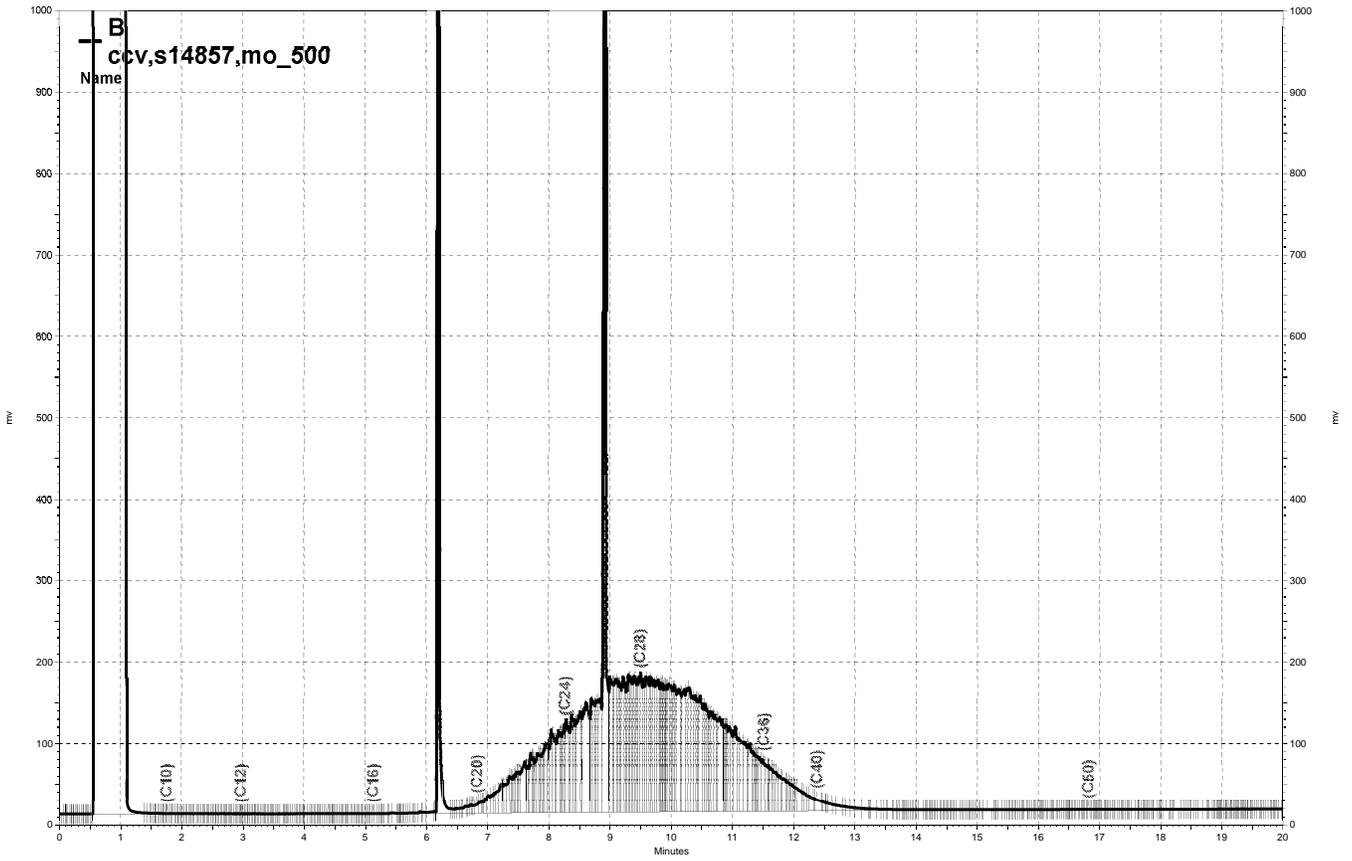
— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\174b008, B



— \\Lims\gdrive\ezchrom\Projects\GC14B\Data\175b006, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\168b012, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\174b005, B

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC14B
 Calnum : 220189132001
 Units : mg/L

Name : dsl_131
 Date : 11-MAY-2010 14:32
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	131_008	220189132008	DSL_10	11-MAY-2010 14:32	S14114
L2	131_009	220189132009	DSL_100	11-MAY-2010 15:00	S14115
L3	131_010	220189132010	DSL_500	11-MAY-2010 15:28	S14116
L4	131_011	220189132011	DSL_1000	11-MAY-2010 15:57	S14117
L5	131_012	220189132012	DSL_5000	11-MAY-2010 16:25	S14113
L6	131_013	220189132013	DSL_7500	11-MAY-2010 16:54	S14118

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	B	36833	34024	34927	35160	34986	35369	AVRG		2.84E-5		35216	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	B	10.00	5	100.0	-3	500.0	-1	1000	0	5000	-1	7500	0

SFL 05/12/10 : corrected automatically drawn baseline for dsl_10 and dsl_5000

Analyst: SFL

Date: 05/12/10

Reviewer: EAH

Date: 05/12/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220709 GCSV Water
EPA 8015B

Inst : GC14B
Calnum : 220189132001

Name : dsl_131
Cal Date : 11-MAY-2010

ICV 220189132015 (131_015 11-MAY-2010) stds: S14556

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	B	500.0	491.0	mg/L	-2	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC14B
 Calnum : 220190522002
 Units : mg/L

Name : OTPHEX_132
 Date : 12-MAY-2010 14:53
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	132_009	220190522009	HEX OTP_5	12-MAY-2010 14:53	S13690
L2	132_010	220190522010	HEX OTP_10	12-MAY-2010 15:21	S13691
L3	132_011	220190522011	HEX OTP_25	12-MAY-2010 15:49	S13692
L4	132_012	220190522012	HEX OTP_50	12-MAY-2010 16:17	S13693
L5	132_013	220190522013	HEX OTP_100	12-MAY-2010 16:44	S13694
L6	132_014	220190522014	HEX OTP_200	12-MAY-2010 17:12	S13695

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	B	40642	38657	41313	39979	39630	41899	AVRG		2.48E-5		40353	3	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	B	5.000	1	10.00	-4	25.00	2	50.00	-1	100.0	-2	200.0	4

JDG 05/13/10 [Hexacosane B]: Corrected automatically drawn baseline in HEX OTP_100 (132_013).

Analyst: JDG

Date: 05/13/10

Reviewer: EAH

Date: 05/13/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC14B
 Calnum : 220190522001
 Units : mg/L

Name : MO_132
 Date : 12-MAY-2010 18:08
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	132_016	220190522016	MO_50	12-MAY-2010 18:08	S13804
L2	132_017	220190522017	MO_250	12-MAY-2010 18:36	S13805
L3	132_018	220190522018	MO_500	12-MAY-2010 19:04	S13806
L4	132_019	220190522019	MO_1000	12-MAY-2010 19:31	S13807
L5	132_020	220190522020	MO_5000	12-MAY-2010 19:59	S13808
L6	132_021	220190522021	MO_7500	12-MAY-2010 20:27	S13809

Analyte	Ch	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	B	26487	27705	27649	26954	24504	24256	AVRG		3.81E-5		26259	6	0.995	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	B	50.00	1	250.0	6	500.0	5	1000	3	5000	-7	7500	-8

JDG 05/13/10 : Levels 1-4 & 6: corrected automatically drawn baseline.

Analyst: JDG

Date: 05/13/10

Reviewer: EAH

Date: 05/13/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160015122002
 Units : mg/L

Name : DSL_010
 Date : 10-JAN-2010 16:41
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	010b011	160015122011	DSL_10	10-JAN-2010 16:41	S13230
L2	010b012	160015122012	DSL_100	10-JAN-2010 17:09	S13231
L3	010b013	160015122013	DSL_500	10-JAN-2010 17:37	S13232
L4	010b014	160015122014	DSL_1000	10-JAN-2010 18:05	S13233
L5	010b015	160015122015	DSL_5000	10-JAN-2010 18:33	S13229
L6	010b016	160015122016	DSL_7500	10-JAN-2010 19:01	S13234

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	46290	57423	63137	60591	59298	62684	AVRG		1.72E-5		58237	11	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-21	100.0	-1	500.0	8	1000	4	5000	2	7500	8

JDG 01/11/10 : Corrected automatically drawn baseline in DSL_10 (010b011).

Analyst: JDG

Date: 01/11/10

Reviewer: EAH

Date: 01/12/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220709 GCSV Water
EPA 8015B

Inst : GC15B
Calnum : 160015122002

Name : DSL_010
Cal Date : 10-JAN-2010

ICV 160015122018 (010b018 10-JAN-2010) stds: S13457

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	514.5	mg/L	3	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160157409001
 Units : mg/L

Name : MO_109
 Date : 19-APR-2010 15:30
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	109b012	160157409012	MO_50	19-APR-2010 15:30	S13804
L2	109b013	160157409013	MO_250	19-APR-2010 15:58	S13805
L3	109b014	160157409014	MO_500	19-APR-2010 16:26	S13806
L4	109b015	160157409015	MO_1000	19-APR-2010 16:53	S13807
L5	109b016	160157409016	MO_5000	19-APR-2010 17:21	S13808
L6	109b017	160157409017	MO_7500	19-APR-2010 17:49	S13809

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	47660	46325	45753	44866	44598	42001	AVRG		2.21E-5		45200	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	50.00	5	250.0	2	500.0	1	1000	-1	5000	-1	7500	-7

JDG 04/20/10 : Levels 3-5: corrected automatically drawn baseline.

Analyst: JDG

Date: 04/20/10

Reviewer: EAH

Date: 04/20/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC15B
 Calnum : 160167652002
 Units : mg/L

Name : hexotp_116
 Date : 26-APR-2010 20:24
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	116b015	160167652015	HEXOTP_5	26-APR-2010 20:24	S13690
L2	116b016	160167652016	HEXOTP_10	26-APR-2010 20:53	S13691
L3	116b017	160167652017	HEXOTP_25	26-APR-2010 21:20	S13692
L4	116b018	160167652018	HEXOTP_50	26-APR-2010 21:48	S13693
L5	116b019	160167652019	HEXOTP_100	26-APR-2010 22:15	S13694
L6	116b020	160167652020	HEXOTP_200	26-APR-2010 22:43	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	71909	71114	69841	73261	73391	75657	AVRG		1.38E-5		72529	3	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-1	10.00	-2	25.00	-4	50.00	1	100.0	1	200.0	4

JDG 04/27/10 : Levels 4-6: corrected automatically drawn baseline

Analyst: JDG

Date: 04/27/10

Reviewer: CP

Date: 04/27/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170100399001
 Units : mg/L

Name : DSL_069
 Date : 10-MAR-2010 09:30
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	069a004	170100399004	DSL_10	10-MAR-2010 09:30	S14114
L2	069a005	170100399005	DSL_100	10-MAR-2010 09:58	S14115
L3	069a006	170100399006	DSL_500	10-MAR-2010 10:25	S14116
L4	069a007	170100399007	DSL_1000	10-MAR-2010 10:52	S14117
L5	069a008	170100399008	DSL_5000	10-MAR-2010 11:20	S14113
L6	069a009	170100399009	DSL_7500	10-MAR-2010 11:48	S14118

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	38992	57098	61023	62848	63686	64949	AVRG		1.72E-5		58099	17	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-33	100.0	-2	500.0	5	1000	8	5000	10	7500	12

JDG 03/11/10 : Corrected automatically baseline for: Levels 1-5.

Analyst: JDG

Date: 03/11/10

Reviewer: EAH

Date: 03/11/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220709 GCSV Water
EPA 8015B

Inst : GC17A
Calnum : 170100399001

Name : DSL_069
Cal Date : 10-MAR-2010

ICV 170100399011 (069a011 10-MAR-2010) stds: S14077

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	542.9	mg/L	9	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170108447001
 Units : mg/L

Name : HEXOTP_075
 Date : 16-MAR-2010 15:35
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	075a012	170108447012	HEXOTP_5	16-MAR-2010 15:35	S13690
L2	075a013	170108447013	HEXOTP_10	16-MAR-2010 16:03	S13691
L3	075a014	170108447014	HEXOTP_25	16-MAR-2010 16:30	S13692
L4	075a015	170108447015	HEXOTP_50	16-MAR-2010 16:58	S13693
L5	075a016	170108447016	HEXOTP_100	16-MAR-2010 17:25	S13694
L6	075a017	170108447017	HEXOTP_200	16-MAR-2010 17:53	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	73067	76327	75701	75675	73539	74396	AVRG		1.34E-5		74784	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-2	10.00	2	25.00	1	50.00	1	100.0	-2	200.0	-1

JDG 03/17/10 : Corrected automatically drawn baseline for L1 & L2.

Analyst: JDG

Date: 03/17/10

Reviewer: EAH

Date: 03/17/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC17A
 Calnum : 170157422001
 Units : mg/L

Name : MO_109
 Date : 19-APR-2010 15:03
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	109a010	170157422010	MO_50	19-APR-2010 15:03	S13804
L2	109a011	170157422011	MO_250	19-APR-2010 15:30	S13805
L3	109a012	170157422012	MO_500	19-APR-2010 15:58	S13806
L4	109a013	170157422013	MO_1000	19-APR-2010 16:25	S13807
L5	109a014	170157422014	MO_5000	19-APR-2010 16:53	S13808
L6	109a015	170157422015	MO_7500	19-APR-2010 17:20	S13809

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	46862	47770	48072	48307	48764	49608	AVRG		2.07E-5		48231	2	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	50.00	-3	250.0	-1	500.0	0	1000	0	5000	1	7500	3

JDG 04/20/10 : Manually integrated fuel hump in MO_50 (109a010).

JDG 04/20/10 : Manually integrated fuel hump in MO_5000 (109a014).

Analyst: JDG

Date: 04/20/10

Reviewer: CP

Date: 04/20/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970011942001
 Units : mg/L

Name : dsl_008
 Date : 08-JAN-2010 20:36
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	008a020	970011942020	DSL_10	08-JAN-2010 20:36	S13230
L2	008a021	970011942021	DSL_100	08-JAN-2010 21:02	S13231
L3	008a022	970011942022	DSL_500	08-JAN-2010 21:27	S13232
L4	008a023	970011942023	DSL_1000	08-JAN-2010 21:52	S13233
L5	008a024	970011942024	DSL_5000	08-JAN-2010 22:18	S13229
L6	008a025	970011942025	DSL_7500	08-JAN-2010 22:43	S13234

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C22	231276	286167	288481	286110	258602	263712	AVRG		3.72E-6		269058	8	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Diesel C10-C22	10.00	-14	100.0	6	500.0	7	1000	6	5000	-4	7500	-2

SFL 01/11/10 : Corrected automatically drawn baseline in all levels.

Analyst: SFL Date: 01/11/10 Reviewer: EAH Date: 01/11/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220709 GCSV Water
EPA 8015B

Inst : GC27A
Calnum : 970011942001

Name : dsl_008
Cal Date : 08-JAN-2010

ICV 970011942027 (008a027 08-JAN-2010) stds: S13457

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C22	500.0	529.7	mg/L	6	15	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970048088001
 Units : mg/L

Name : otphex_033
 Date : 02-FEB-2010 22:40
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	033a016	970048088016	HEXOTP_5	02-FEB-2010 22:40	S13690
L2	033a017	970048088017	HEXOTP_10	02-FEB-2010 23:05	S13691
L3	033a018	970048088018	HEXOTP_25	02-FEB-2010 23:30	S13692
L4	033a019	970048088019	HEXOTP_50	02-FEB-2010 23:55	S13693
L5	033a020	970048088020	HEXOTP_100	03-FEB-2010 00:21	S13694
L6	033a021	970048088021	HEXOTP_200	03-FEB-2010 00:46	S13695

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	267452	297547	281470	296034	284259	273149	AVRG		3.53E-6		283319	4	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.000	-6	10.00	5	25.00	-1	50.00	4	100.0	0	200.0	-4

SFL 02/03/10 : Corrected automatically drawn baseline in all levels.

Analyst: SFL

Date: 02/03/10

Reviewer: EAH

Date: 02/04/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 GCSV Water: EPA 8015B

Inst : GC27A
 Calnum : 970248164001
 Units : mg/L

Name : Motor Oil_172
 Date : 21-JUN-2010 13:02
 X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	172a008	970248164008	MO_25	21-JUN-2010 13:02	S13804 (2X)
L2	172a009	970248164009	MO_50	21-JUN-2010 13:28	S13804
L3	172a010	970248164010	MO_250	21-JUN-2010 13:53	S13805
L4	172a011	970248164011	MO_500	21-JUN-2010 14:19	S13806
L5	172a012	970248164012	MO_1000	21-JUN-2010 14:45	S13807
L6	172a013	970248164013	MO_2500	21-JUN-2010 15:10	S13808 (2X)

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C22-C32	134309	157479	164338	163229	161895	154276	AVRG		6.41E-6		155921	7	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C22-C32	25.00	-14	50.00	1	250.0	5	500.0	5	1000	4	2500	-1

TFB 06/21/10 : Corrected automatically drawn baseline for all levels, IB, and cmarker.

Analyst: TFB

Date: 06/21/10

Reviewer: EAH

Date: 06/22/10

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC14B Run Name : DSL_1000 IDF : 1.0
 Seqnum : 220252488005 File : 175_005 Time : 24-JUN-2010 10:00
 Standards: S14790

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Diesel C10-C22	B	220189132001	11-MAY-2010	35216	39335	1000	1117	mg/L	12	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	45917	50.00	56.89	mg/L	14	15	

PRW 06/24/10 [o-Terphenyl B]: Combined split peak.

Analyst: JDG Date: 06/24/10 Reviewer: PRW Date: 06/24/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC14B Run Name : MO_500 IDF : 1.0
 Seqnum : 220252488011 File : 175_011 Time : 24-JUN-2010 15:09
 Standards: S14857

Analyte	Ch	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
				RF/CF	RF/CF						
Motor Oil C22-C32	B	220190522001	12-MAY-2010	26259	27149	500.0	516.9	mg/L	3	15	
o-Terphenyl	B	220190522002	12-MAY-2010	40353	42722	50.00	52.94	mg/L	6	15	

Analyst: SFL Date: 06/24/10 Reviewer: EAH Date: 06/24/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
 Seqnum : 160242407025 File : 168b025 Time : 17-JUN-2010 23:59
 Standards: S14789

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	59602	500.0	511.7	mg/L	2	15	
o-Terphenyl	160167652002	26-APR-2010	72529	69589	50.00	47.97	mg/L	-4	15	

JDG 06/18/10 [o-Terphenyl B]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/18/10 Reviewer: SFL Date: 06/21/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
 Seqnum : 160251096004 File : 174b004 Time : 23-JUN-2010 10:19
 Standards: S14789

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	54966	500.0	471.9	mg/L	-6	15	
o-Terphenyl	160167652002	26-APR-2010	72529	63806	50.00	43.99	mg/L	-12	15	

JDG 06/24/10 [o-Terphenyl B]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/24/10 Reviewer: SFL Date: 06/24/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
 Seqnum : 160251096005 File : 174b005 Time : 23-JUN-2010 10:47
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	160157409001	19-APR-2010	45200	46452	500.0	513.8	mg/L	3	15	
o-Terphenyl	160167652002	26-APR-2010	72529	64871	50.00	44.72	mg/L	-11	15	

Analyst: JDG Date: 06/24/10 Reviewer: SFL Date: 06/24/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC15B Run Name : DSL_1000 IDF : 1.0
 Seqnum : 160251096017 File : 174b017 Time : 23-JUN-2010 18:26
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	160015122002	10-JAN-2010	58237	56500	1000	970.2	mg/L	-3	15	
o-Terphenyl	160167652002	26-APR-2010	72529	67760	50.00	46.71	mg/L	-7	15	

JDG 06/24/10 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/24/10 Reviewer: SFL Date: 06/24/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
 Seqnum : 160251096018 File : 174b018 Time : 23-JUN-2010 18:53
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	160157409001	19-APR-2010	45200	49225	500.0	544.5	mg/L	9	15	
o-Terphenyl	160167652002	26-APR-2010	72529	67938	50.00	46.83	mg/L	-6	15	

Analyst: JDG Date: 06/24/10 Reviewer: SFL Date: 06/24/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
 Seqnum : 170242436021 File : 168a021 Time : 17-JUN-2010 20:13
 Standards: S14790

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Diesel C10-C22	170100399001	10-MAR-2010	58099	64840	1000	1116	mg/L	12	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	73635	50.00	49.23	mg/L	-2	15	

JDG 06/18/10 [o-Terphenyl A]: Corrected automatically drawn baseline.

Analyst: JDG Date: 06/18/10 Reviewer: PRW Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 170242436022 File : 168a022 Time : 17-JUN-2010 20:41
Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	50932	500.0	528.0	mg/L	6	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	75687	50.00	50.60	mg/L	1	15	

JDG 06/18/10 : Manually integrated fuel hump.

Analyst: JDG Date: 06/18/10 Reviewer: PRW Date: 06/18/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
 Seqnum : 170242436036 File : 168a036 Time : 18-JUN-2010 03:08
 Standards: S14789

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	170100399001	10-MAR-2010	58099	63828	500.0	549.3	mg/L	10	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	69923	50.00	46.75	mg/L	-7	15	

Analyst: JDG Date: 06/18/10 Reviewer: SFL Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
 Seqnum : 170242436037 File : 168a037 Time : 18-JUN-2010 03:36
 Standards: S14857

Analyte	Cal	Caldate	Avg		Spiked	Quant	Units	%D	Max %D	Flags
			RF/CF	RF/CF						
Motor Oil C22-C32	170157422001	19-APR-2010	48231	49369	500.0	511.8	mg/L	2	15	
o-Terphenyl	170108447001	16-MAR-2010	74784	71516	50.00	47.82	mg/L	-4	15	

JDG 06/18/10 : Corrected automatically drawn baseline.

Analyst: JDG Date: 06/18/10 Reviewer: SFL Date: 06/22/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_1000 IDF : 1.0
 Seqnum : 970248164017 File : 172a017 Time : 21-JUN-2010 17:18
 Standards: S14790

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	269705	1000	1002	mg/L	0	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	318344	50.00	56.18	mg/L	12	15	

SFL 06/22/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/22/10 Reviewer: JDG Date: 06/23/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
Seqnum : 970248164018 File : 172a018 Time : 21-JUN-2010 17:44
Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	970248164001	21-JUN-2010	155921	167307	500.0	536.5	mg/L	7	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	291084	50.00	51.37	mg/L	3	15	

SFL 06/22/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/22/10 Reviewer: JDG Date: 06/23/10
Page 1 of 1 970248164018

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC27A Run Name : DSL_250 IDF : 1.0
 Seqnum : 970248164031 File : 172a031 Time : 21-JUN-2010 23:15
 Standards: S14788

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C22	970011942001	08-JAN-2010	269058	289551	250.0	269.0	mg/L	8	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	308431	50.00	54.43	mg/L	9	15	

SFL 06/22/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/22/10 Reviewer: JDG Date: 06/23/10

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 GCSV Water
EPA 8015B

Inst : GC27A Run Name : MO_500 IDF : 1.0
 Seqnum : 970248164034 File : 172a034 Time : 22-JUN-2010 00:31
 Standards: S14857

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C22-C32	970248164001	21-JUN-2010	155921	162996	500.0	522.7	mg/L	5	15	
o-Terphenyl	970048088001	02-FEB-2010	283319	238587	50.00	42.11	mg/L	-16	15	c-

SFL 06/22/10 : Corrected automatically drawn baseline.

Analyst: SFL Date: 06/22/10 Reviewer: JDG Date: 06/23/10

--low bias c=CCV

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160015122

Instrument : GC15B
 Method : EPA 8015B

Begun : 01/10/10 12:02
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	010b001	X	PRIMER			01/10/10 12:02	1.0	
002	010b002	X	IB			01/10/10 12:30	1.0	
003	010b003	X	IB			01/10/10 12:58	1.0	
004	010b004	ICAL	HEXOTP_5			01/10/10 13:26	1.0	1
005	010b005	ICAL	HEXOTP_10			01/10/10 13:54	1.0	2
006	010b006	ICAL	HEXOTP_25			01/10/10 14:21	1.0	3
007	010b007	ICAL	HEXOTP_50			01/10/10 14:49	1.0	4
008	010b008	ICAL	HEXOTP_100			01/10/10 15:17	1.0	5
009	010b009	ICAL	HEXOTP_200			01/10/10 15:45	1.0	6
010	010b010	IB	CALIB			01/10/10 16:13	1.0	
011	010b011	ICAL	DSL_10			01/10/10 16:41	1.0	7
012	010b012	ICAL	DSL_100			01/10/10 17:09	1.0	8
013	010b013	ICAL	DSL_500			01/10/10 17:37	1.0	9
014	010b014	ICAL	DSL_1000			01/10/10 18:05	1.0	10
015	010b015	ICAL	DSL_5000			01/10/10 18:33	1.0	11
016	010b016	ICAL	DSL_7500			01/10/10 19:01	1.0	12
017	010b017	IB	CALIB			01/10/10 19:29	1.0	
018	010b018	ICV	DSL_500			01/10/10 19:57	1.0	13
019	010b019	X	ICV			01/10/10 20:24	1.0	13
020	010b020	IB	CALIB			01/10/10 20:52	1.0	
021	010b021	ICAL	MO_50			01/10/10 21:20	1.0	14
022	010b022	ICAL	MO_250			01/10/10 21:47	1.0	15
023	010b023	ICAL	MO_500			01/10/10 22:15	1.0	16
024	010b024	ICAL	MO_1000			01/10/10 22:43	1.0	17
025	010b025	ICAL	MO_5000			01/10/10 23:10	1.0	18
026	010b026	ICAL	MO_7500			01/10/10 23:38	1.0	19
027	010b027	IB	CALIB			01/11/10 00:06	1.0	
028	010b028	ICAL	JET_10			01/11/10 00:33	1.0	20
029	010b029	ICAL	JET_100			01/11/10 01:01	1.0	21
030	010b030	ICAL	JET_500			01/11/10 01:28	1.0	22
031	010b031	ICAL	JET_1000			01/11/10 01:56	1.0	23
032	010b032	ICAL	JET_2000			01/11/10 02:24	1.0	24
033	010b033	ICAL	JET_3000			01/11/10 02:51	1.0	25
034	010b034	IB	CALIB			01/11/10 03:19	1.0	
035	010b035	ICAL	JP5_10			01/11/10 03:46	1.0	26
036	010b036	ICAL	JP5_100			01/11/10 04:14	1.0	27
037	010b037	ICAL	JP5_500			01/11/10 04:42	1.0	28
038	010b038	ICAL	JP5_1500			01/11/10 05:09	1.0	29
039	010b039	ICAL	JP5_2500			01/11/10 05:37	1.0	30
040	010b040	ICAL	JP5_5000			01/11/10 06:05	1.0	31
041	010b041	IB	CALIB			01/11/10 06:33	1.0	
042	010b042	ICAL	BUNK_50			01/11/10 07:01	1.0	32
043	010b043	ICAL	BUNK_250			01/11/10 07:28	1.0	33
044	010b044	ICAL	BUNK_500			01/11/10 07:56	1.0	34
045	010b045	ICAL	BUNK_1250			01/11/10 08:24	1.0	35
046	010b046	ICAL	BUNK_2500			01/11/10 08:52	1.0	36
047	010b047	ICAL	BUNK_5000			01/11/10 09:20	1.0	37
048	010b048	IB	CALIB			01/11/10 09:48	1.0	
049	010b049	CMARKER	C8_C50			01/11/10 10:16	1.0	38
050	010b050	IB	CALIB			01/11/10 10:44	1.0	

JDG 01/11/10 : I verified that the vials loaded on the instrument matched the

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160157409

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/19/10 07:29
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	109b001	X	IB				04/19/10 07:29	1.0	
002	109b002	X	CMARKER				04/19/10 07:56	1.0	1
003	109b003	X	IB				04/19/10 09:49	1.0	
004	109b004	X	IB				04/19/10 10:16	1.0	
005	109b005	X	CMARKER				04/19/10 10:44	1.0	1
006	109b006	X	MO_500				04/19/10 11:12	1.0	2
007	109b007	X	CCV				04/19/10 11:39	1.0	3
008	109b008	X	MO_500				04/19/10 12:18	1.0	2
009	109b009	X	MO_500				04/19/10 12:46	1.0	2
010	109b010	X	IB				04/19/10 14:35	1.0	
011	109b011	IB	CALIB				04/19/10 15:02	1.0	
012	109b012	ICAL	MO_50				04/19/10 15:30	1.0	4
013	109b013	ICAL	MO_250				04/19/10 15:58	1.0	5
014	109b014	ICAL	MO_500				04/19/10 16:26	1.0	6
015	109b015	ICAL	MO_1000				04/19/10 16:53	1.0	7
016	109b016	ICAL	MO_5000				04/19/10 17:21	1.0	8
017	109b017	ICAL	MO_7500				04/19/10 17:49	1.0	9
018	109b018	IB	CALIB				04/19/10 18:17	1.0	
019	109b019	CMARKER	C8-C50				04/19/10 18:44	1.0	1
020	109b020	IB	CALIB				04/19/10 19:12	1.0	
021	109b021	X	MO_500				04/19/10 19:40	1.0	2
022	109b022	X	DSL_1000				04/19/10 20:07	1.0	10
023	109b023	CCV	CREOSOTE_1250				04/19/10 20:35	1.0	11
024	109b024	CCV	MO_500				04/19/10 21:03	1.0	2
025	109b025	CCV	DSL_1000				04/19/10 21:30	1.0	10
026	109b026	X	CCV				04/19/10 21:58	1.0	11
027	109b027	BLANK	QC540857	S	Soil	162119	04/19/10 22:25	1.0	
028	109b028	LCS	QC540858	S	Soil	162119	04/19/10 22:53	1.0	
029	109b029	SAMPLE	219448-010		Water	162064	04/19/10 23:20	1.0	
030	109b030	SAMPLE	219448-009		Water	162064	04/19/10 23:48	1.0	
031	109b031	SAMPLE	219469-012		Soil	162058	04/20/10 00:15	10.0	
032	109b032	SAMPLE	219475-004	S	Soil	162058	04/20/10 00:43	10.0	
033	109b033	SAMPLE	219469-013		Soil	162058	04/20/10 01:10	25.0	
034	109b034	X	IB				04/20/10 01:38	1.0	
035	109b035	SAMPLE	219469-016		Soil	162058	04/20/10 02:06	25.0	
036	109b036	X	IB				04/20/10 02:33	1.0	
037	109b037	SAMPLE	219469-014		Soil	162058	04/20/10 03:00	10.0	
038	109b038	SAMPLE	219469-015		Soil	162058	04/20/10 03:28	10.0	
039	109b039	X	CMARKER				04/20/10 03:55	1.0	1
040	109b040	CCV	MO_500				04/20/10 04:23	1.0	2
041	109b041	CCV	DSL_500				04/20/10 04:51	1.0	12
042	109b042	CCV	CREOSOTE_1250				04/20/10 05:19	1.0	11
043	109b043	X	CCV				04/20/10 05:46	1.0	2
044	109b044	X	CCV				04/20/10 06:14	1.0	12
045	109b045	X	CCV				04/20/10 06:42	1.0	11

JDG 04/20/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 45.

Standards used: 1=S13646 2=S14243 3=S14076 4=S13804 5=S13805 6=S13806 7=S13807 8=S13808 9=S13809 10=S14078 11=S14244
 12=S14077

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160167652

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/26/10 10:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	116b001	X	PRIMER			04/26/10 10:12	1.0		
002	116b002	X	IB			04/26/10 10:40	1.0		
003	116b003	X	CMARKER			04/26/10 11:08	1.0	1	
004	116b004	X	MO_500			04/26/10 11:58	1.0	2	
005	116b005	X	IB			04/26/10 15:02	1.0		
006	116b006	X	IB			04/26/10 15:29	1.0		
007	116b007	X	IB			04/26/10 16:00	1.0		
008	116b008	X	CMARKER			04/26/10 17:12	1.0	1	
009	116b009	X	MO_500			04/26/10 17:39	1.0	2	
010	116b010	X	DSL_1000			04/26/10 18:07	1.0	3	
011	116b011	X	MO_500			04/26/10 18:34	1.0	2	
012	116b012	X	DSL_1000			04/26/10 19:02	1.0	3	
014	116b014	IB	CALIB			04/26/10 19:56	1.0		
015	116b015	ICAL	HEXOTP_5			04/26/10 20:24	1.0	4	
016	116b016	ICAL	HEXOTP_10			04/26/10 20:53	1.0	5	
017	116b017	ICAL	HEXOTP_25			04/26/10 21:20	1.0	6	
018	116b018	ICAL	HEXOTP_50			04/26/10 21:48	1.0	7	
019	116b019	ICAL	HEXOTP_100			04/26/10 22:15	1.0	8	
020	116b020	ICAL	HEXOTP_200			04/26/10 22:43	1.0	9	
021	116b021	IB	CALIB			04/26/10 23:10	1.0		
022	116b022	X	CMARKER			04/26/10 23:38	1.0	1	
023	116b023	CCV	MO_500			04/27/10 00:05	1.0	2	
024	116b024	CCV	DSL_1000			04/27/10 00:33	1.0	3	
025	116b025	X	CCV			04/27/10 01:01	1.0	2	
026	116b026	X	CCV			04/27/10 01:28	1.0	3	
027	116b027	BLANK	QC542108	Soil	162431	04/27/10 01:56	1.0		
028	116b028	LCS	QC542109	Soil	162431	04/27/10 02:23	1.0		
029	116b029	LCS	QC542112	Soil	162431	04/27/10 02:50	1.0		
030	116b030	SAMPLE	219732-002	Soil	162431	04/27/10 03:18	1.0		
031	116b031	SAMPLE	219732-004	Soil	162431	04/27/10 03:45	1.0		
032	116b032	SAMPLE	219732-006	Soil	162431	04/27/10 04:13	1.0		
033	116b033	SAMPLE	219732-007	Soil	162431	04/27/10 04:41	1.0		
034	116b034	SAMPLE	219732-001	Soil	162431	04/27/10 05:08	1.0		12:BUNKC:12-40=30000
035	116b035	X	IB			04/27/10 05:36	1.0		
036	116b036	SAMPLE	219732-005	Soil	162431	04/27/10 06:04	1.0		
037	116b037	SAMPLE	219732-003	Soil	162431	04/27/10 06:31	1.0		
038	116b038	CCV	MO_500			04/27/10 06:59	1.0	2	
039	116b039	CCV	DSL_500			04/27/10 07:27	1.0	10	
040	116b040	SAMPLE	219732-017	Soil	162431	04/27/10 08:19	1.0		
041	116b041	SAMPLE	219732-011	Soil	162431	04/27/10 08:47	1.0		
042	116b042	SAMPLE	219732-016	Soil	162431	04/27/10 09:14	1.0		
043	116b043	SAMPLE	219732-010	Soil	162431	04/27/10 09:42	1.0		
044	116b044	SAMPLE	219732-014	Soil	162431	04/27/10 10:11	1.0		
045	116b045	SAMPLE	219732-012	Soil	162431	04/27/10 10:38	1.0		2:BUNKC:12-40=13000
046	116b046	X	IB			04/27/10 11:06	1.0		
047	116b047	SAMPLE	219732-013	Soil	162431	04/27/10 11:33	1.0		
048	116b048	SAMPLE	219732-015	Soil	162431	04/27/10 12:01	1.0		
049	116b049	SAMPLE	219732-009	Soil	162431	04/27/10 12:28	1.0		
050	116b050	MSS	219732-008	Soil	162431	04/27/10 12:55	1.0		
051	116b051	X	CMARKER			04/27/10 13:23	1.0	1	
052	116b052	CCV	MO_500			04/27/10 13:51	1.0	2	
053	116b053	CCV	DSL_250			04/27/10 14:19	1.0	11	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160167652

Instrument : GC15B
 Method : EPA 8015B

Begun : 04/26/10 10:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
054	116b054	SAMPLE	219732-001	Soil	162431	04/27/10 14:49	5.0		2:BUNKC:12-40=7300
055	116b055	CCV	MO_500			04/27/10 15:17	1.0	2	
056	116b056	X	DSL_1000			04/27/10 15:45	1.0	3	
057	116b057	SAMPLE	219732-018			04/27/10 16:13	1.0		
058	116b058	CCV	DSL_250			04/27/10 17:53	1.0	11	
059	116b059	SAMPLE	219478-002	Soil	162456	04/27/10 18:24	1.0		
060	116b060	X				04/27/10 18:51	1.0		
061	116b061	SAMPLE	219478-004	Soil	162456	04/27/10 19:20	1.0		
062	116b062	SAMPLE	219478-005	Soil	162456	04/27/10 19:48	1.0		
063	116b063	SAMPLE	219478-006	Soil	162456	04/27/10 20:16	1.0		
064	116b064	SAMPLE	219478-008	Soil	162456	04/27/10 20:44	1.0		
065	116b065	SAMPLE	219478-009	Soil	162456	04/27/10 21:12	1.0		
066	116b066	SAMPLE	219478-011	Soil	162456	04/27/10 21:40	1.0		
067	116b067	SAMPLE	219478-012	Soil	162456	04/27/10 22:08	1.0		
068	116b068	SAMPLE	219478-013	Soil	162456	04/27/10 22:36	1.0		
069	116b069	SAMPLE	219478-014	Soil	162456	04/27/10 23:04	1.0		
070	116b070	CCV	MO_500			04/27/10 23:32	1.0	2	
071	116b071	CCV	DSL_500			04/28/10 00:00	1.0	10	
072	116b072	X	CCV			04/28/10 00:28	1.0	2	
073	116b073	X	CCV			04/28/10 00:55	1.0	10	
075	116b075	LCS	QC542313	Soil	162482	04/28/10 01:24	1.0		
076	116b076	SAMPLE	219725-005	Soil	162482	04/28/10 01:51	1.0		
077	116b077	SAMPLE	219725-007	Soil	162482	04/28/10 02:19	1.0		
078	116b078	SAMPLE	219725-009	Soil	162482	04/28/10 02:47	1.0		2:BUNKC:12-40=5200
079	116b079	SAMPLE	219725-011	Soil	162482	04/28/10 03:15	1.0		
080	116b080	SAMPLE	219725-014	Soil	162482	04/28/10 03:43	1.0		
081	116b081	SAMPLE	219725-016	Soil	162482	04/28/10 04:10	1.0		
082	116b082	SAMPLE	219725-019	Soil	162482	04/28/10 04:38	1.0		
083	116b083	X	CMARKER			04/28/10 05:06	1.0	1	
084	116b084	CCV	MO_500			04/28/10 05:34	1.0	2	
085	116b085	CCV	DSL_250			04/28/10 06:02	1.0	11	
086	116b086	X	CCV			04/28/10 06:29	1.0	2	
087	116b087	X	CCV			04/28/10 06:56	1.0	11	
088	116b088	SAMPLE	219725-034	Soil	162482	04/28/10 07:24	1.0		
089	116b089	MSS	219725-035	Soil	162482	04/28/10 07:52	2.0		
090	116b090	X	QC542311	Soil	162482	04/28/10 08:22	2.0		
091	116b091	X	QC542312	Soil	162482	04/28/10 08:50	2.0		
092	116b092	CCV	MO_500			04/28/10 09:18	1.0	2	
093	116b093	CCV	DSL_500			04/28/10 09:46	1.0	10	

JDG 04/27/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 39.

JDG 04/28/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 40 through 90.

Standards used: 1=S13646 2=S14243 3=S14362 4=S13690 5=S13691 6=S13692 7=S13693 8=S13694 9=S13695 10=S14361 11=S14360

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160242407

Instrument : GC15B
 Method : EPA 8015B

Begun : 06/17/10 08:07
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Std Used
001	168b001	X	PRIMER				06/17/10 08:07	1.0	
002	168b002	X	IB				06/17/10 08:35	1.0	
003	168b003	X	CMARKER				06/17/10 09:03	1.0	1
004	168b004	X	MO_500				06/17/10 09:30	1.0	2
005	168b005	X	DSL_500				06/17/10 09:58	1.0	3
006	168b006	X	MO_500				06/17/10 10:25	1.0	2
007	168b007	X	IB				06/17/10 14:11	1.0	
008	168b008	CMARKER	C8-C50				06/17/10 14:39	1.0	1
009	168b009	X	CCV				06/17/10 15:06	1.0	2
010	168b010	X	CCV				06/17/10 15:34	1.0	4
011	168b011	X	CCV				06/17/10 17:15	1.0	2
012	168b012	CCV	DSL_1000				06/17/10 17:43	1.0	5
013	168b013	CCV	MO_500				06/17/10 18:25	1.0	2
014	168b014	MS	QC549039		Soil	164136	06/17/10 18:53	1.0	
015	168b015	MSD	QC549040		Soil	164136	06/17/10 19:21	1.0	
016	168b016	MSS	220619-018	S	Soil	163847	06/17/10 19:48	1.0	
017	168b017	MS	QC547882	S	Soil	163847	06/17/10 20:16	1.0	
018	168b018	MSD	QC547883	S	Soil	163847	06/17/10 20:44	1.0	
019	168b019	X	IB				06/17/10 21:12	1.0	
020	168b020	LCS	QC549038		Soil	164136	06/17/10 21:39	1.0	
021	168b021	LCS	QC547881	S	Soil	163847	06/17/10 22:07	1.0	
022	168b022	BS	QC548862	S	Water	164090	06/17/10 22:35	1.0	
023	168b023	BSD	QC548863	S	Water	164090	06/17/10 23:03	1.0	
024	168b024	SAMPLE	220748-001		Soil	164136	06/17/10 23:31	1.0	
025	168b025	CCV	DSL_500				06/17/10 23:59	1.0	3
026	168b026	CCV	MO_500				06/18/10 00:26	1.0	2
027	168b027	X	CCV				06/18/10 00:54	1.0	3
028	168b028	X	CCV				06/18/10 01:22	1.0	2
029	168b029	SAMPLE	220748-002		Soil	164136	06/18/10 01:50	1.0	
030	168b030	SAMPLE	220748-003		Soil	164136	06/18/10 02:18	1.0	
031	168b031	SAMPLE	220748-004		Soil	164136	06/18/10 02:46	1.0	
032	168b032	SAMPLE	220748-005		Soil	164136	06/18/10 03:14	1.0	
033	168b033	MSS	220748-006		Soil	164136	06/18/10 03:42	1.0	
034	168b034	SAMPLE	220748-007		Soil	164136	06/18/10 04:10	1.0	
035	168b035	X	CMARKER				06/18/10 04:38	1.0	1
036	168b036	CCV	DSL_250				06/18/10 05:06	1.0	4
037	168b037	CCV	MO_500				06/18/10 05:33	1.0	2

JDG 06/18/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 37.

Standards used: 1=S14557 2=S14857 3=S14789 4=S14788 5=S14790

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 160251096

Instrument : GC15B
 Method : EPA 8015B

Begun : 06/23/10 08:56
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	174b001	X	PRIMER				06/23/10 08:56	1.0	
002	174b002	X	IB				06/23/10 09:24	1.0	
003	174b003	X	CMARKER				06/23/10 09:52	1.0	1
004	174b004	CCV	DSL_500				06/23/10 10:19	1.0	2
005	174b005	CCV	MO_500				06/23/10 10:47	1.0	3
006	174b006	SAMPLE	220709-005		Water	164090	06/23/10 12:32	1.0	
007	174b007	SAMPLE	220709-006		Water	164090	06/23/10 13:00	1.0	
008	174b008	SAMPLE	220709-008		Water	164090	06/23/10 13:27	1.0	
009	174b009	SAMPLE	220709-015		Water	164090	06/23/10 13:55	1.0	
010	174b010	X	IB				06/23/10 14:24	1.0	
011	174b011	BLANK	QC549628	S	Soil	164285	06/23/10 15:40	1.0	
012	174b012	LCS	QC549629	S	Soil	164285	06/23/10 16:08	1.0	
013	174b013	MSS	220849-010	S	Soil	164285	06/23/10 16:35	1.0	
014	174b014	MS	QC549630	S	Soil	164285	06/23/10 17:03	1.0	
015	174b015	MSD	QC549631	S	Soil	164285	06/23/10 17:31	1.0	
016	174b016	SAMPLE	220849-001	S	Soil	164285	06/23/10 17:58	1.0	
017	174b017	CCV	DSL_1000				06/23/10 18:26	1.0	4
018	174b018	CCV	MO_500				06/23/10 18:53	1.0	3
019	174b019	X	CCV				06/23/10 19:21	1.0	4
020	174b020	X	CCV				06/23/10 19:48	1.0	3
021	174b021	SAMPLE	220849-003	S	Soil	164285	06/23/10 20:16	1.0	
022	174b022	SAMPLE	220849-004	S	Soil	164285	06/23/10 20:43	1.0	
023	174b023	SAMPLE	220849-006	S	Soil	164285	06/23/10 21:11	1.0	
024	174b024	SAMPLE	220849-007	S	Soil	164285	06/23/10 21:39	1.0	
025	174b025	SAMPLE	220849-009	S	Soil	164285	06/23/10 22:06	1.0	
026	174b026	SAMPLE	220849-012	S	Soil	164285	06/23/10 22:34	1.0	
027	174b027	SAMPLE	220849-013	S	Soil	164285	06/23/10 23:02	1.0	
028	174b028	SAMPLE	220849-015	S	Soil	164285	06/23/10 23:30	1.0	
029	174b029	SAMPLE	220849-017	S	Soil	164285	06/23/10 23:57	1.0	
030	174b030	SAMPLE	220849-018	S	Soil	164285	06/24/10 00:25	1.0	
031	174b031	X	CMARKER				06/24/10 00:53	1.0	1
032	174b032	CCV	DSL_250				06/24/10 01:21	1.0	5
033	174b033	CCV	MO_500				06/24/10 01:49	1.0	3
034	174b034	X	CCV				06/24/10 02:17	1.0	2
035	174b035	X	CCV				06/24/10 02:45	1.0	3
036	174b036	SAMPLE	220849-020	S	Soil	164285	06/24/10 03:13	1.0	
037	174b037	SAMPLE	220849-022	S	Soil	164285	06/24/10 03:41	1.0	
038	174b038	SAMPLE	220849-023	S	Soil	164285	06/24/10 04:08	1.0	
039	174b039	SAMPLE	220849-025	S	Soil	164285	06/24/10 04:36	1.0	
040	174b040	SAMPLE	220849-027	S	Soil	164285	06/24/10 05:04	1.0	
041	174b041	SAMPLE	220849-028	S	Soil	164285	06/24/10 05:32	1.0	
042	174b042	SAMPLE	220849-030	S	Soil	164285	06/24/10 05:59	1.0	
043	174b043	SAMPLE	220849-032	S	Soil	164285	06/24/10 06:27	1.0	
044	174b044	SAMPLE	220777-001	S	Water	164182	06/24/10 06:55	1.0	
045	174b045	SAMPLE	220806-001	S	Soil	164180	06/24/10 07:23	1.0	2:BUNKC:12-40=8300
046	174b046	CCV	DSL_500				06/24/10 07:50	1.0	2
047	174b047	CCV	MO_500				06/24/10 08:18	1.0	3

JDG 06/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 47.

Standards used: 1=S14862 2=S14789 3=S14857 4=S14790 5=S14788

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170100399

Instrument : GC17A Begun : 03/10/10 08:00
 Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	069a001	X	PRIMER			03/10/10 08:00	1.0	
002	069a002	X	IB			03/10/10 08:28	1.0	
003	069a003	IB	CALIB			03/10/10 08:55	1.0	
004	069a004	ICAL	DSL_10			03/10/10 09:30	1.0	1
005	069a005	ICAL	DSL_100			03/10/10 09:58	1.0	2
006	069a006	ICAL	DSL_500			03/10/10 10:25	1.0	3
007	069a007	ICAL	DSL_1000			03/10/10 10:52	1.0	4
008	069a008	ICAL	DSL_5000			03/10/10 11:20	1.0	5
009	069a009	ICAL	DSL_7500			03/10/10 11:48	1.0	6
010	069a010	IB	CALIB			03/10/10 12:15	1.0	
011	069a011	ICV	DSL_500			03/10/10 12:42	1.0	7
012	069a012	X	ICV			03/10/10 13:09	1.0	7
013	069a013	IB	CALIB			03/10/10 13:37	1.0	
014	069a014	ICAL	MO_50			03/10/10 14:05	1.0	8
015	069a015	ICAL	MO_250			03/10/10 14:32	1.0	9
016	069a016	ICAL	MO_500			03/10/10 15:00	1.0	10
017	069a017	ICAL	MO_1000			03/10/10 15:27	1.0	11
018	069a018	ICAL	MO_5000			03/10/10 15:55	1.0	12
019	069a019	ICAL	MO_7500			03/10/10 16:23	1.0	13
020	069a020	IB	CALIB			03/10/10 16:51	1.0	
021	069a021	CMARKER	C8-C50			03/10/10 17:19	1.0	14
022	069a022	IB	CALIB			03/10/10 17:46	1.0	

JDG 03/11/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Standards used: 1=S14114 2=S14115 3=S14116 4=S14117 5=S14113 6=S14118 7=S14077 8=S13804 9=S13805 10=S13806 11=S13807
 12=S13808 13=S13809 14=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170108447

Instrument : GC17A
 Method : EPA 8015B

Begun : 03/16/10 07:27
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	075a001	X	PRIMER				03/16/10 07:27	1.0	
002	075a002	X	IB				03/16/10 07:55	1.0	
003	075a003	X	CMARKER				03/16/10 08:24	1.0	1
004	075a004	X	MO_500				03/16/10 08:52	1.0	2
005	075a005	X	DSL_500				03/16/10 09:19	1.0	3
006	075a006	X	JP5_250				03/16/10 09:47	1.0	4
007	075a007	X	IB				03/16/10 12:53	1.0	
008	075a008	X	CMARKER				03/16/10 13:21	1.0	1
009	075a009	X	MO_500				03/16/10 13:48	1.0	2
010	075a010	X	IB				03/16/10 14:40	1.0	
011	075a011	IB	CALIB				03/16/10 15:07	1.0	
012	075a012	ICAL	HEXOTP_5				03/16/10 15:35	1.0	5
013	075a013	ICAL	HEXOTP_10				03/16/10 16:03	1.0	6
014	075a014	ICAL	HEXOTP_25				03/16/10 16:30	1.0	7
015	075a015	ICAL	HEXOTP_50				03/16/10 16:58	1.0	8
016	075a016	ICAL	HEXOTP_100				03/16/10 17:25	1.0	9
017	075a017	ICAL	HEXOTP_200				03/16/10 17:53	1.0	10
018	075a018	IB	CALIB				03/16/10 18:20	1.0	
019	075a019	CMARKER	C8-C50				03/16/10 18:48	1.0	1
020	075a020	CCV	MO_500				03/16/10 19:15	1.0	2
021	075a021	CCV	DSL_250				03/16/10 19:42	1.0	11
022	075a022	X	CCV				03/16/10 20:10	1.0	2
023	075a023	X	CCV				03/16/10 20:37	1.0	11
024	075a024	BLANK	QC535926		Water	160891	03/16/10 21:05	1.0	
025	075a025	SAMPLE	218714-001	S	Water	160843	03/16/10 21:32	1.0	
026	075a026	BLANK	QC536089	S	Water	160933	03/16/10 22:00	1.0	
027	075a027	BLANK	QC536089		Water	160933	03/16/10 22:27	1.0	
028	075a028	BS	QC536090	S	Water	160933	03/16/10 22:54	1.0	
029	075a029	BSD	QC536091	S	Water	160933	03/16/10 23:22	1.0	
030	075a030	SAMPLE	218778-001		Water	160933	03/16/10 23:49	1.0	
031	075a031	SAMPLE	218778-002		Water	160933	03/17/10 00:17	1.0	
032	075a032	SAMPLE	218778-003		Water	160933	03/17/10 00:45	1.0	
033	075a033	SAMPLE	218778-004		Water	160933	03/17/10 01:12	1.0	
034	075a034	CCV	MO_500				03/17/10 01:39	1.0	2
035	075a035	CCV	DSL_1000				03/17/10 02:07	1.0	12
036	075a036	X	CCV				03/17/10 02:34	1.0	2
037	075a037	X	CCV				03/17/10 03:02	1.0	12
038	075a038	SAMPLE	218787-006	S	Water	160933	03/17/10 03:29	1.0	
039	075a039	SAMPLE	218787-007	S	Water	160933	03/17/10 03:56	1.0	
040	075a040	SAMPLE	218789-001	S	Water	160933	03/17/10 04:24	1.0	
041	075a041	SAMPLE	218789-002	S	Water	160933	03/17/10 04:52	1.0	
042	075a042	SAMPLE	218789-003	S	Water	160933	03/17/10 05:19	1.0	
043	075a043	X	CMARKER				03/17/10 05:47	1.0	1
044	075a044	X	MO_500				03/17/10 06:14	1.0	2
045	075a045	CCV	DSL_500				03/17/10 06:41	1.0	3
046	075a046	CCV	MO_500				03/17/10 07:09	1.0	2
047	075a047	X	CCV				03/17/10 07:36	1.0	3

JDG 03/17/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 47.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170157422

Instrument : GC17A
 Method : EPA 8015B

Begun : 04/19/10 07:42
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	109a001	X	IB				04/19/10 07:42	1.0	
002	109a002	X	CMARKER				04/19/10 08:10	1.0	1
003	109a003	X	IB				04/19/10 10:09	1.0	
004	109a004	X	IB				04/19/10 10:36	1.0	
005	109a005	X	CMARKER				04/19/10 11:04	1.0	1
006	109a006	X	MO_500				04/19/10 11:31	1.0	2
007	109a007	X	DSL_250				04/19/10 11:59	1.0	3
008	109a008	X	MO_500				04/19/10 12:36	1.0	2
009	109a009	IB	CALIB				04/19/10 14:35	1.0	
010	109a010	ICAL	MO_50				04/19/10 15:03	1.0	4
011	109a011	ICAL	MO_250				04/19/10 15:30	1.0	5
012	109a012	ICAL	MO_500				04/19/10 15:58	1.0	6
013	109a013	ICAL	MO_1000				04/19/10 16:25	1.0	7
014	109a014	ICAL	MO_5000				04/19/10 16:53	1.0	8
015	109a015	ICAL	MO_7500				04/19/10 17:20	1.0	9
016	109a016	IB	CALIB				04/19/10 17:47	1.0	
017	109a017	CMARKER	C8-C50				04/19/10 18:14	1.0	1
018	109a018	IB	CALIB				04/19/10 18:42	1.0	
019	109a019	CCV	MO_500				04/19/10 19:09	1.0	2
020	109a020	CCV	DSL_250				04/19/10 19:36	1.0	3
021	109a021	X	CCV				04/19/10 20:04	1.0	2
022	109a022	X	CCV				04/19/10 20:31	1.0	3
023	109a023	BLANK	QC540932		Soil	162140	04/19/10 20:58	1.0	
024	109a024	LCS	QC540936		Soil	162140	04/19/10 21:26	1.0	
025	109a025	SAMPLE	219555-004		Soil	162140	04/19/10 21:53	1.0	
026	109a026	MSS	219555-007		Soil	162140	04/19/10 22:20	5.0	
027	109a027	MS	QC540934		Soil	162140	04/19/10 22:47	5.0	
028	109a028	MSD	QC540935		Soil	162140	04/19/10 23:14	5.0	
029	109a029	SAMPLE	219555-001		Soil	162140	04/19/10 23:41	100.0	
030	109a030	X	IB				04/20/10 00:08	1.0	
031	109a031	SAMPLE	219555-005		Soil	162140	04/20/10 00:35	1.0	
032	109a032	SAMPLE	219555-008		Soil	162140	04/20/10 01:03	1.0	
033	109a033	SAMPLE	219555-003		Soil	162140	04/20/10 01:30	50.0	
034	109a034	CCV	MO_500				04/20/10 01:57	1.0	2
035	109a035	CCV	DSL_500				04/20/10 02:25	1.0	10
036	109a036	X	CCV				04/20/10 02:52	1.0	2
037	109a037	X	CCV				04/20/10 03:19	1.0	10
038	109a038	BLANK	QC540932	S	Soil	162140	04/20/10 03:47	1.0	
039	109a039	LCS	QC540933	S	Soil	162140	04/20/10 04:14	1.0	
040	109a040	SAMPLE	219555-011		Soil	162140	04/20/10 04:42	1.0	
041	109a041	SAMPLE	219555-009		Soil	162140	04/20/10 05:09	10.0	
042	109a042	SAMPLE	219555-010		Soil	162140	04/20/10 05:37	10.0	
043	109a043	X	IB				04/20/10 06:04	1.0	
044	109a044	SAMPLE	219555-002		Soil	162140	04/20/10 06:31	50.0	
045	109a045	X	IB				04/20/10 06:59	1.0	
046	109a046	SAMPLE	219555-006		Soil	162140	04/20/10 07:26	100.0	
047	109a047	X	IB				04/20/10 07:54	1.0	
048	109a048	SAMPLE	219358-007	S	Soil	162140	04/20/10 08:21	1.0	
049	109a049	SAMPLE	219358-008	S	Soil	162140	04/20/10 08:49	1.0	
050	109a050	SAMPLE	219413-001	S	Soil	162140	04/20/10 09:16	1.0	
051	109a051	X	CMARKER				04/20/10 09:43	1.0	1
052	109a052	CCV	MO_500				04/20/10 10:11	1.0	2

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 170242436

Instrument : GC17A
 Method : EPA 8015B

Begun : 06/17/10 08:36
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Std's Used
001	168a001	X	PRIMER				06/17/10 08:36	1.0	
002	168a002	X	IB				06/17/10 09:03	1.0	
003	168a003	X	CMARKER				06/17/10 09:47	1.0	1
004	168a004	X	DSL_1000				06/17/10 10:15	1.0	2
005	168a005	X	MO_500				06/17/10 10:42	1.0	3
006	168a006	X	DSL_500				06/17/10 11:23	1.0	4
007	168a007	X	IB				06/17/10 13:31	1.0	
008	168a008	X	CMARKER				06/17/10 13:59	1.0	1
009	168a009	CCV	DSL_1000				06/17/10 14:27	1.0	2
010	168a010	CCV	MO_500				06/17/10 14:54	1.0	3
011	168a011	BLANK	QC548683	S	Water	164046	06/17/10 15:38	1.0	
012	168a012	LCS	QC548684	S	Water	164046	06/17/10 16:06	1.0	
013	168a013	MSS	220669-002	S	Water	164046	06/17/10 16:33	1.0	
014	168a014	MS	QC548685	S	Water	164046	06/17/10 17:01	1.0	
015	168a015	MSD	QC548686	S	Water	164046	06/17/10 17:28	1.0	
016	168a016	SAMPLE	220669-001	S	Water	164046	06/17/10 17:56	1.0	
017	168a017	SAMPLE	220700-001	S	Water	164046	06/17/10 18:23	1.0	
018	168a018	SAMPLE	220700-002	S	Water	164046	06/17/10 18:51	1.0	
019	168a019	SAMPLE	220733-011		Soil	164077	06/17/10 19:19	1.0	
020	168a020	SAMPLE	220680-009		Water	164046	06/17/10 19:46	1.0	
021	168a021	CCV	DSL_1000				06/17/10 20:13	1.0	2
022	168a022	CCV	MO_500				06/17/10 20:41	1.0	3
023	168a023	X	CCV				06/17/10 21:08	1.0	2
024	168a024	X	CCV				06/17/10 21:36	1.0	3
025	168a025	BLANK	QC548861		Water	164090	06/17/10 22:03	1.0	
026	168a026	LCS	QC548864		Water	164090	06/17/10 22:31	1.0	
027	168a027	SAMPLE	220736-001		Water	164090	06/17/10 22:59	1.0	
028	168a028	SAMPLE	220736-002		Water	164090	06/17/10 23:26	1.0	
029	168a029	SAMPLE	220736-003		Water	164090	06/17/10 23:54	1.0	
030	168a030	SAMPLE	220736-004		Water	164090	06/18/10 00:22	1.0	
031	168a031	SAMPLE	220736-005		Water	164090	06/18/10 00:50	1.0	
032	168a032	SAMPLE	220709-002		Water	164090	06/18/10 01:17	1.0	
033	168a033	SAMPLE	220709-003		Water	164090	06/18/10 01:45	1.0	
034	168a034	SAMPLE	220709-004		Water	164090	06/18/10 02:13	1.0	
035	168a035	X	CMARKER				06/18/10 02:40	1.0	1
036	168a036	CCV	DSL_500				06/18/10 03:08	1.0	4
037	168a037	CCV	MO_500				06/18/10 03:36	1.0	3
038	168a038	X	CCV				06/18/10 04:04	1.0	4
039	168a039	X	CCV				06/18/10 04:31	1.0	3

JDG 06/18/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 39.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 220189132

Instrument : GC14B
 Method : EPA 8015B

Begun : 05/11/10 08:12
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	131_001	X	PRIMER			05/11/10 08:12	1.0	
002	131_002	X	IB			05/11/10 08:40	1.0	
003	131_003	X	CMARKER			05/11/10 09:07	1.0	1
004	131_004	CCV	DSL_250			05/11/10 09:35	1.0	2
005	131_005	CCV	MO_500			05/11/10 10:03	1.0	3
006	131_006	X	IB			05/11/10 13:37	1.0	
007	131_007	IB	CALIB			05/11/10 14:05	1.0	
008	131_008	ICAL	DSL_10			05/11/10 14:32	1.0	4
009	131_009	ICAL	DSL_100			05/11/10 15:00	1.0	5
010	131_010	ICAL	DSL_500			05/11/10 15:28	1.0	6
011	131_011	ICAL	DSL_1000			05/11/10 15:57	1.0	7
012	131_012	ICAL	DSL_5000			05/11/10 16:25	1.0	8
013	131_013	ICAL	DSL_7500			05/11/10 16:54	1.0	9
014	131_014	IB	CALIB			05/11/10 17:21	1.0	
015	131_015	ICV	DSL_500			05/11/10 17:49	1.0	10
016	131_016	X	ICV			05/11/10 18:17	1.0	10
017	131_017	IB	CALIB			05/11/10 18:45	1.0	
018	131_018	CMARKER	C8-C50			05/11/10 19:12	1.0	11
019	131_019	IB	CALIB			05/11/10 19:40	1.0	

SFL 05/12/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 19.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 220190522

Instrument : GC14B
 Method : EPA 8015B

Begun : 05/12/10 07:22
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	132_001	X	PRIMER			05/12/10 07:22	1.0	
002	132_002	X	IB			05/12/10 07:49	1.0	
003	132_003	X	CMARKER			05/12/10 08:17	1.0	1
004	132_004	X	DSL_250			05/12/10 08:45	1.0	2
005	132_005	X	MO_500			05/12/10 09:13	1.0	3
006	132_006	X	DSL_1000			05/12/10 11:11	1.0	4
007	132_007	X	IB			05/12/10 12:38	1.0	
008	132_008	IB	CALIB			05/12/10 14:26	1.0	
009	132_009	ICAL	HEX OTP_5			05/12/10 14:53	1.0	5
010	132_010	ICAL	HEX OTP_10			05/12/10 15:21	1.0	6
011	132_011	ICAL	HEX OTP_25			05/12/10 15:49	1.0	7
012	132_012	ICAL	HEX OTP_50			05/12/10 16:17	1.0	8
013	132_013	ICAL	HEX OTP_100			05/12/10 16:44	1.0	9
014	132_014	ICAL	HEX OTP_200			05/12/10 17:12	1.0	10
015	132_015	IB	CALIB			05/12/10 17:40	1.0	
016	132_016	ICAL	MO_50			05/12/10 18:08	1.0	11
017	132_017	ICAL	MO_250			05/12/10 18:36	1.0	12
018	132_018	ICAL	MO_500			05/12/10 19:04	1.0	13
019	132_019	ICAL	MO_1000			05/12/10 19:31	1.0	14
020	132_020	ICAL	MO_5000			05/12/10 19:59	1.0	15
021	132_021	ICAL	MO_7500			05/12/10 20:27	1.0	16
022	132_022	IB	CALIB			05/12/10 20:54	1.0	
023	132_023	CMARKER	C8-C50			05/12/10 21:22	1.0	17
024	132_024	IB	CALIB			05/12/10 21:50	1.0	

JDG 05/13/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 24.

Standards used: 1=S14547 2=S14555 3=S14243 4=S14542 5=S13690 6=S13691 7=S13692 8=S13693 9=S13694 10=S13695 11=S13804
 12=S13805 13=S13806 14=S13807 15=S13808 16=S13809 17=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 220252488

Instrument : GC14B Begun : 06/24/10 08:08
 Method : EPA 8015B SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	175_001	X	PRIMER				06/24/10 08:08	1.0	
002	175_002	X	IB				06/24/10 08:36	1.0	
003	175_003	X	CMARKER				06/24/10 09:04	1.0	1
004	175_004	CCV	MO_500				06/24/10 09:32	1.0	2
005	175_005	CCV	DSL_1000				06/24/10 10:00	1.0	3
006	175_006	SAMPLE	220709-009		Water	164090	06/24/10 11:58	1.0	
007	175_007	SAMPLE	220809-001	S	Water	164182	06/24/10 12:25	1.0	
008	175_008	MS	QC549615	S	Water	164282	06/24/10 12:53	1.0	
009	175_009	MSD	QC549616	S	Water	164282	06/24/10 13:20	1.0	
010	175_010	MS	QC549615		Water	164282	06/24/10 14:32	1.0	
011	175_011	CCV	MO_500				06/24/10 15:09	1.0	2
012	175_012	CCV	DSL_500				06/24/10 15:37	1.0	4
013	175_013	CCV	MO_500				06/24/10 16:07	1.0	5
014	175_014	X	TANKCHECK				06/24/10 16:54	1.0	

JDG 06/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 10.

SFL 06/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 11 through 12.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970011942

Instrument : GC27A
 Method : EPA 8015B

Begun : 01/08/10 07:02
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	008a001	X	PRIMER			01/08/10 07:02	1.0	
002	008a002	X	IB			01/08/10 07:27	1.0	
003	008a003	X	IB			01/08/10 07:52	1.0	
004	008a004	X	CMARKER			01/08/10 08:18	1.0	1
005	008a005	CCV	DSL_250			01/08/10 08:43	1.0	2
006	008a006	X	CMARKER			01/08/10 10:52	1.0	1
007	008a007	CCV	DSL_250			01/08/10 11:18	1.0	2
008	008a008	X	IB			01/08/10 13:49	1.0	
009	008a009	X	CMARKER			01/08/10 14:14	1.0	1
010	008a010	CCV	DSL_1000			01/08/10 14:40	1.0	3
011	008a011	CCV	DSL_500			01/08/10 15:16	1.0	4
012	008a012	IB	CALIB			01/08/10 17:12	1.0	
013	008a013	ICAL	HEXOPT_5			01/08/10 17:38	1.0	5
014	008a014	ICAL	HEXOPT_10			01/08/10 18:03	1.0	6
015	008a015	ICAL	HEXOPT_25			01/08/10 18:29	1.0	7
016	008a016	ICAL	HEXOPT_50			01/08/10 18:54	1.0	8
017	008a017	ICAL	HEXOPT_100			01/08/10 19:20	1.0	9
018	008a018	ICAL	HEXOPT_200			01/08/10 19:45	1.0	10
019	008a019	IB	CALIB			01/08/10 20:11	1.0	
020	008a020	ICAL	DSL_10			01/08/10 20:36	1.0	11
021	008a021	ICAL	DSL_100			01/08/10 21:02	1.0	12
022	008a022	ICAL	DSL_500			01/08/10 21:27	1.0	13
023	008a023	ICAL	DSL_1000			01/08/10 21:52	1.0	14
024	008a024	ICAL	DSL_5000			01/08/10 22:18	1.0	15
025	008a025	ICAL	DSL_7500			01/08/10 22:43	1.0	16
026	008a026	IB	CALIB			01/08/10 23:09	1.0	
027	008a027	ICV	DSL_500			01/08/10 23:34	1.0	4
028	008a028	X	ICV			01/09/10 00:00	1.0	4
029	008a029	IB	CALIB			01/09/10 00:25	1.0	
030	008a030	CMARKER	C8-C50			01/09/10 00:50	1.0	17
031	008a031	IB	CALIB			01/09/10 01:15	1.0	

SFL 01/11/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S12636 2=S13456 3=S13458 4=S13457 5=S13690 6=S13691 7=S13692 8=S13693 9=S13694 10=S13695 11=S13230
 12=S13231 13=S13232 14=S13233 15=S13229 16=S13234 17=S13646

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970048088

Instrument : GC27A
 Method : EPA 8015B

Begun : 02/02/10 09:28
 SOP Version : TEH_rv13

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	033a001	X	PRIMER			02/02/10 09:28	1.0	
002	033a002	X	IB			02/02/10 09:53	1.0	
003	033a003	X	IB			02/02/10 10:19	1.0	
004	033a004	X	CMARKER			02/02/10 10:44	1.0	1
005	033a005	CCV	DSL_1000			02/02/10 11:10	1.0	2
006	033a006	CCV	MO_500			02/02/10 11:36	1.0	3
007	033a007	CCV	DSL_250			02/02/10 13:11	1.0	4
008	033a008	CCV	MO_500			02/02/10 13:37	1.0	3
009	033a009	X	IB			02/02/10 19:36	1.0	
010	033a010	X	IB			02/02/10 20:01	1.0	
011	033a011	X	CMARKER			02/02/10 20:27	1.0	1
012	033a012	CCV	DSL_500			02/02/10 20:53	1.0	5
013	033a013	CCV	MO_500			02/02/10 21:18	1.0	3
014	033a014	X	IB			02/02/10 21:48	1.0	
015	033a015	IB	CALIB			02/02/10 22:14	1.0	
016	033a016	ICAL	HEXOTP_5			02/02/10 22:40	1.0	6
017	033a017	ICAL	HEXOTP_10			02/02/10 23:05	1.0	7
018	033a018	ICAL	HEXOTP_25			02/02/10 23:30	1.0	8
019	033a019	ICAL	HEXOTP_50			02/02/10 23:55	1.0	9
020	033a020	ICAL	HEXOTP_100			02/03/10 00:21	1.0	10
021	033a021	ICAL	HEXOTP_200			02/03/10 00:46	1.0	11
022	033a022	IB	CALIB			02/03/10 01:12	1.0	
023	033a023	ICAL	MO_25			02/03/10 01:37	1.0	12
024	033a024	ICAL	MO_50			02/03/10 02:03	1.0	12
025	033a025	ICAL	MO_250			02/03/10 02:28	1.0	13
026	033a026	ICAL	MO_500			02/03/10 02:54	1.0	14
027	033a027	ICAL	MO_1000			02/03/10 03:19	1.0	15
028	033a028	ICAL	MO_2500			02/03/10 03:45	1.0	16
029	033a029	IB	CALIB			02/03/10 04:10	1.0	
030	033a030	CMARKER	C8-C50			02/03/10 04:36	1.0	1
031	033a031	IB	CALIB			02/03/10 05:02	1.0	

SFL 02/03/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 31.

Standards used: 1=S13646 2=S13458 3=S13744 4=S13456 5=S13457 6=S13690 7=S13691 8=S13692 9=S13693 10=S13694 11=S13695
 12=S13804 13=S13805 14=S13806 15=S13807 16=S13808

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 970248164

Instrument : GC27A
 Method : EPA 8015B

Begun : 06/21/10 08:04
 SOP Version : TEH_rv13

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used
001	172a001	X	PRIMER				06/21/10 08:04	1.0	
002	172a002	X	IB				06/21/10 08:29	1.0	
003	172a003	X	CMARKER				06/21/10 08:57	1.0	1
004	172a004	CCV	DSL_1000				06/21/10 09:22	1.0	2
005	172a005	X	MO_500				06/21/10 09:48	1.0	3
006	172a006	X	MO_500				06/21/10 11:08	1.0	3
007	172a007	IB	CALIB				06/21/10 12:37	1.0	
008	172a008	ICAL	MO_25				06/21/10 13:02	1.0	4
009	172a009	ICAL	MO_50				06/21/10 13:28	1.0	4
010	172a010	ICAL	MO_250				06/21/10 13:53	1.0	5
011	172a011	ICAL	MO_500				06/21/10 14:19	1.0	6
012	172a012	ICAL	MO_1000				06/21/10 14:45	1.0	7
013	172a013	ICAL	MO_2500				06/21/10 15:10	1.0	8
014	172a014	IB	CALIB				06/21/10 15:36	1.0	
015	172a015	CMARKER	C8-C50				06/21/10 16:02	1.0	1
016	172a016	X	IB				06/21/10 16:27	1.0	
017	172a017	CCV	DSL_1000				06/21/10 17:18	1.0	2
018	172a018	CCV	MO_500				06/21/10 17:44	1.0	3
019	172a019	X	CCV				06/21/10 18:09	1.0	2
020	172a020	X	CCV				06/21/10 18:35	1.0	3
021	172a021	BLANK	QC549199	S	Water	164181	06/21/10 19:00	1.0	
022	172a022	BS	QC549200	S	Water	164181	06/21/10 19:26	1.0	
023	172a023	BSD	QC549201	S	Water	164181	06/21/10 19:52	1.0	
024	172a024	SAMPLE	220709-007		Water	164090	06/21/10 20:17	1.0	
025	172a025	SAMPLE	220709-008		Water	164090	06/21/10 20:43	1.0	
026	172a026	SAMPLE	220709-012		Water	164090	06/21/10 21:08	1.0	
027	172a027	SAMPLE	220709-013		Water	164090	06/21/10 21:34	1.0	
028	172a028	SAMPLE	220709-014		Water	164090	06/21/10 21:59	1.0	
029	172a029	SAMPLE	220709-015		Water	164090	06/21/10 22:24	1.0	
030	172a030	SAMPLE	220709-016		Water	164090	06/21/10 22:50	1.0	
031	172a031	CCV	DSL_250				06/21/10 23:15	1.0	9
032	172a032	X	MO_500				06/21/10 23:40	1.0	3
033	172a033	X	DSL_250				06/22/10 00:06	1.0	9
034	172a034	CCV	MO_500				06/22/10 00:31	1.0	3
035	172a035	SAMPLE	220786-001	S	Water	164181	06/22/10 00:56	1.0	
036	172a036	SAMPLE	220786-002	S	Water	164181	06/22/10 01:22	1.0	
037	172a037	SAMPLE	220786-003	S	Water	164181	06/22/10 01:47	1.0	
038	172a038	SAMPLE	220786-004	S	Water	164181	06/22/10 02:13	1.0	
039	172a039	SAMPLE	220786-005	S	Water	164181	06/22/10 02:38	1.0	
040	172a040	SAMPLE	220786-006	S	Water	164181	06/22/10 03:03	1.0	
041	172a041	SAMPLE	220786-013	S	Water	164181	06/22/10 03:29	1.0	
042	172a042	SAMPLE	220786-014	S	Water	164181	06/22/10 03:54	1.0	
043	172a043	SAMPLE	220786-015	S	Water	164181	06/22/10 04:20	1.0	
044	172a044	SAMPLE	220786-022	S	Water	164181	06/22/10 04:45	1.0	
045	172a045	X	CMARKER				06/22/10 05:11	1.0	1
046	172a046	X	DSL_500				06/22/10 05:37	1.0	10
047	172a047	CCV	MO_500				06/22/10 06:02	1.0	3
048	172a048	CCV	DSL_500				06/22/10 06:28	1.0	10
049	172a049	X	MO_500				06/22/10 06:53	1.0	3

TFB 06/21/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

SAMPLE PREPARATION SUMMARY

Batch # : 164090		Analysis : TEH
Started By : CRD	Prep Date : 16-JUN-2010 15:40	Finished By : KAL
Method : 3520C	SOP Version : TEH_3520_rv12	Units : mL
Spike #1 ID : S14657	Spike #2 ID : S14835	Spike #3 ID : S14251

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
220709-002		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-003		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-004		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-005		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-006		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-007		Water	500	2.5	1	0.005	5	.5				TEHM	
220709-008		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-009		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-012		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-013		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-014		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-015		Water	500	2.5	1	0.005	7	.5				TEHM	
220709-016		Water	500	2.5	1	0.005	5	.5				TEHM	
220722-001		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
220722-002		Water	500	2.5	1	0.005	7	.5			3630C	TEHM	
220736-001		Water	500	2.5	1	0.005	7	.5				TEHM	
220736-002		Water	500	2.5	1	0.005	7	.5				TEHM	
220736-003		Water	500	2.5	1	0.005	7	.5				TEHM	
220736-004		Water	500	2.5	1	0.005	7	.5				TEHM	
220736-005		Water	500	2.5	1	0.005	7	.5				TEHM	
QC548861	BLANK	Water	500	2.5	1	0.005		.5			3630C		
QC548862	BS	Water	500	2.5	1	0.005		.5	.5		3630C		
QC548863	BSD	Water	500	2.5	1	0.005		.5	.5		3630C		
QC548864	LCS	Water	500	2.5	1	0.005		.5		.5			

JDG 06/21/10 : Batch is reviewed for all NSG job.

TFB 06/22/10 : Matrix spikes were not performed for this analysis in batch 164090 due to insufficient sample amount.

Analyst: SFL Date: 06/22/10 Reviewer: TFB Date: 06/22/10

TEH (8015) Water Prep Log

Curtis & Tompkins, Ltd.

LIMS Batch No: 161090
 LIMS Analysis: TEHM
 Date Extracted: 6/16/10

Extraction Method:
 mod. EPA 3510c sep. funnel
 mod. EPA 3520c cont. L/L

Page 47 BK 3015
 Cleanup Method (if needed):
 EPA 3630c Silica Gel

Sample #	Container ID	Volume of Sample (mL)	Sample pH	Final Volume (mL)	Cleanup (x if needed)	Comments
220709	CC2 D	500	7	205		
	CC3					
	CC4					
	CC5					
	CC6					
	CC7					
	CC8					
	CC9					
	CC10					
	CC11					
	CC12					
	CC13					
	CC14					
	CC15					
	CC16					
220722	CC1 F		7		X	
	CC2					
220730	CC1 H					
	CC2					
	CC3					
	CC4					
	CC5					
MB 2548961	NA	500	NA		X	
BSD	2					
BSD	3					
LCS-MO	4					

PRU 6/17/10

Mfg & Lot# / LIMS # / Time	Date / Initials
0.5 mL of TEH_SURR was added to all samples	514057A / 1 CED 6/16/10
0.5 mL of TEH_SP was added to all spikes	514835A / 5/25/10
pH of all samples adjusted to pH ≤ 2 with H ₂ SO ₄	FS100311
<input checked="" type="checkbox"/> 3520c: Samples were continually extracted about 450 mL of CH ₂ Cl ₂	EM50022
Extraction Start Time:	1540
Extraction End Time:	1745
<input type="checkbox"/> 3510c: Samples were extracted 3 times with 60 mL of CH ₂ Cl ₂	NA
Extracts filtered through baked, CH ₂ Cl ₂ -rinsed granular Na ₂ SO ₄	EM5002015
Concentrated to final volume at temperature (degrees C)	100
Relinquished to TEH Department	

[Signature] 6/16/10
 Extraction Chemist Date

Continued from Page _____
 Continued on Page _____

[Signature] 6/17/10
 Reviewed by Date

Laboratory Job Number 220709

ANALYTICAL REPORT

Volatile Organics by GC/MS

Matrix: Water

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-008-GW-10Q2	Batch#:	164300
Lab ID:	220709-001	Sampled:	06/10/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	V9
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V9
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L2 V9
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	V9
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L2
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	V9
cis-1,2-Dichloroethene	ND	0.5	V9
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1 V1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-008-GW-10Q2	Batch#:	164300
Lab ID:	220709-001	Sampled:	06/10/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	100	77-120	
1,2-Dichloroethane-d4	117	70-127	
Toluene-d8	96	83-125	
Bromofluorobenzene	92	78-120	

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-125A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-002	Sampled:	06/10/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ	Flags
Freon 12	ND	1.0	164352	06/24/10		
Chloromethane	ND	1.0	164352	06/24/10		
Vinyl Chloride	ND	0.5	164352	06/24/10		
Bromomethane	ND	1.0	164352	06/24/10		
Chloroethane	ND	1.0	164352	06/24/10		
Trichlorofluoromethane	ND	1.0	164352	06/24/10		
Iodomethane	ND	10	164352	06/24/10		
Acetone	ND	10	164300	06/23/10		
1,1-Dichloroethene	ND	0.5	164352	06/24/10		
Methylene Chloride	ND	10	164352	06/24/10		
Carbon Disulfide	ND	0.5	164352	06/24/10		
MTBE	ND	0.5	164352	06/24/10		
trans-1,2-Dichloroethene	ND	0.5	164352	06/24/10		
Vinyl Acetate	ND	10	164300	06/23/10	L2	
1,1-Dichloroethane	ND	0.5	164352	06/24/10		
2-Butanone	ND	10	164352	06/24/10		
cis-1,2-Dichloroethene	ND	0.5	164352	06/24/10		
2,2-Dichloropropane	ND	0.5	164352	06/24/10	L1	V1
Chloroform	ND	0.5	164352	06/24/10	L1	
Bromochloromethane	ND	0.5	164352	06/24/10		
1,1,1-Trichloroethane	ND	0.5	164352	06/24/10	L1	
1,1-Dichloropropene	ND	0.5	164352	06/24/10	L1	
Carbon Tetrachloride	ND	0.5	164352	06/24/10	L1	
1,2-Dichloroethane	ND	0.5	164352	06/24/10		
Benzene	0.5	0.5	164352	06/24/10		
Trichloroethene	ND	0.5	164352	06/24/10		
1,2-Dichloropropane	ND	0.5	164352	06/24/10		
Bromodichloromethane	ND	0.5	164352	06/24/10		
Dibromomethane	ND	0.5	164352	06/24/10		
4-Methyl-2-Pentanone	ND	10	164352	06/24/10		
cis-1,3-Dichloropropene	ND	0.5	164352	06/24/10		
Toluene	ND	0.5	164352	06/24/10		
trans-1,3-Dichloropropene	ND	0.5	164352	06/24/10		
1,1,2-Trichloroethane	ND	0.5	164352	06/24/10		
2-Hexanone	ND	10	164352	06/24/10		
1,3-Dichloropropane	ND	0.5	164352	06/24/10		
Tetrachloroethene	ND	0.5	164352	06/24/10		
Dibromochloromethane	ND	0.5	164352	06/24/10		
1,2-Dibromoethane	ND	0.5	164352	06/24/10		
Chlorobenzene	ND	0.5	164352	06/24/10		
1,1,1,2-Tetrachloroethane	ND	0.5	164352	06/24/10		
Ethylbenzene	ND	0.5	164352	06/24/10		
m,p-Xylenes	ND	0.5	164352	06/24/10		
o-Xylene	ND	0.5	164352	06/24/10		
Styrene	ND	0.5	164352	06/24/10		
Bromoform	ND	1.0	164300	06/23/10		
Isopropylbenzene	ND	0.5	164352	06/24/10		
1,1,2,2-Tetrachloroethane	ND	0.5	164352	06/24/10	L1	
1,2,3-Trichloropropane	ND	0.5	164300	06/23/10		
Propylbenzene	0.5	0.5	164352	06/24/10		
Bromobenzene	ND	0.5	164352	06/24/10		
1,3,5-Trimethylbenzene	ND	0.5	164352	06/24/10		
2-Chlorotoluene	ND	0.5	164352	06/24/10		
4-Chlorotoluene	ND	0.5	164352	06/24/10		
tert-Butylbenzene	ND	0.5	164352	06/24/10	L1	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-125A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-002	Sampled:	06/10/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	ND	0.5	164352	06/24/10	
sec-Butylbenzene	ND	0.5	164352	06/24/10	L1
para-Isopropyl Toluene	ND	0.5	164352	06/24/10	
1,3-Dichlorobenzene	ND	0.5	164352	06/24/10	
1,4-Dichlorobenzene	ND	0.5	164352	06/24/10	
n-Butylbenzene	ND	0.5	164352	06/24/10	L1
1,2-Dichlorobenzene	ND	0.5	164352	06/24/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	164352	06/24/10	
1,2,4-Trichlorobenzene	ND	0.5	164352	06/24/10	
Hexachlorobutadiene	ND	2.0	164352	06/24/10	L1
Naphthalene	ND	2.0	164352	06/24/10	
1,2,3-Trichlorobenzene	ND	0.5	164352	06/24/10	R7
Xylene (total)	ND	0.5	164352	06/24/10	

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	99	77-120	164300	06/23/10	
Dibromofluoromethane	106	77-120	164352	06/24/10	
1,2-Dichloroethane-d4	115	70-127	164300	06/23/10	
1,2-Dichloroethane-d4	100	70-127	164352	06/24/10	
Toluene-d8	97	83-125	164300	06/23/10	
Toluene-d8	107	83-125	164352	06/24/10	
Bromofluorobenzene	91	78-120	164300	06/23/10	
Bromofluorobenzene	107	78-120	164352	06/24/10	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-95A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-003	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ	Flags
Freon 12	ND	1.0	164352	06/24/10		
Chloromethane	ND	1.0	164352	06/24/10		
Vinyl Chloride	ND	0.5	164352	06/24/10		
Bromomethane	ND	1.0	164352	06/24/10		
Chloroethane	ND	1.0	164352	06/24/10		
Trichlorofluoromethane	ND	1.0	164352	06/24/10		
Iodomethane	ND	10	164352	06/24/10		
Acetone	ND	10	164300	06/23/10		
1,1-Dichloroethene	ND	0.5	164352	06/24/10		
Methylene Chloride	ND	10	164352	06/24/10		
Carbon Disulfide	ND	0.5	164352	06/24/10		
MTBE	0.9	0.5	164352	06/24/10		
trans-1,2-Dichloroethene	ND	0.5	164352	06/24/10		
Vinyl Acetate	ND	10	164300	06/23/10	L2	
1,1-Dichloroethane	ND	0.5	164352	06/24/10		
2-Butanone	ND	10	164352	06/24/10		
cis-1,2-Dichloroethene	ND	0.5	164352	06/24/10		
2,2-Dichloropropane	ND	0.5	164352	06/24/10	L1	V1
Chloroform	ND	0.5	164352	06/24/10	L1	
Bromochloromethane	ND	0.5	164352	06/24/10		
1,1,1-Trichloroethane	ND	0.5	164352	06/24/10	L1	
1,1-Dichloropropene	ND	0.5	164352	06/24/10	L1	
Carbon Tetrachloride	ND	0.5	164352	06/24/10	L1	
1,2-Dichloroethane	ND	0.5	164352	06/24/10		
Benzene	ND	0.5	164352	06/24/10		
Trichloroethene	ND	0.5	164352	06/24/10		
1,2-Dichloropropane	ND	0.5	164352	06/24/10		
Bromodichloromethane	ND	0.5	164352	06/24/10		
Dibromomethane	ND	0.5	164352	06/24/10		
4-Methyl-2-Pentanone	ND	10	164352	06/24/10		
cis-1,3-Dichloropropene	ND	0.5	164352	06/24/10		
Toluene	ND	0.5	164352	06/24/10		
trans-1,3-Dichloropropene	ND	0.5	164352	06/24/10		
1,1,2-Trichloroethane	ND	0.5	164352	06/24/10		
2-Hexanone	ND	10	164352	06/24/10		
1,3-Dichloropropane	ND	0.5	164352	06/24/10		
Tetrachloroethene	ND	0.5	164352	06/24/10		
Dibromochloromethane	ND	0.5	164352	06/24/10		
1,2-Dibromoethane	ND	0.5	164352	06/24/10		
Chlorobenzene	ND	0.5	164352	06/24/10		
1,1,1,2-Tetrachloroethane	ND	0.5	164352	06/24/10		
Ethylbenzene	ND	0.5	164352	06/24/10		
m,p-Xylenes	ND	0.5	164352	06/24/10		
o-Xylene	ND	0.5	164352	06/24/10		
Styrene	ND	0.5	164352	06/24/10		
Bromoform	ND	1.0	164300	06/23/10		
Isopropylbenzene	ND	0.5	164352	06/24/10		
1,1,2,2-Tetrachloroethane	ND	0.5	164352	06/24/10	L1	
1,2,3-Trichloropropane	ND	0.5	164300	06/23/10		
Propylbenzene	ND	0.5	164352	06/24/10		
Bromobenzene	ND	0.5	164352	06/24/10		
1,3,5-Trimethylbenzene	ND	0.5	164352	06/24/10		
2-Chlorotoluene	ND	0.5	164352	06/24/10		
4-Chlorotoluene	ND	0.5	164352	06/24/10		
tert-Butylbenzene	ND	0.5	164352	06/24/10	L1	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-95A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-003	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	ND	0.5	164352	06/24/10	
sec-Butylbenzene	ND	0.5	164352	06/24/10	L1
para-Isopropyl Toluene	ND	0.5	164352	06/24/10	
1,3-Dichlorobenzene	ND	0.5	164352	06/24/10	
1,4-Dichlorobenzene	ND	0.5	164352	06/24/10	
n-Butylbenzene	ND	0.5	164352	06/24/10	L1
1,2-Dichlorobenzene	ND	0.5	164352	06/24/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	164352	06/24/10	
1,2,4-Trichlorobenzene	ND	0.5	164352	06/24/10	
Hexachlorobutadiene	ND	2.0	164352	06/24/10	L1
Naphthalene	ND	2.0	164352	06/24/10	
1,2,3-Trichlorobenzene	ND	0.5	164352	06/24/10	R7
Xylene (total)	ND	0.5	164352	06/24/10	

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	101	77-120	164300	06/23/10	
Dibromofluoromethane	110	77-120	164352	06/24/10	
1,2-Dichloroethane-d4	115	70-127	164300	06/23/10	
1,2-Dichloroethane-d4	101	70-127	164352	06/24/10	
Toluene-d8	97	83-125	164300	06/23/10	
Toluene-d8	102	83-125	164352	06/24/10	
Bromofluorobenzene	91	78-120	164300	06/23/10	
Bromofluorobenzene	104	78-120	164352	06/24/10	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-96A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-004	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ	Flags
Freon 12	ND	1.0	164352	06/24/10		
Chloromethane	ND	1.0	164352	06/24/10		
Vinyl Chloride	ND	0.5	164352	06/24/10		
Bromomethane	ND	1.0	164352	06/24/10		
Chloroethane	ND	1.0	164352	06/24/10		
Trichlorofluoromethane	ND	1.0	164352	06/24/10		
Iodomethane	ND	10	164352	06/24/10		
Acetone	ND	10	164300	06/23/10		
1,1-Dichloroethene	ND	0.5	164352	06/24/10		
Methylene Chloride	ND	10	164352	06/24/10		
Carbon Disulfide	ND	0.5	164352	06/24/10		
MTBE	6.4	0.5	164352	06/24/10		
trans-1,2-Dichloroethene	ND	0.5	164352	06/24/10		
Vinyl Acetate	ND	10	164300	06/23/10	L2	
1,1-Dichloroethane	ND	0.5	164352	06/24/10		
2-Butanone	ND	10	164352	06/24/10		
cis-1,2-Dichloroethene	ND	0.5	164352	06/24/10		
2,2-Dichloropropane	ND	0.5	164352	06/24/10	L1	V1
Chloroform	ND	0.5	164352	06/24/10	L1	
Bromochloromethane	ND	0.5	164352	06/24/10		
1,1,1-Trichloroethane	ND	0.5	164352	06/24/10	L1	
1,1-Dichloropropene	ND	0.5	164352	06/24/10	L1	
Carbon Tetrachloride	ND	0.5	164352	06/24/10	L1	
1,2-Dichloroethane	ND	0.5	164352	06/24/10		
Benzene	ND	0.5	164352	06/24/10		
Trichloroethene	ND	0.5	164352	06/24/10		
1,2-Dichloropropane	ND	0.5	164352	06/24/10		
Bromodichloromethane	ND	0.5	164352	06/24/10		
Dibromomethane	ND	0.5	164352	06/24/10		
4-Methyl-2-Pentanone	ND	10	164352	06/24/10		
cis-1,3-Dichloropropene	ND	0.5	164352	06/24/10		
Toluene	ND	0.5	164352	06/24/10		
trans-1,3-Dichloropropene	ND	0.5	164352	06/24/10		
1,1,2-Trichloroethane	ND	0.5	164352	06/24/10		
2-Hexanone	ND	10	164352	06/24/10		
1,3-Dichloropropane	ND	0.5	164352	06/24/10		
Tetrachloroethene	ND	0.5	164352	06/24/10		
Dibromochloromethane	ND	0.5	164352	06/24/10		
1,2-Dibromoethane	ND	0.5	164352	06/24/10		
Chlorobenzene	ND	0.5	164352	06/24/10		
1,1,1,2-Tetrachloroethane	ND	0.5	164352	06/24/10		
Ethylbenzene	ND	0.5	164352	06/24/10		
m,p-Xylenes	ND	0.5	164352	06/24/10		
o-Xylene	ND	0.5	164352	06/24/10		
Styrene	ND	0.5	164352	06/24/10		
Bromoform	ND	1.0	164300	06/23/10		
Isopropylbenzene	ND	0.5	164352	06/24/10		
1,1,2,2-Tetrachloroethane	ND	0.5	164352	06/24/10	L1	
1,2,3-Trichloropropane	ND	0.5	164300	06/23/10		
Propylbenzene	ND	0.5	164352	06/24/10		
Bromobenzene	ND	0.5	164352	06/24/10		
1,3,5-Trimethylbenzene	ND	0.5	164352	06/24/10		
2-Chlorotoluene	ND	0.5	164352	06/24/10		
4-Chlorotoluene	ND	0.5	164352	06/24/10		
tert-Butylbenzene	ND	0.5	164352	06/24/10	L1	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-96A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-004	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	ND	0.5	164352	06/24/10	
sec-Butylbenzene	ND	0.5	164352	06/24/10	L1
para-Isopropyl Toluene	ND	0.5	164352	06/24/10	
1,3-Dichlorobenzene	ND	0.5	164352	06/24/10	
1,4-Dichlorobenzene	ND	0.5	164352	06/24/10	
n-Butylbenzene	ND	0.5	164352	06/24/10	L1
1,2-Dichlorobenzene	ND	0.5	164352	06/24/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	164352	06/24/10	
1,2,4-Trichlorobenzene	ND	0.5	164352	06/24/10	
Hexachlorobutadiene	ND	2.0	164352	06/24/10	L1
Naphthalene	ND	2.0	164352	06/24/10	
1,2,3-Trichlorobenzene	ND	0.5	164352	06/24/10	R7
Xylene (total)	ND	0.5	164352	06/24/10	

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	102	77-120	164300	06/23/10	
Dibromofluoromethane	112	77-120	164352	06/24/10	
1,2-Dichloroethane-d4	117	70-127	164300	06/23/10	
1,2-Dichloroethane-d4	110	70-127	164352	06/24/10	
Toluene-d8	96	83-125	164300	06/23/10	
Toluene-d8	110	83-125	164352	06/24/10	
Bromofluorobenzene	91	78-120	164300	06/23/10	
Bromofluorobenzene	105	78-120	164352	06/24/10	

ND= Not Detected
 RL= Reporting Limit
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Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-113A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-005	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ	Flags
Freon 12	ND	1.0	164352	06/24/10		
Chloromethane	ND	1.0	164352	06/24/10		
Vinyl Chloride	ND	0.5	164352	06/24/10		
Bromomethane	ND	1.0	164352	06/24/10		
Chloroethane	ND	1.0	164352	06/24/10		
Trichlorofluoromethane	ND	1.0	164352	06/24/10		
Iodomethane	ND	10	164352	06/24/10		
Acetone	ND	10	164300	06/23/10		
1,1-Dichloroethene	ND	0.5	164352	06/24/10		
Methylene Chloride	ND	10	164352	06/24/10		
Carbon Disulfide	ND	0.5	164352	06/24/10		
MTBE	ND	0.5	164352	06/24/10		
trans-1,2-Dichloroethene	ND	0.5	164352	06/24/10		
Vinyl Acetate	ND	10	164300	06/23/10		L2
1,1-Dichloroethane	ND	0.5	164352	06/24/10		
2-Butanone	ND	10	164352	06/24/10		
cis-1,2-Dichloroethene	ND	0.5	164352	06/24/10		
2,2-Dichloropropane	ND	0.5	164352	06/24/10		L1 V1
Chloroform	ND	0.5	164352	06/24/10		L1
Bromochloromethane	ND	0.5	164352	06/24/10		
1,1,1-Trichloroethane	ND	0.5	164352	06/24/10		L1
1,1-Dichloropropene	ND	0.5	164352	06/24/10		L1
Carbon Tetrachloride	ND	0.5	164352	06/24/10		L1
1,2-Dichloroethane	ND	0.5	164352	06/24/10		
Benzene	ND	0.5	164352	06/24/10		
Trichloroethene	ND	0.5	164352	06/24/10		
1,2-Dichloropropane	ND	0.5	164352	06/24/10		
Bromodichloromethane	ND	0.5	164352	06/24/10		
Dibromomethane	ND	0.5	164352	06/24/10		
4-Methyl-2-Pentanone	ND	10	164352	06/24/10		
cis-1,3-Dichloropropene	ND	0.5	164352	06/24/10		
Toluene	ND	0.5	164352	06/24/10		
trans-1,3-Dichloropropene	ND	0.5	164352	06/24/10		
1,1,2-Trichloroethane	ND	0.5	164352	06/24/10		
2-Hexanone	ND	10	164352	06/24/10		
1,3-Dichloropropane	ND	0.5	164352	06/24/10		
Tetrachloroethene	ND	0.5	164352	06/24/10		
Dibromochloromethane	ND	0.5	164352	06/24/10		
1,2-Dibromoethane	ND	0.5	164352	06/24/10		
Chlorobenzene	ND	0.5	164352	06/24/10		
1,1,1,2-Tetrachloroethane	ND	0.5	164352	06/24/10		
Ethylbenzene	ND	0.5	164352	06/24/10		
m,p-Xylenes	ND	0.5	164352	06/24/10		
o-Xylene	ND	0.5	164352	06/24/10		
Styrene	ND	0.5	164352	06/24/10		
Bromoform	ND	1.0	164300	06/23/10		
Isopropylbenzene	ND	0.5	164352	06/24/10		
1,1,2,2-Tetrachloroethane	ND	0.5	164352	06/24/10		L1
1,2,3-Trichloropropane	ND	0.5	164300	06/23/10		
Propylbenzene	ND	0.5	164352	06/24/10		
Bromobenzene	ND	0.5	164352	06/24/10		
1,3,5-Trimethylbenzene	ND	0.5	164352	06/24/10		
2-Chlorotoluene	ND	0.5	164352	06/24/10		
4-Chlorotoluene	ND	0.5	164352	06/24/10		
tert-Butylbenzene	ND	0.5	164352	06/24/10		L1

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-113A-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-005	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ	Flags
1,2,4-Trimethylbenzene	ND	0.5	164352	06/24/10		
sec-Butylbenzene	ND	0.5	164352	06/24/10	L1	
para-Isopropyl Toluene	ND	0.5	164352	06/24/10		
1,3-Dichlorobenzene	ND	0.5	164352	06/24/10		
1,4-Dichlorobenzene	ND	0.5	164352	06/24/10		
n-Butylbenzene	ND	0.5	164352	06/24/10	L1	
1,2-Dichlorobenzene	ND	0.5	164352	06/24/10		
1,2-Dibromo-3-Chloropropane	ND	2.0	164352	06/24/10		
1,2,4-Trichlorobenzene	ND	0.5	164352	06/24/10		
Hexachlorobutadiene	ND	2.0	164352	06/24/10	L1	
Naphthalene	ND	2.0	164352	06/24/10		
1,2,3-Trichlorobenzene	ND	0.5	164352	06/24/10	R7	
Xylene (total)	ND	0.5	164352	06/24/10		

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ	Flags
Dibromofluoromethane	101	77-120	164300	06/23/10		
Dibromofluoromethane	109	77-120	164352	06/24/10		
1,2-Dichloroethane-d4	116	70-127	164300	06/23/10		
1,2-Dichloroethane-d4	102	70-127	164352	06/24/10		
Toluene-d8	96	83-125	164300	06/23/10		
Toluene-d8	102	83-125	164352	06/24/10		
Bromofluorobenzene	90	78-120	164300	06/23/10		
Bromofluorobenzene	102	78-120	164352	06/24/10		

ND= Not Detected
 RL= Reporting Limit
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Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-114A-GW-10Q2	Batch#:	164302
Lab ID:	220709-006	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-114A-GW-10Q2	Batch#:	164302
Lab ID:	220709-006	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	92	77-120	
1,2-Dichloroethane-d4	97	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	91	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-008-GW-10Q2	Batch#:	164302
Lab ID:	220709-007	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	1.7	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-008-GW-10Q2	Batch#:	164302
Lab ID:	220709-007	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	91	77-120	
1,2-Dichloroethane-d4	95	70-127	
Toluene-d8	96	83-125	
Bromofluorobenzene	90	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-90A-GW-10Q2	Batch#:	164347
Lab ID:	220709-008	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	56	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V9
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	21	0.5	
Trichloroethene	0.5	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	V9
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	L1

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-90A-GW-10Q2	Batch#:	164347
Lab ID:	220709-008	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	8.7	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	9.0	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	0.6	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	2.3	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	3.1	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	V1
Naphthalene	12	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	95	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	93	83-125	
Bromofluorobenzene	97	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-003	Batch#:	164347
Lab ID:	220709-009	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	55	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V9
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	17	0.5	
Trichloroethene	0.6	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	V9
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	L1

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	GW-10Q2-003	Batch#:	164347
Lab ID:	220709-009	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	8.1	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	8.2	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	0.5	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	2.2	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	2.8	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	V1
Naphthalene	12	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	94	77-120	
1,2-Dichloroethane-d4	95	70-127	
Toluene-d8	93	83-125	
Bromofluorobenzene	92	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-004-GW-10Q2	Batch#:	164300
Lab ID:	220709-010	Sampled:	06/10/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	V9
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V9
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L2 V9
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	V9
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L2
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	V9
cis-1,2-Dichloroethene	ND	0.5	V9
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1 V1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	TB-004-GW-10Q2	Batch#:	164300
Lab ID:	220709-010	Sampled:	06/10/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	100	77-120	
1,2-Dichloroethane-d4	118	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	92	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-129A-GW-10Q2B	Batch#:	164300
Lab ID:	220709-011	Sampled:	06/10/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	V9
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V9
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L2 V9
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	V9
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L2
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	V9
cis-1,2-Dichloroethene	ND	0.5	V9
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1 V1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-129A-GW-10Q2B	Batch#:	164300
Lab ID:	220709-011	Sampled:	06/10/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	101	77-120	
1,2-Dichloroethane-d4	116	70-127	
Toluene-d8	96	83-125	
Bromofluorobenzene	91	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	BC-18-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-012	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ	Flags
Freon 12	ND	1.0	164352	06/25/10		
Chloromethane	ND	1.0	164352	06/25/10		
Vinyl Chloride	0.6	0.5	164352	06/25/10		
Bromomethane	ND	1.0	164352	06/25/10		
Chloroethane	ND	1.0	164352	06/25/10		
Trichlorofluoromethane	ND	1.0	164352	06/25/10		
Iodomethane	ND	10	164352	06/25/10		
Acetone	ND	10	164300	06/23/10		
1,1-Dichloroethene	ND	0.5	164352	06/25/10		
Methylene Chloride	ND	10	164352	06/25/10		
Carbon Disulfide	ND	0.5	164352	06/25/10		
MTBE	47	0.5	164352	06/25/10		
trans-1,2-Dichloroethene	ND	0.5	164352	06/25/10		
Vinyl Acetate	ND	10	164300	06/23/10	L2	
1,1-Dichloroethane	8.2	0.5	164352	06/25/10		
2-Butanone	ND	10	164352	06/25/10		
cis-1,2-Dichloroethene	0.7	0.5	164352	06/25/10		
2,2-Dichloropropane	ND	0.5	164352	06/25/10	L1	V1
Chloroform	ND	0.5	164352	06/25/10	L1	
Bromochloromethane	ND	0.5	164352	06/25/10		
1,1,1-Trichloroethane	ND	0.5	164352	06/25/10	L1	
1,1-Dichloropropene	ND	0.5	164352	06/25/10	L1	
Carbon Tetrachloride	ND	0.5	164352	06/25/10	L1	
1,2-Dichloroethane	ND	0.5	164352	06/25/10		
Benzene	ND	0.5	164352	06/25/10		
Trichloroethene	ND	0.5	164352	06/25/10		
1,2-Dichloropropane	ND	0.5	164352	06/25/10		
Bromodichloromethane	ND	0.5	164352	06/25/10		
Dibromomethane	ND	0.5	164352	06/25/10		
4-Methyl-2-Pentanone	ND	10	164352	06/25/10		
cis-1,3-Dichloropropene	ND	0.5	164352	06/25/10		
Toluene	ND	0.5	164352	06/25/10		
trans-1,3-Dichloropropene	ND	0.5	164352	06/25/10		
1,1,2-Trichloroethane	ND	0.5	164352	06/25/10		
2-Hexanone	ND	10	164352	06/25/10		
1,3-Dichloropropane	ND	0.5	164352	06/25/10		
Tetrachloroethene	ND	0.5	164352	06/25/10		
Dibromochloromethane	ND	0.5	164352	06/25/10		
1,2-Dibromoethane	ND	0.5	164352	06/25/10		
Chlorobenzene	ND	0.5	164352	06/25/10		
1,1,1,2-Tetrachloroethane	ND	0.5	164352	06/25/10		
Ethylbenzene	ND	0.5	164352	06/25/10		
m,p-Xylenes	ND	0.5	164352	06/25/10		
o-Xylene	ND	0.5	164352	06/25/10		
Styrene	ND	0.5	164352	06/25/10		
Bromoform	ND	1.0	164300	06/23/10		
Isopropylbenzene	ND	0.5	164352	06/25/10		
1,1,2,2-Tetrachloroethane	ND	0.5	164352	06/25/10	L1	
1,2,3-Trichloropropane	ND	0.5	164300	06/23/10		
Propylbenzene	ND	0.5	164352	06/25/10		
Bromobenzene	ND	0.5	164352	06/25/10		
1,3,5-Trimethylbenzene	ND	0.5	164352	06/25/10		
2-Chlorotoluene	ND	0.5	164352	06/25/10		
4-Chlorotoluene	ND	0.5	164352	06/25/10		
tert-Butylbenzene	ND	0.5	164352	06/25/10	L1	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	BC-18-GW-10Q2	Diln Fac:	1.000
Lab ID:	220709-012	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed	ADEQ Flags
1,2,4-Trimethylbenzene	ND	0.5	164352	06/25/10	
sec-Butylbenzene	ND	0.5	164352	06/25/10	L1
para-Isopropyl Toluene	ND	0.5	164352	06/25/10	
1,3-Dichlorobenzene	ND	0.5	164352	06/25/10	
1,4-Dichlorobenzene	ND	0.5	164352	06/25/10	
n-Butylbenzene	ND	0.5	164352	06/25/10	L1
1,2-Dichlorobenzene	ND	0.5	164352	06/25/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	164352	06/25/10	
1,2,4-Trichlorobenzene	ND	0.5	164352	06/25/10	
Hexachlorobutadiene	ND	2.0	164352	06/25/10	L1
Naphthalene	ND	2.0	164352	06/25/10	
1,2,3-Trichlorobenzene	ND	0.5	164352	06/25/10	R7
Xylene (total)	ND	0.5	164352	06/25/10	

Surrogate	%REC	Limits	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	101	77-120	164300	06/23/10	
Dibromofluoromethane	109	77-120	164352	06/25/10	
1,2-Dichloroethane-d4	117	70-127	164300	06/23/10	
1,2-Dichloroethane-d4	109	70-127	164352	06/25/10	
Toluene-d8	97	83-125	164300	06/23/10	
Toluene-d8	109	83-125	164352	06/25/10	
Bromofluorobenzene	92	78-120	164300	06/23/10	
Bromofluorobenzene	104	78-120	164352	06/25/10	

ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-126A-GW-10Q2	Units:	ug/L
Lab ID:	220709-013	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	ADEQ Flags
Freon 12	ND	1.0	1.000	164302	06/23/10	V1
Chloromethane	ND	1.0	1.000	164302	06/23/10	
Vinyl Chloride	ND	0.5	1.000	164302	06/23/10	
Bromomethane	ND	1.0	1.000	164302	06/23/10	V1
Chloroethane	ND	1.0	1.000	164302	06/23/10	
Trichlorofluoromethane	ND	1.0	1.000	164302	06/23/10	
Iodomethane	ND	10	1.000	164302	06/23/10	V1
Acetone	ND	10	1.000	164302	06/23/10	
1,1-Dichloroethene	ND	0.5	1.000	164302	06/23/10	
Methylene Chloride	ND	10	1.000	164302	06/23/10	
Carbon Disulfide	ND	0.5	1.000	164302	06/23/10	
MTBE	130	2.0	4.000	164352	06/24/10	D1
trans-1,2-Dichloroethene	ND	0.5	1.000	164302	06/23/10	
Vinyl Acetate	ND	10	1.000	164302	06/23/10	
1,1-Dichloroethane	4.0	0.5	1.000	164302	06/23/10	
2-Butanone	ND	10	1.000	164302	06/23/10	
cis-1,2-Dichloroethene	ND	0.5	1.000	164302	06/23/10	
2,2-Dichloropropane	ND	0.5	1.000	164302	06/23/10	
Chloroform	ND	0.5	1.000	164302	06/23/10	
Bromochloromethane	ND	0.5	1.000	164302	06/23/10	
1,1,1-Trichloroethane	ND	0.5	1.000	164302	06/23/10	
1,1-Dichloropropene	ND	0.5	1.000	164302	06/23/10	
Carbon Tetrachloride	ND	0.5	1.000	164302	06/23/10	
1,2-Dichloroethane	ND	0.5	1.000	164302	06/23/10	
Benzene	ND	0.5	1.000	164302	06/23/10	
Trichloroethene	0.7	0.5	1.000	164302	06/23/10	
1,2-Dichloropropane	ND	0.5	1.000	164302	06/23/10	
Bromodichloromethane	ND	0.5	1.000	164302	06/23/10	
Dibromomethane	ND	0.5	1.000	164302	06/23/10	
4-Methyl-2-Pentanone	ND	10	1.000	164302	06/23/10	
cis-1,3-Dichloropropene	ND	0.5	1.000	164302	06/23/10	
Toluene	ND	0.5	1.000	164302	06/23/10	
trans-1,3-Dichloropropene	ND	0.5	1.000	164302	06/23/10	
1,1,2-Trichloroethane	ND	0.5	1.000	164302	06/23/10	
2-Hexanone	ND	10	1.000	164302	06/23/10	
1,3-Dichloropropane	ND	0.5	1.000	164302	06/23/10	
Tetrachloroethene	ND	0.5	1.000	164302	06/23/10	
Dibromochloromethane	ND	0.5	1.000	164302	06/23/10	
1,2-Dibromoethane	ND	0.5	1.000	164302	06/23/10	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-126A-GW-10Q2	Units:	ug/L
Lab ID:	220709-013	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	ADEQ Flags
Chlorobenzene	ND	0.5	1.000	164302	06/23/10	
1,1,1,2-Tetrachloroethane	ND	0.5	1.000	164302	06/23/10	
Ethylbenzene	ND	0.5	1.000	164302	06/23/10	
m,p-Xylenes	ND	0.5	1.000	164302	06/23/10	
o-Xylene	ND	0.5	1.000	164302	06/23/10	
Styrene	ND	0.5	1.000	164302	06/23/10	
Bromoform	ND	1.0	1.000	164302	06/23/10	
Isopropylbenzene	3.2	0.5	1.000	164302	06/23/10	
1,1,2,2-Tetrachloroethane	ND	0.5	1.000	164302	06/23/10	
1,2,3-Trichloropropane	ND	0.5	1.000	164302	06/23/10	
Propylbenzene	ND	0.5	1.000	164302	06/23/10	
Bromobenzene	ND	0.5	1.000	164302	06/23/10	
1,3,5-Trimethylbenzene	ND	0.5	1.000	164302	06/23/10	
2-Chlorotoluene	ND	0.5	1.000	164302	06/23/10	
4-Chlorotoluene	ND	0.5	1.000	164302	06/23/10	
tert-Butylbenzene	ND	0.5	1.000	164302	06/23/10	
1,2,4-Trimethylbenzene	ND	0.5	1.000	164302	06/23/10	
sec-Butylbenzene	4.4	0.5	1.000	164302	06/23/10	
para-Isopropyl Toluene	ND	0.5	1.000	164302	06/23/10	
1,3-Dichlorobenzene	ND	0.5	1.000	164302	06/23/10	
1,4-Dichlorobenzene	ND	0.5	1.000	164302	06/23/10	
n-Butylbenzene	ND	0.5	1.000	164302	06/23/10	
1,2-Dichlorobenzene	ND	0.5	1.000	164302	06/23/10	
1,2-Dibromo-3-Chloropropane	ND	2.0	1.000	164302	06/23/10	
1,2,4-Trichlorobenzene	ND	0.5	1.000	164302	06/23/10	
Hexachlorobutadiene	ND	2.0	1.000	164302	06/23/10	
Naphthalene	ND	2.0	1.000	164302	06/23/10	
1,2,3-Trichlorobenzene	ND	0.5	1.000	164302	06/23/10	
Xylene (total)	ND	0.5	1.000	164302	06/23/10	

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed	ADEQ Flags
Dibromofluoromethane	101	77-120	1.000	164302	06/23/10	
Dibromofluoromethane	108	77-120	4.000	164352	06/24/10	
1,2-Dichloroethane-d4	113	70-127	1.000	164302	06/23/10	
1,2-Dichloroethane-d4	105	70-127	4.000	164352	06/24/10	
Toluene-d8	100	83-125	1.000	164302	06/23/10	
Toluene-d8	100	83-125	4.000	164352	06/24/10	
Bromofluorobenzene	97	78-120	1.000	164302	06/23/10	
Bromofluorobenzene	107	78-120	4.000	164352	06/24/10	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-105A-GW-10Q2	Batch#:	164302
Lab ID:	220709-014	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-105A-GW-10Q2	Batch#:	164302
Lab ID:	220709-014	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	96	77-120	
1,2-Dichloroethane-d4	108	70-127	
Toluene-d8	92	83-125	
Bromofluorobenzene	94	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-112A-GW-10Q2	Batch#:	164302
Lab ID:	220709-015	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-112A-GW-10Q2	Batch#:	164302
Lab ID:	220709-015	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	95	77-120	
1,2-Dichloroethane-d4	103	70-127	
Toluene-d8	91	83-125	
Bromofluorobenzene	94	78-120	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-004-10Q	Batch#:	164302
Lab ID:	220709-016	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	7.6	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	6.7	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	EB-004-10Q	Batch#:	164302
Lab ID:	220709-016	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	4.2	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	98	77-120	
1,2-Dichloroethane-d4	114	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	95	78-120	

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164300
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549695

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	25.87	103	56-140		
Chloromethane	25.00	19.78 b	79	46-142	V9	
Vinyl Chloride	25.00	19.35	77	49-136		
Bromomethane	25.00	16.09 b	64	42-154	V9	
Chloroethane	25.00	21.92	88	51-133		
Trichlorofluoromethane	25.00	29.51	118	63-135		
Iodomethane	25.00	12.17 b	49 *	70-130	L2	V9
Acetone	25.00	25.42	102	48-130		
1,1-Dichloroethene	25.00	18.46	74	68-133		
Methylene Chloride	25.00	19.52 b	78	71-120	V9	
Carbon Disulfide	25.00	16.19	65	56-120		
MTBE	25.00	18.15	73	58-120		
trans-1,2-Dichloroethene	25.00	21.23	85	80-120		
Vinyl Acetate	25.00	13.28 b	53 *	63-124	L2	
1,1-Dichloroethane	25.00	19.81	79	77-120		
2-Butanone	25.00	18.77 b	75	57-120	V9	
cis-1,2-Dichloroethene	25.00	19.97 b	80	75-120	V9	
2,2-Dichloropropane	25.00	22.41	90	72-128		
Chloroform	25.00	23.28	93	78-120		
Bromochloromethane	25.00	22.23	89	78-120		
1,1,1-Trichloroethane	25.00	24.57	98	78-120		
1,1-Dichloropropene	25.00	23.42	94	75-120		
Carbon Tetrachloride	25.00	32.27 b	129 *	80-120	L1	V3
1,2-Dichloroethane	25.00	27.62	110	74-120		
Benzene	25.00	23.89	96	77-120		
Trichloroethene	25.00	25.52	102	78-122		
1,2-Dichloropropane	25.00	21.24	85	76-120		
Bromodichloromethane	25.00	26.41	106	78-120		
Dibromomethane	25.00	25.23	101	77-120		
4-Methyl-2-Pentanone	25.00	21.26	85	65-120		
cis-1,3-Dichloropropene	25.00	23.82	95	76-120		
Toluene	25.00	23.75	95	73-120		
trans-1,3-Dichloropropene	25.00	21.31	85	72-120		
1,1,2-Trichloroethane	25.00	22.63	91	76-120		
2-Hexanone	25.00	21.23 b	85	57-121	V9	
1,3-Dichloropropane	25.00	22.70	91	75-120		
Tetrachloroethene	25.00	28.73	115	77-120		
Dibromochloromethane	25.00	26.41	106	76-120		
1,2-Dibromoethane	25.00	22.23	89	77-120		
Chlorobenzene	25.00	25.35	101	78-120		
1,1,1,2-Tetrachloroethane	25.00	26.50	106	77-120		
Ethylbenzene	25.00	24.37	97	78-120		
m,p-Xylenes	50.00	51.77	104	77-120		
o-Xylene	25.00	24.32	97	77-120		
Styrene	25.00	24.29	97	77-120		
Bromoform	25.00	27.79	111	74-121		
Isopropylbenzene	25.00	20.11	80	71-120		
1,1,2,2-Tetrachloroethane	25.00	18.56	74	73-120		
1,2,3-Trichloropropane	25.00	21.54	86	72-120		
Propylbenzene	25.00	22.63	91	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164300
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	25.05	100	75-120	
1,3,5-Trimethylbenzene	25.00	23.62	94	77-120	
2-Chlorotoluene	25.00	23.23	93	76-120	
4-Chlorotoluene	25.00	22.37	89	78-120	
tert-Butylbenzene	25.00	24.17	97	76-120	
1,2,4-Trimethylbenzene	25.00	23.40	94	77-120	
sec-Butylbenzene	25.00	23.87	95	80-120	
para-Isopropyl Toluene	25.00	23.52	94	76-120	
1,3-Dichlorobenzene	25.00	25.02	100	75-120	
1,4-Dichlorobenzene	25.00	24.66	99	77-120	
n-Butylbenzene	25.00	23.40	94	76-120	
1,2-Dichlorobenzene	25.00	24.22	97	76-120	
1,2-Dibromo-3-Chloropropane	25.00	21.41	86	65-120	
1,2,4-Trichlorobenzene	25.00	24.59	98	73-121	
Hexachlorobutadiene	25.00	30.54	122	73-123	
Naphthalene	25.00	21.14	85	62-121	
1,2,3-Trichlorobenzene	25.00	25.76	103	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	90	77-120	
1,2-Dichloroethane-d4	114	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	88	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164300
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549696

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	24.20	97	56-140	7	24		
Chloromethane	25.00	18.80	b 75	46-142	5	24	V9	
Vinyl Chloride	25.00	18.83	75	49-136	3	24		
Bromomethane	25.00	16.08	b 64	42-154	0	24	V9	
Chloroethane	25.00	20.61	82	51-133	6	25		
Trichlorofluoromethane	25.00	28.28	113	63-135	4	20		
Iodomethane	25.00	13.71	b 55 *	70-130	12	20	L2	V9
Acetone	25.00	25.28	101	48-130	1	41		
1,1-Dichloroethene	25.00	18.01	72	68-133	2	20		
Methylene Chloride	25.00	19.09	b 76	71-120	2	20	V9	
Carbon Disulfide	25.00	15.59	62	56-120	4	20		
MTBE	25.00	18.24	73	58-120	0	21		
trans-1,2-Dichloroethene	25.00	20.63	83	80-120	3	24		
Vinyl Acetate	25.00	12.75	b 51 *	63-124	4	24	L2	
1,1-Dichloroethane	25.00	19.40	78	77-120	2	20		
2-Butanone	25.00	19.54	b 78	57-120	4	32	V9	
cis-1,2-Dichloroethene	25.00	19.15	b 77	75-120	4	20	V9	
2,2-Dichloropropane	25.00	21.24	85	72-128	5	24		
Chloroform	25.00	22.22	89	78-120	5	20		
Bromochloromethane	25.00	22.17	89	78-120	0	20		
1,1,1-Trichloroethane	25.00	23.67	95	78-120	4	20		
1,1-Dichloropropene	25.00	22.20	89	75-120	5	21		
Carbon Tetrachloride	25.00	30.35	b 121 *	80-120	6	21	L1	V3
1,2-Dichloroethane	25.00	27.16	109	74-120	2	20		
Benzene	25.00	23.09	92	77-120	3	20		
Trichloroethene	25.00	24.83	99	78-122	3	20		
1,2-Dichloropropane	25.00	20.53	82	76-120	3	20		
Bromodichloromethane	25.00	25.82	103	78-120	2	20		
Dibromomethane	25.00	25.10	100	77-120	1	20		
4-Methyl-2-Pentanone	25.00	22.01	88	65-120	3	22		
cis-1,3-Dichloropropene	25.00	23.56	94	76-120	1	20		
Toluene	25.00	23.07	92	73-120	3	20		
trans-1,3-Dichloropropene	25.00	21.23	85	72-120	0	20		
1,1,2-Trichloroethane	25.00	22.01	88	76-120	3	20		
2-Hexanone	25.00	22.05	b 88	57-121	4	25	V9	
1,3-Dichloropropane	25.00	22.70	91	75-120	0	20		
Tetrachloroethene	25.00	27.40	110	77-120	5	20		
Dibromochloromethane	25.00	25.70	103	76-120	3	20		
1,2-Dibromoethane	25.00	22.71	91	77-120	2	20		
Chlorobenzene	25.00	24.57	98	78-120	3	20		
1,1,1,2-Tetrachloroethane	25.00	26.02	104	77-120	2	20		
Ethylbenzene	25.00	23.72	95	78-120	3	26		
m,p-Xylenes	50.00	50.04	100	77-120	3	20		
o-Xylene	25.00	23.83	95	77-120	2	20		
Styrene	25.00	23.62	94	77-120	3	20		
Bromoform	25.00	28.07	112	74-121	1	21		
Isopropylbenzene	25.00	19.03	76	71-120	6	20		
1,1,2,2-Tetrachloroethane	25.00	18.53	74	73-120	0	20		
1,2,3-Trichloropropane	25.00	21.77	87	72-120	1	20		
Propylbenzene	25.00	21.79	87	76-120	4	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164300
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	24.58	98	75-120	2	20		
1,3,5-Trimethylbenzene	25.00	22.58	90	77-120	4	20		
2-Chlorotoluene	25.00	22.54	90	76-120	3	20		
4-Chlorotoluene	25.00	21.60	86	78-120	3	20		
tert-Butylbenzene	25.00	23.19	93	76-120	4	21		
1,2,4-Trimethylbenzene	25.00	22.76	91	77-120	3	20		
sec-Butylbenzene	25.00	22.85	91	80-120	4	21		
para-Isopropyl Toluene	25.00	22.50	90	76-120	4	20		
1,3-Dichlorobenzene	25.00	24.39	98	75-120	3	20		
1,4-Dichlorobenzene	25.00	23.53	94	77-120	5	23		
n-Butylbenzene	25.00	22.51	90	76-120	4	21		
1,2-Dichlorobenzene	25.00	23.80	95	76-120	2	20		
1,2-Dibromo-3-Chloropropane	25.00	22.99	92	65-120	7	22		
1,2,4-Trichlorobenzene	25.00	24.53	98	73-121	0	20		
Hexachlorobutadiene	25.00	29.61	118	73-123	3	25		
Naphthalene	25.00	21.71	87	62-121	3	32		
1,2,3-Trichlorobenzene	25.00	25.57	102	66-123	1	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	92	77-120		
1,2-Dichloroethane-d4	115	70-127		
Toluene-d8	95	83-125		
Bromofluorobenzene	90	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549697	Batch#:	164300
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	V9
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V9
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L2 V9
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	V9
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L2
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	V9
cis-1,2-Dichloroethene	ND	0.5	V9
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	L1 V1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549697	Batch#:	164300
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	96	77-120	
1,2-Dichloroethane-d4	115	70-127	
Toluene-d8	95	83-125	
Bromofluorobenzene	92	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164302
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
1,3,5-Trimethylbenzene	18.75	20.57	110	77-120	
2-Chlorotoluene	18.75	19.90	106	76-120	
4-Chlorotoluene	18.75	19.24	103	78-120	
tert-Butylbenzene	18.75	21.08	112	76-120	
1,2,4-Trimethylbenzene	18.75	20.42	109	77-120	
sec-Butylbenzene	18.75	20.85	111	80-120	
para-Isopropyl Toluene	18.75	20.76	111	76-120	
1,3-Dichlorobenzene	18.75	20.99	112	75-120	
1,4-Dichlorobenzene	18.75	20.12	107	77-120	
n-Butylbenzene	18.75	20.19	108	76-120	
1,2-Dichlorobenzene	18.75	20.75	111	76-120	
1,2-Dibromo-3-Chloropropane	18.75	16.06	86	65-120	
1,2,4-Trichlorobenzene	18.75	21.87	117	73-121	
Hexachlorobutadiene	18.75	22.04	118	73-123	
Naphthalene	18.75	21.90	117	62-121	
1,2,3-Trichlorobenzene	18.75	22.19	118	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	96	77-120	
1,2-Dichloroethane-d4	98	70-127	
Toluene-d8	92	83-125	
Bromofluorobenzene	94	78-120	

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164302
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549705

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	18.75	21.63 b	115	56-140	7	24	V3	
Chloromethane	18.75	18.70	100	46-142	10	24		
Vinyl Chloride	18.75	18.95	101	49-136	8	24		
Bromomethane	18.75	22.37 b	119	42-154	4	24	V3	
Chloroethane	18.75	20.06	107	51-133	9	25		
Trichlorofluoromethane	18.75	21.58	115	63-135	4	20		
Iodomethane	18.75	22.47 b	120	70-130	4	20	V3	
Acetone	18.75	17.04	91	48-130	6	41		
1,1-Dichloroethene	18.75	16.89	90	68-133	4	20		
Methylene Chloride	18.75	18.27	97	71-120	5	20		
Carbon Disulfide	18.75	14.28	76	56-120	6	20		
MTBE	18.75	15.46	82	58-120	13	21		
trans-1,2-Dichloroethene	18.75	18.78	100	80-120	4	24		
Vinyl Acetate	18.75	15.22	81	63-124	2	24		
1,1-Dichloroethane	18.75	17.05	91	77-120	6	20		
2-Butanone	18.75	15.99	85	57-120	10	32		
cis-1,2-Dichloroethene	18.75	19.00	101	75-120	5	20		
2,2-Dichloropropane	18.75	19.72	105	72-128	5	24		
Chloroform	18.75	19.12	102	78-120	4	20		
Bromochloromethane	18.75	19.29	103	78-120	4	20		
1,1,1-Trichloroethane	18.75	19.63	105	78-120	1	20		
1,1-Dichloropropene	18.75	18.34	98	75-120	2	21		
Carbon Tetrachloride	18.75	21.12	113	80-120	2	21		
1,2-Dichloroethane	18.75	18.91	101	74-120	1	20		
Benzene	18.75	19.07	102	77-120	2	20		
Trichloroethene	18.75	20.24	108	78-122	2	20		
1,2-Dichloropropane	18.75	16.82	90	76-120	1	20		
Bromodichloromethane	18.75	20.33	108	78-120	4	20		
Dibromomethane	18.75	19.95	106	77-120	0	20		
4-Methyl-2-Pentanone	18.75	15.58	83	65-120	3	22		
cis-1,3-Dichloropropene	18.75	18.12	97	76-120	2	20		
Toluene	18.75	18.17	97	73-120	3	20		
trans-1,3-Dichloropropene	18.75	20.73	111	72-120	0	20		
1,1,2-Trichloroethane	18.75	19.87	106	76-120	6	20		
2-Hexanone	18.75	16.04	86	57-121	4	25		
1,3-Dichloropropane	18.75	18.14	97	75-120	0	20		
Tetrachloroethene	18.75	22.48	120	77-120	3	20		
Dibromochloromethane	18.75	19.89	106	76-120	5	20		
1,2-Dibromoethane	18.75	19.25	103	77-120	1	20		
Chlorobenzene	18.75	21.13	113	78-120	3	20		
1,1,1,2-Tetrachloroethane	18.75	20.77	111	77-120	2	20		
Ethylbenzene	18.75	20.70	110	78-120	1	26		
m,p-Xylenes	37.50	43.16	115	77-120	2	20		
o-Xylene	18.75	21.33	114	77-120	0	20		
Styrene	18.75	21.03	112	77-120	2	20		
Bromoform	18.75	22.07	118	74-121	3	21		
Isopropylbenzene	18.75	17.43	93	71-120	1	20		
1,1,2,2-Tetrachloroethane	18.75	17.70	94	73-120	1	20		
1,2,3-Trichloropropane	18.75	18.58	99	72-120	3	20		
Propylbenzene	18.75	19.84	106	76-120	1	20		
Bromobenzene	18.75	20.96	112	75-120	1	20		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164302
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,3,5-Trimethylbenzene	18.75	20.27	108	77-120	1	20		
2-Chlorotoluene	18.75	19.98	107	76-120	0	20		
4-Chlorotoluene	18.75	19.04	102	78-120	1	20		
tert-Butylbenzene	18.75	20.84	111	76-120	1	21		
1,2,4-Trimethylbenzene	18.75	19.27	103	77-120	6	20		
sec-Butylbenzene	18.75	21.17	113	80-120	2	21		
para-Isopropyl Toluene	18.75	20.09	107	76-120	3	20		
1,3-Dichlorobenzene	18.75	21.14	113	75-120	1	20		
1,4-Dichlorobenzene	18.75	20.41	109	77-120	1	23		
n-Butylbenzene	18.75	20.24	108	76-120	0	21		
1,2-Dichlorobenzene	18.75	20.99	112	76-120	1	20		
1,2-Dibromo-3-Chloropropane	18.75	16.58	88	65-120	3	22		
1,2,4-Trichlorobenzene	18.75	22.15	118	73-121	1	20		
Hexachlorobutadiene	18.75	21.52	115	73-123	2	25		
Naphthalene	18.75	21.82	116	62-121	0	32		
1,2,3-Trichlorobenzene	18.75	22.82	122	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	94	77-120		
1,2-Dichloroethane-d4	100	70-127		
Toluene-d8	92	83-125		
Bromofluorobenzene	94	78-120		

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549706	Batch#:	164302
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	V1
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549706	Batch#:	164302
Matrix:	Water	Analyzed:	06/23/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	98	77-120	
1,2-Dichloroethane-d4	108	70-127	
Toluene-d8	92	83-125	
Bromofluorobenzene	97	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
MSS Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549831

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1733	18.75	19.86	b 106	56-140	V3	
Chloromethane	<0.2133	18.75	17.01	91	46-142		
Vinyl Chloride	1.664	18.75	19.08	93	49-136		
Bromomethane	<0.1692	18.75	17.38	b 93	42-154	V3	
Chloroethane	2.293	18.75	21.96	105	51-133		
Trichlorofluoromethane	<0.1840	18.75	20.14	107	63-135		
Iodomethane	<0.1570	18.75	23.09	b 123	60-140	V3	
Acetone	2.214	18.75	14.80	67	48-130		
1,1-Dichloroethene	0.3424	18.75	16.89	88	68-133		
Methylene Chloride	<0.1458	18.75	17.82	95	71-120		
Carbon Disulfide	<0.1000	18.75	14.22	76	56-120		
MTBE	49.00	18.75	63.32	76	58-120		
trans-1,2-Dichloroethene	<0.1000	18.75	18.42	98	80-120		
Vinyl Acetate	<0.5118	18.75	14.62	78	63-124		
1,1-Dichloroethane	13.29	18.75	28.92	83	77-120		
2-Butanone	<0.2956	18.75	15.48	80	57-120		
cis-1,2-Dichloroethene	0.9053	18.75	19.03	97	75-120		
2,2-Dichloropropane	<0.1000	18.75	18.22	97	72-128		
Chloroform	0.1913	18.75	18.20	96	78-120		
Bromochloromethane	<0.1508	18.75	19.11	102	78-120		
1,1,1-Trichloroethane	<0.1000	18.75	18.56	99	78-120		
1,1-Dichloropropene	<0.1000	18.75	18.52	99	75-120		
Carbon Tetrachloride	<0.1000	18.75	19.92	106	80-120		
1,2-Dichloroethane	<0.1000	18.75	17.72	94	74-120		
Benzene	17.97	18.75	34.17	86	77-120		
Trichloroethene	0.2109	18.75	19.91	105	78-122		
1,2-Dichloropropane	<0.1501	18.75	17.35	93	76-120		
Bromodichloromethane	0.1908	18.75	19.79	105	78-120		
Dibromomethane	<0.1000	18.75	20.70	110	77-120		
4-Methyl-2-Pentanone	<0.1884	18.75	17.47	92	65-120		
cis-1,3-Dichloropropene	<0.1000	18.75	18.19	97	76-120		
Toluene	0.1971	18.75	19.88	105	73-120		
trans-1,3-Dichloropropene	<0.1000	18.75	21.05	112	72-120		
1,1,2-Trichloroethane	<0.1596	18.75	20.67	110	76-120		
2-Hexanone	<0.1592	18.75	18.32	96	57-121		
1,3-Dichloropropane	<0.1000	18.75	18.88	101	75-120		
Tetrachloroethene	<0.1000	18.75	22.37	119	77-120		
Dibromochloromethane	0.2191	18.75	20.60	109	76-120		
1,2-Dibromoethane	<0.1000	18.75	20.83	111	77-120		
Chlorobenzene	<0.1136	18.75	21.50	115	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	18.75	20.84	111	77-120		
Ethylbenzene	0.1788	18.75	21.54	114	78-120		
m,p-Xylenes	<0.1000	37.50	41.67	111	77-120		
o-Xylene	0.2331	18.75	22.67	120	77-120		
Styrene	<0.1000	18.75	21.29	114	77-120		
Bromoform	<0.1000	18.75	22.94	122 *	74-121	M1	
Isopropylbenzene	2.255	18.75	19.23	91	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	18.75	19.43	103	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
MSS Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ Flags
1,2,3-Trichloropropane	<0.1388	18.75	18.18	97	72-120	
Propylbenzene	1.967	18.75	21.06	102	76-120	
Bromobenzene	<0.1000	18.75	19.99	107	75-120	
1,3,5-Trimethylbenzene	<0.1017	18.75	20.05	107	77-120	
2-Chlorotoluene	<0.1027	18.75	19.22	103	76-120	
4-Chlorotoluene	<0.1554	18.75	18.58	99	78-120	
tert-Butylbenzene	0.3816	18.75	20.30	106	76-120	
1,2,4-Trimethylbenzene	0.2226	18.75	20.12	106	77-120	
sec-Butylbenzene	1.130	18.75	21.17	107	80-120	
para-Isopropyl Toluene	<0.1014	18.75	20.16	108	76-120	
1,3-Dichlorobenzene	<0.1000	18.75	20.46	109	75-120	
1,4-Dichlorobenzene	<0.1000	18.75	19.45	104	77-120	
n-Butylbenzene	<0.1011	18.75	22.63	121 *	76-120	M1
1,2-Dichlorobenzene	<0.1000	18.75	20.30	108	76-120	
1,2-Dibromo-3-Chloropropane	<0.1880	18.75	16.46	88	65-120	
1,2,4-Trichlorobenzene	<0.1138	18.75	22.40	119	73-121	
Hexachlorobutadiene	<0.1492	18.75	21.61	115	73-123	
Naphthalene	3.317	18.75	27.96	131 *	62-121	M1
1,2,3-Trichlorobenzene	<0.1000	18.75	24.34	130 *	66-123	M1

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	93	77-120	
1,2-Dichloroethane-d4	95	70-127	
Toluene-d8	96	83-125	
Bromofluorobenzene	89	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
MSS Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549832

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	18.75	19.22 b	103	56-140	3	24	V3	
Chloromethane	18.75	17.13	91	46-142	1	24		
Vinyl Chloride	18.75	18.41	89	49-136	4	24		
Bromomethane	18.75	18.60 b	99	42-154	7	24	V3	
Chloroethane	18.75	21.02	100	51-133	4	25		
Trichlorofluoromethane	18.75	18.95	101	63-135	6	20		
Iodomethane	18.75	25.66 b	137	60-140	11	30	V3	
Acetone	18.75	14.65	66	48-130	1	41		
1,1-Dichloroethene	18.75	16.37	86	68-133	3	20		
Methylene Chloride	18.75	17.49	93	71-120	2	20		
Carbon Disulfide	18.75	13.83	74	56-120	3	20		
MTBE	18.75	61.91	69	58-120	2	21		
trans-1,2-Dichloroethene	18.75	17.78	95	80-120	4	24		
Vinyl Acetate	18.75	14.86	79	63-124	2	24		
1,1-Dichloroethane	18.75	27.93	78	77-120	3	20		
2-Butanone	18.75	15.29	79	57-120	1	32		
cis-1,2-Dichloroethene	18.75	18.98	96	75-120	0	20		
2,2-Dichloropropane	18.75	17.08	91	72-128	6	24		
Chloroform	18.75	17.27	91	78-120	5	20		
Bromochloromethane	18.75	18.46	98	78-120	3	20		
1,1,1-Trichloroethane	18.75	17.31	92	78-120	7	20		
1,1-Dichloropropene	18.75	16.94	90	75-120	9	21		
Carbon Tetrachloride	18.75	19.00	101	80-120	5	21		
1,2-Dichloroethane	18.75	16.43	88	74-120	8	20		
Benzene	18.75	33.56	83	77-120	2	20		
Trichloroethene	18.75	19.60	103	78-122	2	20		
1,2-Dichloropropane	18.75	16.17	86	76-120	7	20		
Bromodichloromethane	18.75	18.71	99	78-120	6	20		
Dibromomethane	18.75	19.31	103	77-120	7	20		
4-Methyl-2-Pentanone	18.75	16.68	88	65-120	5	22		
cis-1,3-Dichloropropene	18.75	17.57	94	76-120	3	20		
Toluene	18.75	18.83	99	73-120	5	20		
trans-1,3-Dichloropropene	18.75	20.50	109	72-120	3	20		
1,1,2-Trichloroethane	18.75	19.62	105	76-120	5	20		
2-Hexanone	18.75	17.84	93	57-121	3	25		
1,3-Dichloropropane	18.75	18.32	98	75-120	3	20		
Tetrachloroethene	18.75	22.05	118	77-120	1	20		
Dibromochloromethane	18.75	20.41	108	76-120	1	20		
1,2-Dibromoethane	18.75	20.23	108	77-120	3	20		
Chlorobenzene	18.75	20.98	112	78-120	2	20		
1,1,1,2-Tetrachloroethane	18.75	20.12	107	77-120	4	20		
Ethylbenzene	18.75	20.86	110	78-120	3	26		
m,p-Xylenes	37.50	42.27	113	77-120	1	20		
o-Xylene	18.75	20.72	109	77-120	9	20		
Styrene	18.75	20.88	111	77-120	2	20		
Bromoform	18.75	23.10	123 *	74-121	1	21	M1	
Isopropylbenzene	18.75	18.91	89	71-120	2	20		
1,1,2,2-Tetrachloroethane	18.75	19.17	102	73-120	1	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ASE-55A-GW-10Q2	Batch#:	164302
MSS Lab ID:	220680-003	Sampled:	06/10/10
Matrix:	Water	Received:	06/11/10
Units:	ug/L	Analyzed:	06/23/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	18.75	19.12	102	72-120	5	20		
Propylbenzene	18.75	20.88	101	76-120	1	20		
Bromobenzene	18.75	20.71	110	75-120	4	20		
1,3,5-Trimethylbenzene	18.75	19.72	105	77-120	2	20		
2-Chlorotoluene	18.75	18.67	100	76-120	3	20		
4-Chlorotoluene	18.75	17.86	95	78-120	4	20		
tert-Butylbenzene	18.75	20.38	107	76-120	0	21		
1,2,4-Trimethylbenzene	18.75	19.72	104	77-120	2	20		
sec-Butylbenzene	18.75	21.08	106	80-120	0	21		
para-Isopropyl Toluene	18.75	19.64	105	76-120	3	20		
1,3-Dichlorobenzene	18.75	20.37	109	75-120	0	20		
1,4-Dichlorobenzene	18.75	20.25	108	77-120	4	23		
n-Butylbenzene	18.75	21.66	116	76-120	4	21		
1,2-Dichlorobenzene	18.75	21.17	113	76-120	4	20		
1,2-Dibromo-3-Chloropropane	18.75	16.27	87	65-120	1	22		
1,2,4-Trichlorobenzene	18.75	22.41	119	73-121	0	20		
Hexachlorobutadiene	18.75	21.66	115	73-123	0	25		
Naphthalene	18.75	27.96	131	* 62-121	0	32	M1	
1,2,3-Trichlorobenzene	18.75	24.38	130	* 66-123	0	29	M1	

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	91	77-120		
1,2-Dichloroethane-d4	90	70-127		
Toluene-d8	94	83-125		
Bromofluorobenzene	90	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164347
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	27.81	111	75-120	
1,3,5-Trimethylbenzene	25.00	26.60	106	77-120	
2-Chlorotoluene	25.00	24.80	99	76-120	
4-Chlorotoluene	25.00	24.41	98	78-120	
tert-Butylbenzene	25.00	28.59	114	76-120	
1,2,4-Trimethylbenzene	25.00	26.65	107	77-120	
sec-Butylbenzene	25.00	27.67	111	80-120	
para-Isopropyl Toluene	25.00	26.87	107	76-120	
1,3-Dichlorobenzene	25.00	26.52	106	75-120	
1,4-Dichlorobenzene	25.00	26.54	106	77-120	
n-Butylbenzene	25.00	26.77	107	76-120	
1,2-Dichlorobenzene	25.00	27.23	109	76-120	
1,2-Dibromo-3-Chloropropane	25.00	18.57 b	74	65-120	V9
1,2,4-Trichlorobenzene	25.00	28.96	116	73-121	
Hexachlorobutadiene	25.00	28.11	112	73-123	
Naphthalene	25.00	28.66	115	62-121	
1,2,3-Trichlorobenzene	25.00	29.87	119	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	88	77-120	
1,2-Dichloroethane-d4	83	70-127	
Toluene-d8	97	83-125	
Bromofluorobenzene	91	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164347
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549881

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	26.81	107	56-140	6	24		
Chloromethane	25.00	23.36	93	46-142	8	24		
Vinyl Chloride	25.00	24.75	99	49-136	6	24		
Bromomethane	25.00	30.94	124	42-154	15	24		
Chloroethane	25.00	27.24	109	51-133	10	25		
Trichlorofluoromethane	25.00	26.58	106	63-135	2	20		
Iodomethane	25.00	33.84	b	135 *	70-130	7	20	L1 V3
Acetone	25.00	21.88	88	48-130	1	41		
1,1-Dichloroethene	25.00	22.69	91	68-133	4	20		
Methylene Chloride	25.00	23.34	93	71-120	0	20		
Carbon Disulfide	25.00	19.32	b	77	56-120	5	20	V9
MTBE	25.00	21.02	84	58-120	4	21		
trans-1,2-Dichloroethene	25.00	25.04	100	80-120	4	24		
Vinyl Acetate	25.00	18.75	b	75	63-124	4	24	V9
1,1-Dichloroethane	25.00	21.82	87	77-120	0	20		
2-Butanone	25.00	19.49	b	78	57-120	1	32	V9
cis-1,2-Dichloroethene	25.00	24.81	99	75-120	0	20		
2,2-Dichloropropane	25.00	24.73	99	72-128	1	24		
Chloroform	25.00	23.22	93	78-120	1	20		
Bromochloromethane	25.00	25.04	100	78-120	1	20		
1,1,1-Trichloroethane	25.00	23.89	96	78-120	3	20		
1,1-Dichloropropene	25.00	23.63	95	75-120	3	21		
Carbon Tetrachloride	25.00	26.75	107	80-120	8	21		
1,2-Dichloroethane	25.00	22.18	89	74-120	6	20		
Benzene	25.00	26.65	107	77-120	10	20		
Trichloroethene	25.00	27.57	110	78-122	11	20		
1,2-Dichloropropane	25.00	22.42	90	76-120	4	20		
Bromodichloromethane	25.00	26.42	106	78-120	9	20		
Dibromomethane	25.00	26.39	106	77-120	6	20		
4-Methyl-2-Pentanone	25.00	20.14	b	81	65-120	7	22	V9
cis-1,3-Dichloropropene	25.00	24.40	98	76-120	4	20		
Toluene	25.00	26.76	107	73-120	5	20		
trans-1,3-Dichloropropene	25.00	28.03	112	72-120	1	20		
1,1,2-Trichloroethane	25.00	25.58	102	76-120	1	20		
2-Hexanone	25.00	20.11	80	57-121	6	25		
1,3-Dichloropropane	25.00	22.88	92	75-120	2	20		
Tetrachloroethene	25.00	32.14	b	129 *	77-120	6	20	L1 V3
Dibromochloromethane	25.00	27.14	109	76-120	5	20		
1,2-Dibromoethane	25.00	26.66	107	77-120	2	20		
Chlorobenzene	25.00	28.63	115	78-120	2	20		
1,1,1,2-Tetrachloroethane	25.00	27.64	111	77-120	0	20		
Ethylbenzene	25.00	27.55	110	78-120	0	26		
m,p-Xylenes	50.00	57.95	116	77-120	4	20		
o-Xylene	25.00	29.30	117	77-120	5	20		
Styrene	25.00	28.38	114	77-120	4	20		
Bromoform	25.00	29.94	120	74-121	6	21		
Isopropylbenzene	25.00	24.36	97	71-120	3	20		
1,1,2,2-Tetrachloroethane	25.00	23.55	94	73-120	1	20		
1,2,3-Trichloropropane	25.00	22.66	91	72-120	2	20		
Propylbenzene	25.00	26.24	105	76-120	2	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164347
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	27.95	112	75-120	1	20		
1,3,5-Trimethylbenzene	25.00	27.21	109	77-120	2	20		
2-Chlorotoluene	25.00	25.35	101	76-120	2	20		
4-Chlorotoluene	25.00	25.24	101	78-120	3	20		
tert-Butylbenzene	25.00	28.57	114	76-120	0	21		
1,2,4-Trimethylbenzene	25.00	26.70	107	77-120	0	20		
sec-Butylbenzene	25.00	28.78	115	80-120	4	21		
para-Isopropyl Toluene	25.00	27.72	111	76-120	3	20		
1,3-Dichlorobenzene	25.00	28.34	113	75-120	7	20		
1,4-Dichlorobenzene	25.00	26.60	106	77-120	0	23		
n-Butylbenzene	25.00	28.30	113	76-120	6	21		
1,2-Dichlorobenzene	25.00	27.83	111	76-120	2	20		
1,2-Dibromo-3-Chloropropane	25.00	19.35	b 77	65-120	4	22	V9	
1,2,4-Trichlorobenzene	25.00	29.36	117	73-121	1	20		
Hexachlorobutadiene	25.00	30.68	123	73-123	9	25		
Naphthalene	25.00	28.92	116	62-121	1	32		
1,2,3-Trichlorobenzene	25.00	30.68	123	66-123	3	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	90	77-120		
1,2-Dichloroethane-d4	89	70-127		
Toluene-d8	97	83-125		
Bromofluorobenzene	92	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549882	Batch#:	164347
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V9
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	V9
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	V9
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	L1 V1

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549882	Batch#:	164347
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	V9
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	90	77-120	
1,2-Dichloroethane-d4	97	70-127	
Toluene-d8	94	83-125	
Bromofluorobenzene	90	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549900	Batch#:	164352
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	L1
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	L1
1,1-Dichloropropene	ND	0.5	L1
Carbon Tetrachloride	ND	0.5	L1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549900	Batch#:	164352
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	2.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	L1
1,2,3-Trichloropropane	ND	2.0	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	L1
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	L1
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	L1
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	R7
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	103	77-120	
1,2-Dichloroethane-d4	103	70-127	
Toluene-d8	111	83-125	
Bromofluorobenzene	108	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164352
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: BS Lab ID: QC549901

Analyte	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	25.00	27.85	111	56-140		
Chloromethane	25.00	28.14	113	46-142		
Vinyl Chloride	25.00	26.39	106	49-136		
Bromomethane	25.00	21.87	87	42-154		
Chloroethane	25.00	29.44	118	51-133		
Trichlorofluoromethane	25.00	29.81	119	63-135		
Iodomethane	25.00	24.77	99	70-130		
Acetone	25.00	21.61	86	48-130		
1,1-Dichloroethene	25.00	24.71	99	68-133		
Methylene Chloride	25.00	23.41	94	71-120		
Carbon Disulfide	25.00	20.83	83	56-120		
MTBE	25.00	21.54	86	58-120		
trans-1,2-Dichloroethene	25.00	23.12	92	80-120		
Vinyl Acetate	25.00	49.71	b 199 *	63-124	L1	V3
1,1-Dichloroethane	25.00	26.48	106	77-120		
2-Butanone	25.00	22.52	90	57-120		
cis-1,2-Dichloroethene	25.00	25.11	100	75-120		
2,2-Dichloropropane	25.00	32.81	b 131 *	72-128	L1	V3
Chloroform	25.00	27.12	108	78-120		
Bromochloromethane	25.00	23.58	94	78-120		
1,1,1-Trichloroethane	25.00	28.89	116	78-120		
1,1-Dichloropropene	25.00	27.63	111	75-120		
Carbon Tetrachloride	25.00	29.37	117	80-120		
1,2-Dichloroethane	25.00	24.23	97	74-120		
Benzene	25.00	25.99	104	77-120		
Trichloroethene	25.00	23.30	93	78-122		
1,2-Dichloropropane	25.00	23.54	94	76-120		
Bromodichloromethane	25.00	24.20	97	78-120		
Dibromomethane	25.00	23.37	93	77-120		
4-Methyl-2-Pentanone	25.00	20.88	84	65-120		
cis-1,3-Dichloropropene	25.00	24.39	98	76-120		
Toluene	25.00	25.49	102	73-120		
trans-1,3-Dichloropropene	25.00	22.06	88	72-120		
1,1,2-Trichloroethane	25.00	23.86	95	76-120		
2-Hexanone	25.00	21.42	86	57-121		
1,3-Dichloropropane	25.00	22.60	90	75-120		
Tetrachloroethene	25.00	24.80	99	77-120		
Dibromochloromethane	25.00	22.44	90	76-120		
1,2-Dibromoethane	25.00	22.57	90	77-120		
Chlorobenzene	25.00	24.56	98	78-120		
1,1,1,2-Tetrachloroethane	25.00	25.32	101	77-120		
Ethylbenzene	25.00	25.56	102	78-120		
m,p-Xylenes	50.00	50.84	102	77-120		
o-Xylene	25.00	24.95	100	77-120		
Styrene	25.00	25.31	101	77-120		
Bromoform	25.00	21.79	87	74-121		
Isopropylbenzene	25.00	23.41	94	71-120		
1,1,2,2-Tetrachloroethane	25.00	27.62	110	73-120		
1,2,3-Trichloropropane	25.00	22.61	90	72-120		
Propylbenzene	25.00	26.99	108	76-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164352
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	ADEQ Flags
Bromobenzene	25.00	23.67	95	75-120	
1,3,5-Trimethylbenzene	25.00	27.41	110	77-120	
2-Chlorotoluene	25.00	27.77	111	76-120	
4-Chlorotoluene	25.00	25.32	101	78-120	
tert-Butylbenzene	25.00	27.20	109	76-120	
1,2,4-Trimethylbenzene	25.00	26.17	105	77-120	
sec-Butylbenzene	25.00	29.46	118	80-120	
para-Isopropyl Toluene	25.00	27.39	110	76-120	
1,3-Dichlorobenzene	25.00	26.91	108	75-120	
1,4-Dichlorobenzene	25.00	25.88	104	77-120	
n-Butylbenzene	25.00	30.03	120	76-120	
1,2-Dichlorobenzene	25.00	26.04	104	76-120	
1,2-Dibromo-3-Chloropropane	25.00	21.35	85	65-120	
1,2,4-Trichlorobenzene	25.00	23.00	92	73-121	
Hexachlorobutadiene	25.00	27.08	108	73-123	
Naphthalene	25.00	20.70	83	62-121	
1,2,3-Trichlorobenzene	25.00	20.43	82	66-123	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	103	77-120	
1,2-Dichloroethane-d4	98	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	97	78-120	

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164352
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: BSD Lab ID: QC549902

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	25.00	32.17	129	56-140	14	24		
Chloromethane	25.00	33.38	134	46-142	17	24		
Vinyl Chloride	25.00	31.15	125	49-136	17	24		
Bromomethane	25.00	27.45	110	42-154	23	24		
Chloroethane	25.00	32.50	130	51-133	10	25		
Trichlorofluoromethane	25.00	33.29	133	63-135	11	20		
Iodomethane	25.00	28.30	113	70-130	13	20		
Acetone	25.00	29.14	117	48-130	30	41		
1,1-Dichloroethene	25.00	25.35	101	68-133	3	20		
Methylene Chloride	25.00	25.56	102	71-120	9	20		
Carbon Disulfide	25.00	23.22	93	56-120	11	20		
MTBE	25.00	25.32	101	58-120	16	21		
trans-1,2-Dichloroethene	25.00	29.46	118	80-120	24	24		
Vinyl Acetate	25.00	56.86	b	227 *	63-124	13	24	L1 V3
1,1-Dichloroethane	25.00	29.75	119	77-120	12	20		
2-Butanone	25.00	27.32	109	57-120	19	32		
cis-1,2-Dichloroethene	25.00	29.49	118	75-120	16	20		
2,2-Dichloropropane	25.00	36.66	b	147 *	72-128	11	24	L1 V3
Chloroform	25.00	31.61	126	78-120	15	20	L1	
Bromochloromethane	25.00	27.41	110	78-120	15	20		
1,1,1-Trichloroethane	25.00	33.27	133	78-120	14	20	L1	
1,1-Dichloropropene	25.00	30.15	121	75-120	9	21	L1	
Carbon Tetrachloride	25.00	31.19	125	80-120	6	21	L1	
1,2-Dichloroethane	25.00	27.65	111	74-120	13	20		
Benzene	25.00	29.62	118	77-120	13	20		
Trichloroethene	25.00	26.34	105	78-122	12	20		
1,2-Dichloropropane	25.00	26.50	106	76-120	12	20		
Bromodichloromethane	25.00	28.41	114	78-120	16	20		
Dibromomethane	25.00	26.24	105	77-120	12	20		
4-Methyl-2-Pentanone	25.00	25.35	101	65-120	19	22		
cis-1,3-Dichloropropene	25.00	27.48	110	76-120	12	20		
Toluene	25.00	29.23	117	73-120	14	20		
trans-1,3-Dichloropropene	25.00	25.95	104	72-120	16	20		
1,1,2-Trichloroethane	25.00	27.43	110	76-120	14	20		
2-Hexanone	25.00	26.45	106	57-121	21	25		
1,3-Dichloropropane	25.00	27.03	108	75-120	18	20		
Tetrachloroethene	25.00	28.58	114	77-120	14	20		
Dibromochloromethane	25.00	26.15	105	76-120	15	20		
1,2-Dibromoethane	25.00	27.17	109	77-120	18	20		
Chlorobenzene	25.00	28.46	114	78-120	15	20		
1,1,1,2-Tetrachloroethane	25.00	28.43	114	77-120	12	20		
Ethylbenzene	25.00	29.55	118	78-120	14	26		
m,p-Xylenes	50.00	59.35	119	77-120	15	20		
o-Xylene	25.00	29.19	117	77-120	16	20		
Styrene	25.00	29.32	117	77-120	15	20		
Bromoform	25.00	24.95	100	74-121	14	21		
Isopropylbenzene	25.00	26.19	105	71-120	11	20		
1,1,2,2-Tetrachloroethane	25.00	31.46	126	73-120	13	20	L1	
1,2,3-Trichloropropane	25.00	26.54	106	72-120	16	20		
Propylbenzene	25.00	29.98	120	76-120	10	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	164352
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Bromobenzene	25.00	26.79	107	75-120	12	20		
1,3,5-Trimethylbenzene	25.00	29.99	120	77-120	9	20		
2-Chlorotoluene	25.00	29.73	119	76-120	7	20		
4-Chlorotoluene	25.00	28.58	114	78-120	12	20		
tert-Butylbenzene	25.00	30.26	121 *	76-120	11	21	L1	
1,2,4-Trimethylbenzene	25.00	29.59	118	77-120	12	20		
sec-Butylbenzene	25.00	31.22	125 *	80-120	6	21	L1	
para-Isopropyl Toluene	25.00	30.07	120	76-120	9	20		
1,3-Dichlorobenzene	25.00	29.09	116	75-120	8	20		
1,4-Dichlorobenzene	25.00	28.99	116	77-120	11	23		
n-Butylbenzene	25.00	33.15	133 *	76-120	10	21	L1	
1,2-Dichlorobenzene	25.00	29.01	116	76-120	11	20		
1,2-Dibromo-3-Chloropropane	25.00	23.59	94	65-120	10	22		
1,2,4-Trichlorobenzene	25.00	27.67	111	73-121	18	20		
Hexachlorobutadiene	25.00	31.39	126 *	73-123	15	25	L1	
Naphthalene	25.00	27.95	112	62-121	30	32		
1,2,3-Trichlorobenzene	25.00	27.66	111	66-123	30 *	29	R7	

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	109	77-120		
1,2-Dichloroethane-d4	103	70-127		
Toluene-d8	100	83-125		
Bromofluorobenzene	98	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164347
MSS Lab ID:	220723-002	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: MS Lab ID: QC549929

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
Freon 12	<0.1733	18.75	21.16	113	56-140		
Chloromethane	<0.2133	18.75	18.03	96	46-142		
Vinyl Chloride	<0.1202	18.75	18.32	98	49-136		
Bromomethane	<0.1692	18.75	22.83	122	42-154		
Chloroethane	<0.1670	18.75	20.89	111	51-133		
Trichlorofluoromethane	<0.1840	18.75	21.42	114	63-135		
Iodomethane	<0.1570	18.75	19.46	b 104	60-140	V3	
Acetone	2.972	18.75	17.25	76	48-130		
1,1-Dichloroethene	<0.1000	18.75	15.79	84	68-133		
Methylene Chloride	<0.1458	18.75	17.99	96	71-120		
Carbon Disulfide	<0.1000	18.75	13.68	b 73	56-120	V9	
MTBE	<0.1000	18.75	16.66	89	58-120		
trans-1,2-Dichloroethene	<0.1000	18.75	17.80	95	80-120		
Vinyl Acetate	<0.5118	18.75	15.08	b 80	63-124	V9	
1,1-Dichloroethane	<0.1000	18.75	16.89	90	77-120		
2-Butanone	<0.2956	18.75	15.47	b 81	57-120	V9	
cis-1,2-Dichloroethene	<0.1000	18.75	18.60	99	75-120		
2,2-Dichloropropane	<0.1000	18.75	18.73	100	72-128		
Chloroform	<0.1000	18.75	18.25	97	78-120		
Bromochloromethane	<0.1508	18.75	19.19	102	78-120		
1,1,1-Trichloroethane	<0.1000	18.75	18.39	98	78-120		
1,1-Dichloropropene	<0.1000	18.75	17.56	94	75-120		
Carbon Tetrachloride	<0.1000	18.75	19.11	102	80-120		
1,2-Dichloroethane	<0.1000	18.75	17.22	92	74-120		
Benzene	<0.1000	18.75	18.56	99	77-120		
Trichloroethene	<0.1000	18.75	19.43	104	78-122		
1,2-Dichloropropane	<0.1501	18.75	16.58	88	76-120		
Bromodichloromethane	<0.1000	18.75	18.64	99	78-120		
Dibromomethane	<0.1000	18.75	19.98	107	77-120		
4-Methyl-2-Pentanone	<0.1884	18.75	15.10	b 81	65-120	V9	
cis-1,3-Dichloropropene	<0.1000	18.75	18.16	97	76-120		
Toluene	<0.1000	18.75	19.25	103	73-120		
trans-1,3-Dichloropropene	<0.1000	18.75	21.42	114	72-120		
1,1,2-Trichloroethane	<0.1596	18.75	20.42	109	76-120		
2-Hexanone	<0.1592	18.75	15.55	83	57-121		
1,3-Dichloropropane	<0.1000	18.75	17.64	94	75-120		
Tetrachloroethene	<0.1000	18.75	21.89	b 117	77-120	V3	
Dibromochloromethane	<0.1000	18.75	20.86	111	76-120		
1,2-Dibromoethane	<0.1000	18.75	20.12	107	77-120		
Chlorobenzene	<0.1136	18.75	20.97	112	78-120		
1,1,1,2-Tetrachloroethane	<0.1000	18.75	20.40	109	77-120		
Ethylbenzene	<0.1561	18.75	21.27	113	78-120		
m,p-Xylenes	<0.1000	37.50	42.09	112	77-120		
o-Xylene	<0.09974	18.75	21.88	117	77-120		
Styrene	<0.1000	18.75	21.24	113	77-120		
Bromoform	<0.1000	18.75	22.57	120	74-121		
Isopropylbenzene	<0.1000	18.75	16.90	90	71-120		
1,1,2,2-Tetrachloroethane	<0.1000	18.75	19.15	102	73-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164347
MSS Lab ID:	220723-002	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	MSS Result	Spiked	Result	%REC	Limits	ADEQ	Flags
1,2,3-Trichloropropane	<0.1388	18.75	18.38	98	72-120		
Propylbenzene	<0.1074	18.75	19.37	103	76-120		
Bromobenzene	<0.1000	18.75	20.66	110	75-120		
1,3,5-Trimethylbenzene	<0.1017	18.75	19.80	106	77-120		
2-Chlorotoluene	<0.1027	18.75	19.25	103	76-120		
4-Chlorotoluene	<0.1554	18.75	19.29	103	78-120		
tert-Butylbenzene	<0.1000	18.75	21.64	115	76-120		
1,2,4-Trimethylbenzene	<0.1598	18.75	20.40	109	77-120		
sec-Butylbenzene	<0.1102	18.75	21.62	115	80-120		
para-Isopropyl Toluene	<0.1014	18.75	20.45	109	76-120		
1,3-Dichlorobenzene	<0.1000	18.75	20.71	110	75-120		
1,4-Dichlorobenzene	<0.1000	18.75	19.73	105	77-120		
n-Butylbenzene	<0.1011	18.75	20.17	108	76-120		
1,2-Dichlorobenzene	<0.1000	18.75	21.13	113	76-120		
1,2-Dibromo-3-Chloropropane	<0.1880	18.75	16.28	b 87	65-120	V9	
1,2,4-Trichlorobenzene	<0.1138	18.75	21.49	115	73-121		
Hexachlorobutadiene	<0.1492	18.75	21.31	114	73-123		
Naphthalene	<0.1000	18.75	22.60	121	62-121		
1,2,3-Trichlorobenzene	<0.1000	18.75	23.35	125 *	66-123	M1	

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	95	77-120		
1,2-Dichloroethane-d4	98	70-127		
Toluene-d8	98	83-125		
Bromofluorobenzene	94	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164347
MSS Lab ID:	220723-002	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Type: MSD Lab ID: QC549930

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
Freon 12	18.75	21.10	113	56-140	0	24		
Chloromethane	18.75	18.35	98	46-142	2	24		
Vinyl Chloride	18.75	18.48	99	49-136	1	24		
Bromomethane	18.75	23.13	123	42-154	1	24		
Chloroethane	18.75	20.65	110	51-133	1	25		
Trichlorofluoromethane	18.75	21.53	115	63-135	1	20		
Iodomethane	18.75	21.49	b 115	60-140	10	30	V3	
Acetone	18.75	15.61	67	48-130	10	41		
1,1-Dichloroethene	18.75	16.56	88	68-133	5	20		
Methylene Chloride	18.75	18.36	98	71-120	2	20		
Carbon Disulfide	18.75	13.88	b 74	56-120	1	20	V9	
MTBE	18.75	16.54	88	58-120	1	21		
trans-1,2-Dichloroethene	18.75	18.41	98	80-120	3	24		
Vinyl Acetate	18.75	14.61	b 78	63-124	3	24	V9	
1,1-Dichloroethane	18.75	17.20	92	77-120	2	20		
2-Butanone	18.75	14.99	b 78	57-120	3	32	V9	
cis-1,2-Dichloroethene	18.75	18.94	101	75-120	2	20		
2,2-Dichloropropane	18.75	18.68	100	72-128	0	24		
Chloroform	18.75	18.34	98	78-120	1	20		
Bromochloromethane	18.75	18.81	100	78-120	2	20		
1,1,1-Trichloroethane	18.75	18.27	97	78-120	1	20		
1,1-Dichloropropene	18.75	17.76	95	75-120	1	21		
Carbon Tetrachloride	18.75	19.12	102	80-120	0	21		
1,2-Dichloroethane	18.75	17.22	92	74-120	0	20		
Benzene	18.75	18.53	99	77-120	0	20		
Trichloroethene	18.75	19.94	106	78-122	3	20		
1,2-Dichloropropane	18.75	17.23	92	76-120	4	20		
Bromodichloromethane	18.75	19.31	103	78-120	4	20		
Dibromomethane	18.75	19.51	104	77-120	2	20		
4-Methyl-2-Pentanone	18.75	15.89	b 85	65-120	5	22	V9	
cis-1,3-Dichloropropene	18.75	17.81	95	76-120	2	20		
Toluene	18.75	19.35	103	73-120	1	20		
trans-1,3-Dichloropropene	18.75	20.82	111	72-120	3	20		
1,1,2-Trichloroethane	18.75	19.90	106	76-120	3	20		
2-Hexanone	18.75	16.23	87	57-121	4	25		
1,3-Dichloropropane	18.75	18.13	97	75-120	3	20		
Tetrachloroethene	18.75	22.18	b 118	77-120	1	20	V3	
Dibromochloromethane	18.75	20.00	107	76-120	4	20		
1,2-Dibromoethane	18.75	19.77	105	77-120	2	20		
Chlorobenzene	18.75	20.87	111	78-120	0	20		
1,1,1,2-Tetrachloroethane	18.75	21.08	112	77-120	3	20		
Ethylbenzene	18.75	21.18	113	78-120	0	26		
m,p-Xylenes	37.50	42.10	112	77-120	0	20		
o-Xylene	18.75	21.73	116	77-120	1	20		
Styrene	18.75	21.20	113	77-120	0	20		
Bromoform	18.75	22.20	118	74-121	2	21		
Isopropylbenzene	18.75	18.05	96	71-120	7	20		
1,1,2,2-Tetrachloroethane	18.75	18.52	99	73-120	3	20		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	164347
MSS Lab ID:	220723-002	Sampled:	06/11/10
Matrix:	Water	Received:	06/14/10
Units:	ug/L	Analyzed:	06/24/10
Diln Fac:	1.000		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	ADEQ	Flags
1,2,3-Trichloropropane	18.75	16.55	88	72-120	10	20		
Propylbenzene	18.75	19.68	105	76-120	2	20		
Bromobenzene	18.75	20.42	109	75-120	1	20		
1,3,5-Trimethylbenzene	18.75	19.84	106	77-120	0	20		
2-Chlorotoluene	18.75	19.20	102	76-120	0	20		
4-Chlorotoluene	18.75	18.30	98	78-120	5	20		
tert-Butylbenzene	18.75	20.43	109	76-120	6	21		
1,2,4-Trimethylbenzene	18.75	20.09	107	77-120	2	20		
sec-Butylbenzene	18.75	21.04	112	80-120	3	21		
para-Isopropyl Toluene	18.75	19.14	102	76-120	7	20		
1,3-Dichlorobenzene	18.75	21.04	112	75-120	2	20		
1,4-Dichlorobenzene	18.75	20.10	107	77-120	2	23		
n-Butylbenzene	18.75	20.16	108	76-120	0	21		
1,2-Dichlorobenzene	18.75	21.29	114	76-120	1	20		
1,2-Dibromo-3-Chloropropane	18.75	16.06 b	86	65-120	1	22	V9	
1,2,4-Trichlorobenzene	18.75	20.99	112	73-121	2	20		
Hexachlorobutadiene	18.75	21.20	113	73-123	0	25		
Naphthalene	18.75	21.66	115	62-121	4	32		
1,2,3-Trichlorobenzene	18.75	22.29	119	66-123	5	29		

Surrogate	%REC	Limits	ADEQ	Flags
Dibromofluoromethane	94	77-120		
1,2-Dichloroethane-d4	96	70-127		
Toluene-d8	96	83-125		
Bromofluorobenzene	91	78-120		

*= Value outside of QC limits; see narrative

b= See narrative

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549961	Batch#:	164347
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	V1
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	L1 V1
Acetone	ND	10	
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	V9
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	V9
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	
Chloroform	ND	0.5	
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	
1,1-Dichloropropene	ND	0.5	
Carbon Tetrachloride	ND	0.5	
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	V9
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	V9
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	L1

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549961	Batch#:	164347
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	1.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	
1,2,3-Trichloropropane	ND	0.5	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	V1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	93	77-120	
1,2-Dichloroethane-d4	102	70-127	
Toluene-d8	92	83-125	
Bromofluorobenzene	90	78-120	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549980	Batch#:	164352
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Freon 12	ND	1.0	
Chloromethane	ND	1.0	
Vinyl Chloride	ND	0.5	
Bromomethane	ND	1.0	
Chloroethane	ND	1.0	
Trichlorofluoromethane	ND	1.0	
Iodomethane	ND	10	
Acetone	ND	10	V9
1,1-Dichloroethene	ND	0.5	
Methylene Chloride	ND	10	
Carbon Disulfide	ND	0.5	
MTBE	ND	0.5	
trans-1,2-Dichloroethene	ND	0.5	
Vinyl Acetate	ND	10	L1 V1
1,1-Dichloroethane	ND	0.5	
2-Butanone	ND	10	
cis-1,2-Dichloroethene	ND	0.5	
2,2-Dichloropropane	ND	0.5	L1 V1
Chloroform	ND	0.5	L1
Bromochloromethane	ND	0.5	
1,1,1-Trichloroethane	ND	0.5	L1
1,1-Dichloropropene	ND	0.5	L1
Carbon Tetrachloride	ND	0.5	L1
1,2-Dichloroethane	ND	0.5	
Benzene	ND	0.5	
Trichloroethene	ND	0.5	
1,2-Dichloropropane	ND	0.5	
Bromodichloromethane	ND	0.5	
Dibromomethane	ND	0.5	
4-Methyl-2-Pentanone	ND	10	
cis-1,3-Dichloropropene	ND	0.5	
Toluene	ND	0.5	
trans-1,3-Dichloropropene	ND	0.5	
1,1,2-Trichloroethane	ND	0.5	
2-Hexanone	ND	10	
1,3-Dichloropropane	ND	0.5	
Tetrachloroethene	ND	0.5	

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	220709	Location:	Quarterly UST
Client:	CH2M Hill	Prep:	EPA 5030B
Project#:	383868.US.60.61.QS	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC549980	Batch#:	164352
Matrix:	Water	Analyzed:	06/24/10
Units:	ug/L		

Analyte	Result	RL	ADEQ Flags
Dibromochloromethane	ND	0.5	
1,2-Dibromoethane	ND	0.5	
Chlorobenzene	ND	0.5	
1,1,1,2-Tetrachloroethane	ND	0.5	
Ethylbenzene	ND	0.5	
m,p-Xylenes	ND	0.5	
o-Xylene	ND	0.5	
Styrene	ND	0.5	
Bromoform	ND	2.0	
Isopropylbenzene	ND	0.5	
1,1,2,2-Tetrachloroethane	ND	0.5	L1
1,2,3-Trichloropropane	ND	2.0	
Propylbenzene	ND	0.5	
Bromobenzene	ND	0.5	
1,3,5-Trimethylbenzene	ND	0.5	
2-Chlorotoluene	ND	0.5	
4-Chlorotoluene	ND	0.5	
tert-Butylbenzene	ND	0.5	L1
1,2,4-Trimethylbenzene	ND	0.5	
sec-Butylbenzene	ND	0.5	L1
para-Isopropyl Toluene	ND	0.5	
1,3-Dichlorobenzene	ND	0.5	
1,4-Dichlorobenzene	ND	0.5	
n-Butylbenzene	ND	0.5	L1
1,2-Dichlorobenzene	ND	0.5	
1,2-Dibromo-3-Chloropropane	ND	2.0	
1,2,4-Trichlorobenzene	ND	0.5	
Hexachlorobutadiene	ND	2.0	L1
Naphthalene	ND	2.0	
1,2,3-Trichlorobenzene	ND	0.5	R7
Xylene (total)	ND	0.5	

Surrogate	%REC	Limits	ADEQ Flags
Dibromofluoromethane	104	77-120	
1,2-Dichloroethane-d4	104	70-127	
Toluene-d8	98	83-125	
Bromofluorobenzene	111	78-120	

ND= Not Detected

RL= Reporting Limit

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 470241127003 File : hfg03 Time : 16-JUN-2010 17:38

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	7479	26.23	
75	30% - 60% of mass 95	13260	46.51	
95		28509	100.00	
96	5% - 9% of mass 95	1693	5.94	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	16895	59.26	
175	5% - 9% of mass 174	1183	7.00	
176	> 95% and < 101% of mass 174	16161	95.66	
177	5% - 9% of mass 176	1087	6.73	

Analyst: BJP Date: 06/22/10 Reviewer: LW Date: 06/22/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 470252482002 File : hfo02 Time : 24-JUN-2010 09:46

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	9749	30.21	
75	30% - 60% of mass 95	15605	48.35	
95		32272	100.00	
96	5% - 9% of mass 95	2020	6.26	
173	< 2% of mass 174	56	0.33	
174	> 50% and < 100% of mass 95	16955	52.54	
175	5% - 9% of mass 174	1284	7.57	
176	> 95% and < 101% of mass 174	16564	97.69	
177	5% - 9% of mass 176	1131	6.83	

Analyst: MCT Date: 06/24/10 Reviewer: LW Date: 06/25/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : BFB IDF : 1.0
Seqnum : 470252482016 File : hfo16 Time : 24-JUN-2010 17:02

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	1574	23.81	
75	30% - 60% of mass 95	2967	44.88	
95		6611	100.00	
96	5% - 9% of mass 95	361	5.46	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	3335	50.45	
175	5% - 9% of mass 174	273	8.19	
176	> 95% and < 101% of mass 174	3263	97.84	
177	5% - 9% of mass 176	232	7.11	

Analyst: MCT Date: 06/25/10 Reviewer: LW Date: 06/25/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480169480002 File : idr02 Time : 27-APR-2010 17:23

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	39810	24.70	
75	30% - 60% of mass 95	78130	48.48	
95		161165	100.00	
96	5% - 9% of mass 95	11071	6.87	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	113690	70.54	
175	5% - 9% of mass 174	8443	7.43	
176	> 95% and < 101% of mass 174	110120	96.86	
177	5% - 9% of mass 176	7181	6.52	

Analyst: TDL Date: 05/03/10 Reviewer: LW Date: 05/03/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480171128002 File : ids02 Time : 28-APR-2010 20:37

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	40256	23.43	
75	30% - 60% of mass 95	80642	46.93	
95		171824	100.00	
96	5% - 9% of mass 95	11623	6.76	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	129637	75.45	
175	5% - 9% of mass 174	10014	7.72	
176	> 95% and < 101% of mass 174	126264	97.40	
177	5% - 9% of mass 176	8455	6.70	

Analyst: BJP Date: 05/03/10 Reviewer: LW Date: 05/03/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480251057005 File : ifn05 Time : 23-JUN-2010 11:04

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	18328	19.60	
75	30% - 60% of mass 95	41906	44.82	
95		93493	100.00	
96	5% - 9% of mass 95	6796	7.27	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	75712	80.98	
175	5% - 9% of mass 174	5750	7.59	
176	> 95% and < 101% of mass 174	72333	95.54	
177	5% - 9% of mass 176	4938	6.83	

Analyst: TDL Date: 06/24/10 Reviewer: LW Date: 06/24/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480252482002 File : ifo02 Time : 24-JUN-2010 08:31

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	24759	18.70	
75	30% - 60% of mass 95	53834	40.65	
95		132426	100.00	
96	5% - 9% of mass 95	8901	6.72	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	113253	85.52	
175	5% - 9% of mass 174	8850	7.81	
176	> 95% and < 101% of mass 174	110690	97.74	
177	5% - 9% of mass 176	7230	6.53	

Analyst: TDL Date: 06/24/10 Reviewer: LW Date: 06/24/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : BFB IDF : 1.0
Seqnum : 480252482013 File : ifo13 Time : 24-JUN-2010 15:18

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	25197	19.46	
75	30% - 60% of mass 95	55536	42.89	
95		129493	100.00	
96	5% - 9% of mass 95	9044	6.98	
173	< 2% of mass 174	0	0.00	
174	> 50% and < 100% of mass 95	104544	80.73	
175	5% - 9% of mass 174	7600	7.27	
176	> 95% and < 101% of mass 174	100546	96.18	
177	5% - 9% of mass 176	6906	6.87	

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/25/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : BFB IDF : 1.0
Seqnum : 940202186009 File : mek09 Time : 20-MAY-2010 18:56

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	6660	21.06	
75	30% - 60% of mass 95	16150	51.07	
95		31624	100.00	
96	5% - 9% of mass 95	2198	6.95	
173	< 2% of mass 174	252	1.13	
174	> 50% and < 100% of mass 95	22357	70.70	
175	5% - 9% of mass 174	1275	5.70	
176	> 95% and < 101% of mass 174	21955	98.20	
177	5% - 9% of mass 176	1400	6.38	

Analyst: BJP Date: 06/14/10 Reviewer: LW Date: 06/14/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : BFB IDF : 1.0
Seqnum : 940203930003 File : mel03 Time : 21-MAY-2010 15:41

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	3864	22.76	
75	30% - 60% of mass 95	9171	54.03	
95		16975	100.00	
96	5% - 9% of mass 95	1193	7.03	
173	< 2% of mass 174	142	1.32	
174	> 50% and < 100% of mass 95	10730	63.21	
175	5% - 9% of mass 174	876	8.16	
176	> 95% and < 101% of mass 174	10692	99.65	
177	5% - 9% of mass 176	721	6.74	

Analyst: BJP Date: 06/14/10 Reviewer: LW Date: 06/14/10

CURTIS & TOMPKINS BFB TUNE FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : BFB IDF : 1.0
Seqnum : 940251064011 File : mfn11 Time : 23-JUN-2010 12:49

Standards: S13652

Mass	Ion Abundance Criteria	Abundance	% Relative Abundance	Q
50	15% - 40% of mass 95	8680	20.34	
75	30% - 60% of mass 95	23653	55.43	
95		42675	100.00	
96	5% - 9% of mass 95	3293	7.72	
173	< 2% of mass 174	294	0.86	
174	> 50% and < 100% of mass 95	34029	79.74	
175	5% - 9% of mass 174	2821	8.29	
176	> 95% and < 101% of mass 174	32357	95.09	
177	5% - 9% of mass 176	1968	6.08	

Analyst: PDM Date: 06/24/10 Reviewer: LW Date: 06/24/10

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 MSVOA Water: EPA 8260B

Inst : MSVOA08
 Calnum : 470241127001
 Units : ug/L

Name : 826GOX8
 Date : 16-JUN-2010 20:57
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	hfg08	470241127008	.25/.5PPB	16-JUN-2010 20:57	S14834 (200000X), S14738 (200000X), S14742 (200000X), S14739 (100000X), S14572 (5000X)
L2	hfg09	470241127009	0.5/1PPB	16-JUN-2010 21:34	S14834 (100000X), S14738 (100000X), S14742 (100000X), S14739 (50000X), S14572 (5000X)
L3	hfg10	470241127010	2PPB	16-JUN-2010 22:11	S14834 (25000X), S14738 (25000X), S14742 (50000X), S14739 (25000X), S14572 (5000X)
L4	hfg11	470241127011	5PPB	16-JUN-2010 22:49	S14834 (10000X), S14738 (10000X), S14742 (20000X), S14739 (10000X), S14572 (5000X)
L5	hfg12	470241127012	10PPB	16-JUN-2010 23:26	S14834 (5000X), S14738 (5000X), S14742 (10000X), S14739 (5000X), S14572 (5000X)
L6	hfg13	470241127013	20PPB	17-JUN-2010 00:03	S14722 (25000X), S14747 (25000X), S14228 (50000X), S14230 (25000X), S14572 (5000X)
L7	hfg14	470241127014	50PPB	17-JUN-2010 00:40	S14722 (10000X), S14747 (10000X), S14228 (20000X), S14230 (10000X), S14572 (5000X)
L8	hfg15	470241127015	75PPB	17-JUN-2010 01:18	S14722 (6667X), S14747 (6667X), S14228 (13330X), S14230 (6667X), S14572 (5000X)
L9	hfg16	470241127016	100PPB	17-JUN-2010 01:55	S14722 (5000X), S14747 (5000X), S14228 (10000X), S14230 (5000X), S14572 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.7902	0.8465	0.9431	0.9960	1.0436	1.2796			QUAD	0.22121	1.02751	-0.00390	0.9832	1.000	15	0.05	0.99	
Chloromethane		1.4024	1.6485	1.4210	1.4711	1.4955	1.5463	1.4564	1.4343	AVRG		0.67366		1.4844	5	15	0.10	0.99	
Vinyl Chloride	1.0624	0.9914	1.0700	1.1277	1.1155	1.1624	1.2181	1.1981	1.2019	AVRG		0.88690		1.1275	7	15	0.05	0.99	
Bromomethane		0.7702	0.7727	0.7027	0.6239	0.6428	0.6496	0.6319	0.6343	AVRG		1.47382		0.6785	9	15	0.05	0.99	
Chloroethane		0.5847	0.5314	0.5741	0.5566	0.5949	0.6187	0.5723	0.6057	AVRG		1.72472		0.5798	5	15	0.05	0.99	
Trichlorofluoromethane		0.9326	0.9582	1.0016	1.1115	0.9715	1.1015	1.0345	1.1023	AVRG		0.97399		1.0267	7	15	0.05	0.99	
Acetone				0.2165m	0.2273m	0.1746m	0.1675	0.1744		LINR	-1.6635	5.94683		0.1921	0.997	15	0.05	0.99	
1,1-Dichloroethene		0.8054	0.5790	0.6020	0.6073	0.5328	0.5636	0.5485	0.5382	AVRG		1.67471		0.5971	15	15	0.05	0.99	
Iodomethane				0.3445	0.4009	0.7163	0.8476	0.8393	0.8039	LINR	3.25009	1.16873		0.6588	0.997	15	0.05	0.99	
Methylene Chloride		0.8812	0.8443	0.6607	0.6492	0.6240	0.6364	0.6268	0.6136	AVRG		1.44504		0.6920	15	15	0.05	0.99	
Carbon Disulfide		3.4536	3.1823	3.1727	3.1805	2.8378	3.1369	3.0737	3.0447	AVRG		0.31895		3.1353	5	15	0.05	0.99	
MTBE		1.0664	1.1315	1.0932	1.0511	1.0475	1.1455	1.0758	1.0850	AVRG		0.91995		1.0870	3	15	0.05	0.99	
trans-1,2-Dichloroethene		0.9671	0.8550	0.7608	0.7133	0.7283	0.7498	0.6993	0.7399	AVRG		1.28751		0.7767	12	15	0.05	0.99	
Vinyl Acetate				0.6377	0.6366	0.6523	0.6270	0.5334	0.5616	AVRG		1.64450		0.6081	8	15	0.05	0.99	
1,1-Dichloroethane		1.6047	1.5333	1.5794	1.5826	1.5837	1.6739	1.5393	1.5821	AVRG		0.63096		1.5849	3	15	0.10	0.99	
2-Butanone			0.3051	0.2767	0.3018	0.2668	0.2739	0.2577	0.2540	AVRG		3.61574		0.2766	7	15	0.05	0.99	
2,2-Dichloropropane		1.0812	0.8479	0.9713	0.9444	0.8935	0.9413	0.8964	0.9110	AVRG		1.06852		0.9359	7	15	0.05	0.99	
cis-1,2-Dichloroethene		0.8704	0.7097	0.6509	0.7007	0.6846	0.7124	0.6861	0.7068	AVRG		1.39820		0.7152	9	15	0.05	0.99	
Chloroform		1.1542	1.0708	1.1284	1.1575	1.1218	1.1879	1.0977	1.1516	AVRG		0.88203		1.1337	3	15	0.05	0.99	
Bromochloromethane		0.1733	0.2089	0.2074	0.2206	0.2112	0.2219	0.2169	0.2264	AVRG		4.74309		0.2108	8	15	0.05	0.99	
1,1,1-Trichloroethane		0.8812	0.9239	0.9136	0.9322	0.9004	0.9528	0.8892	0.9424	AVRG		1.09057		0.9170	3	15	0.05	0.99	
1,1-Dichloropropene		0.6652	0.6204	0.6821	0.6505	0.6247	0.6153	0.6179	0.6644	AVRG		1.55624		0.6426	4	15	0.05	0.99	
Carbon Tetrachloride		0.4067	0.3487	0.3963	0.4098	0.3909	0.3895	0.3996	0.4373	AVRG		2.51667		0.3974	6	15	0.05	0.99	
1,2-Dichloroethane		0.3302	0.3771	0.4040	0.3768	0.3922	0.4018	0.3949	0.4116	AVRG		2.59013		0.3861	7	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.5731	1.5242	1.6265	1.4707	1.5365	1.5379	1.5764	1.5929	AVRG		0.64317		1.5548	3	15	0.05	0.99	
Trichloroethene		0.3987	0.4042	0.4686	0.4566	0.4708	0.4686	0.4649	0.4727	AVRG		2.21913		0.4506	7	15	0.05	0.99	
1,2-Dichloropropane		0.4170m	0.4104	0.4817m	0.4433	0.4284m	0.4403	0.4322m	0.4502	AVRG		2.28335		0.4380	5	15	0.05	0.99	
Bromodichloromethane		0.3962	0.3762	0.4031	0.3808	0.4103	0.4110	0.4163	0.4311	AVRG		2.48058		0.4031	5	15	0.05	0.99	
Dibromomethane		0.1660m	0.1562	0.1657	0.1550	0.1613	0.1666	0.1653	0.1718	AVRG		6.11683		0.1635	3	15	0.05	0.99	
4-Methyl-2-Pentanone			0.3644	0.3291	0.2937	0.3064	0.3129	0.3116	0.3133	AVRG		3.13698		0.3188	7	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5108	0.4688	0.4458	0.4596	0.4813	0.4993	0.4887	0.5055	AVRG		2.07275		0.4825	5	15	0.05	0.99	
Toluene		1.2437	1.1807	1.2232	1.3140	1.2316	1.3287	1.2463	1.2328	AVRG		0.79993		1.2501	4	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4878	0.5084	0.5120	0.5479	0.5012	0.5879	0.5558	0.5458	AVRG		1.88374		0.5309	6	15	0.05	0.99	
1,1,2-Trichloroethane		0.1661	0.1577	0.1910	0.1502	0.1668	0.1780	0.1659	0.1639	AVRG		5.97198		0.1674	7	15	0.05	0.99	
2-Hexanone			0.3448	0.2946	0.3052	0.3002	0.3051	0.3014	0.2885	AVRG		3.27126		0.3057	6	15	0.05	0.99	
1,3-Dichloropropane		0.5389	0.5308	0.5189	0.5232	0.5470	0.5411	0.5403	0.5102	AVRG		1.88219		0.5313	2	15	0.05	0.99	
Tetrachloroethene		0.4257	0.4586	0.4494	0.4484	0.4337	0.4486	0.4438	0.4372	AVRG		2.25641		0.4432	2	15	0.05	0.99	
Dibromochloromethane		0.2845	0.2303	0.2616	0.2823	0.2550	0.3052	0.2978	0.2932	AVRG		3.62015		0.2762	9	15	0.05	0.99	
1,2-Dibromoethane		0.2244	0.2667	0.2653	0.2718	0.2762	0.2979	0.2883	0.2839	AVRG		3.67906		0.2718	8	15	0.05	0.99	
Chlorobenzene		1.2925	1.0436	1.0789	1.1556	1.1549	1.1760	1.1582	1.1363	AVRG		0.86994		1.1495	6	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.2360	0.2689	0.2749	0.3047	0.2955	0.3351	0.3155	0.3286	AVRG		3.39097		0.2949	11	15	0.05	0.99	
Ethylbenzene		2.7390	2.4842	2.2945	2.5357	2.4573	2.5951	2.2830	2.3274	AVRG		0.40576		2.4645	6	15	0.05	0.99	
m,p-Xylenes	0.8218	0.8826	0.8297	0.7735	0.8510	0.8652	0.9120	0.8753	0.8611	AVRG		1.17307		0.8525	5	15	0.05	0.99	
o-Xylene		0.7009	0.7457	0.6688	0.7646	0.7641	0.8485	0.8169	0.7970	AVRG		1.31006		0.7633	8	15	0.05	0.99	
Styrene		1.0411	1.0101	1.0398	1.1568	1.1521	1.3295	1.2887	1.1817	AVRG		0.86958		1.1500	10	15	0.05	0.99	
Bromoform			0.0984	0.1229	0.1404	0.1277	0.1522	0.1499	0.1466	AVRG		7.46208		0.1340	14	15	0.10	0.99	
Isopropylbenzene		6.2485	5.8340	5.6210	6.3699	5.9274	5.8574	5.4793	5.9576	AVRG		0.16915		5.9119	5	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.7458	0.8598	0.8059	0.8111	0.8383	0.8500	0.8023	0.8711	AVRG		1.21503		0.8230	5	15	0.30	0.99	
1,2,3-Trichloropropane			0.1931	0.1626	0.2072	0.2035	0.2101	0.2054	0.2033	AVRG		5.05305		0.1979	8	15	0.05	0.99	
Propylbenzene		8.8142	8.3883	8.3033	9.0032	7.9804	8.2076	7.2338	7.4936	AVRG		0.12228		8.1781	7	15	0.05	0.99	
Bromobenzene		0.9901	0.8881	0.8554	0.9547	0.9091	0.9881	0.9052	1.0030	AVRG		1.06756		0.9367	6	15	0.05	0.99	
1,3,5-Trimethylbenzene		4.8495	4.6903	4.6850	4.9429	4.8650	4.7217	4.2442	4.5766	AVRG		0.21291		4.6969	5	15	0.05	0.99	
2-Chlorotoluene		5.0607	4.9414	4.9196	4.8964	4.6964	4.7923	4.2929	4.5816	AVRG		0.20953		4.7727	5	15	0.05	0.99	
4-Chlorotoluene		4.7147	4.2313	4.0146	4.6912	4.3406	4.5059	3.8911	4.2378	AVRG		0.23103		4.3284	7	15	0.05	0.99	
tert-Butylbenzene		3.5536	3.8643	3.8946	3.9722	3.8701	3.9444	3.5201	3.8643	AVRG		0.26244		3.8104	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		4.6356	4.1144	4.3060	4.5639	4.5249	4.7238	4.1215	4.5478	AVRG		0.22511		4.4422	5	15	0.05	0.99	
sec-Butylbenzene		6.6532	6.9216	6.7036	7.3872	6.8798	6.8784	6.0575	6.4650	AVRG		0.14830		6.7433	6	15	0.05	0.99	
para-Isopropyl Toluene		5.1624	4.9322	4.5746	5.2020	4.8963	4.9854	4.4026	4.9124	AVRG		0.20477		4.8835	6	15	0.05	0.99	
1,3-Dichlorobenzene		1.7458	1.9943	1.8089	1.9514	2.0088	2.0999	1.8642	2.0686	AVRG		0.51474		1.9427	6	15	0.05	0.99	
1,4-Dichlorobenzene		1.8213	2.0444	1.8631	1.9531	1.8842	1.9805	1.7967	1.9331	AVRG		0.52368		1.9096	4	15	0.05	0.99	
n-Butylbenzene		5.9364	5.0961	5.5801	5.9838	5.7915	5.4385	5.0551	5.3549	AVRG		0.18085		5.5295	6	15	0.05	0.99	
1,2-Dichlorobenzene		1.5586	1.5619	1.5153	1.6069	1.5511	1.6182	1.5375	1.7028	AVRG		0.63229		1.5815	4	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.1440	0.1163	0.1408	0.1363	0.1498	0.1387	0.1502	AVRG		7.17118		0.1394	8	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.6935	0.8409	0.8420	0.8699	0.8864	0.9594	0.9333	0.9307	AVRG		1.15007		0.8695	10	15	0.05	0.99	
Hexachlorobutadiene		0.3701	0.5748	0.5059	0.5723	0.5456	0.5506	0.5504	0.5640	AVRG		1.88958		0.5292	13	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		1.3312	1.3250	1.3963	1.5644	1.5464	1.7060	1.7416	1.7613	AVRG		0.64661		1.5465	12	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.6765	0.6512	0.6262	0.7774	0.7415	0.7839	0.7356	0.7554	AVRG		1.39184		0.7185	8	15	0.05	0.99	
Dibromofluoromethane	0.5247	0.5053	0.5196	0.5287	0.5101	0.5162	0.5196	0.5209	0.5106	AVRG		1.93310		0.5173	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.2672	0.2645	0.2593	0.2803	0.2510	0.2619	0.2383	0.2577	0.2460	AVRG		3.86876		0.2585	5	15	0.05	0.99	
Toluene-d8	1.7062	1.6916	1.6498	1.6995	1.7128	1.6937	1.7708	1.7481	1.6317	AVRG		0.58807		1.7005	3	15	0.05	0.99	
Bromofluorobenzene	1.3786	1.3418	1.3432	1.3464	1.3790	1.2858	1.3299	1.3205	1.3521	AVRG		0.74520		1.3419	2	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	3	2.000	-3	5.000	0	10.00	1	20.00	0	50.00	0				
Chloromethane			1.000	-6	2.000	11	5.000	-4	10.00	-1	20.00	1	50.00	4	75.00	-2	100.0	-3
Vinyl Chloride	0.500	-6	1.000	-12	2.000	-5	5.000	0	10.00	-1	20.00	3	50.00	8	75.00	6	100.0	7
Bromomethane			1.000	14	2.000	14	5.000	4	10.00	-8	20.00	-5	50.00	-4	75.00	-7	100.0	-7
Chloroethane			1.000	1	2.000	-8	5.000	-1	10.00	-4	20.00	3	50.00	7	75.00	-1	100.0	4
Trichlorofluoromethane			1.000	-9	2.000	-7	5.000	-2	10.00	8	20.00	-5	50.00	7	75.00	1	100.0	7
Acetone							5.000	-5	10.00	19	20.00	-4	50.00	-4	75.00	1		
1,1-Dichloroethene			0.500	35	2.000	-3	5.000	1	10.00	2	20.00	-11	50.00	-6	75.00	-8	100.0	-10
Iodomethane							5.000	5	10.00	-21	20.00	0	50.00	6	75.00	2	100.0	-3
Methylene Chloride			0.500	27	2.000	22	5.000	-5	10.00	-6	20.00	-10	50.00	-8	75.00	-9	100.0	-11
Carbon Disulfide			0.500	10	2.000	1	5.000	1	10.00	1	20.00	-9	50.00	0	75.00	-2	100.0	-3
MTBE			0.500	-2	2.000	4	5.000	1	10.00	-3	20.00	-4	50.00	5	75.00	-1	100.0	0
trans-1,2-Dichloroethene			0.500	25	2.000	10	5.000	-2	10.00	-8	20.00	-6	50.00	-3	75.00	-10	100.0	-5
Vinyl Acetate							5.000	5	10.00	5	20.00	7	50.00	3	75.00	-12	100.0	-8
1,1-Dichloroethane			0.500	1	2.000	-3	5.000	0	10.00	0	20.00	0	50.00	6	75.00	-3	100.0	0
2-Butanone					2.000	10	5.000	0	10.00	9	20.00	-4	50.00	-1	75.00	-7	100.0	-8
2,2-Dichloropropane			0.500	16	2.000	-9	5.000	4	10.00	1	20.00	-5	50.00	1	75.00	-4	100.0	-3
cis-1,2-Dichloroethene			0.500	22	2.000	-1	5.000	-9	10.00	-2	20.00	-4	50.00	0	75.00	-4	100.0	-1
Chloroform			0.500	2	2.000	-6	5.000	0	10.00	2	20.00	-1	50.00	5	75.00	-3	100.0	2
Bromochloromethane			0.500	-18	2.000	-1	5.000	-2	10.00	5	20.00	0	50.00	5	75.00	3	100.0	7
1,1,1-Trichloroethane			0.500	-4	2.000	1	5.000	0	10.00	2	20.00	-2	50.00	4	75.00	-3	100.0	3
1,1-Dichloropropene			0.500	4	2.000	-3	5.000	6	10.00	1	20.00	-3	50.00	-4	75.00	-4	100.0	3
Carbon Tetrachloride			0.500	2	2.000	-12	5.000	0	10.00	3	20.00	-2	50.00	-2	75.00	1	100.0	10
1,2-Dichloroethane			0.500	-14	2.000	-2	5.000	5	10.00	-2	20.00	2	50.00	4	75.00	2	100.0	7
Benzene			0.500	1	2.000	-2	5.000	5	10.00	-5	20.00	-1	50.00	-1	75.00	1	100.0	2
Trichloroethene			0.500	-12	2.000	-10	5.000	4	10.00	1	20.00	4	50.00	4	75.00	3	100.0	5
1,2-Dichloropropane			0.500	-5	2.000	-6	5.000	10	10.00	1	20.00	-2	50.00	1	75.00	-1	100.0	3
Bromodichloromethane			0.500	-2	2.000	-7	5.000	0	10.00	-6	20.00	2	50.00	2	75.00	3	100.0	7
Dibromomethane			0.500	2	2.000	-4	5.000	1	10.00	-5	20.00	-1	50.00	2	75.00	1	100.0	5
4-Methyl-2-Pentanone					2.000	14	5.000	3	10.00	-8	20.00	-4	50.00	-2	75.00	-2	100.0	-2
cis-1,3-Dichloropropene			0.500	6	2.000	-3	5.000	-8	10.00	-5	20.00	0	50.00	3	75.00	1	100.0	5
Toluene			0.500	-1	2.000	-6	5.000	-2	10.00	5	20.00	-1	50.00	6	75.00	0	100.0	-1
trans-1,3-Dichloropropene			0.500	-8	2.000	-4	5.000	-4	10.00	3	20.00	-6	50.00	11	75.00	5	100.0	3
1,1,2-Trichloroethane			0.500	-1	2.000	-6	5.000	14	10.00	-10	20.00	0	50.00	6	75.00	-1	100.0	-2
2-Hexanone					2.000	13	5.000	-4	10.00	0	20.00	-2	50.00	0	75.00	-1	100.0	-6
1,3-Dichloropropane			0.500	1	2.000	0	5.000	-2	10.00	-2	20.00	3	50.00	2	75.00	2	100.0	-4
Tetrachloroethene			0.500	-4	2.000	3	5.000	1	10.00	1	20.00	-2	50.00	1	75.00	0	100.0	-1
Dibromochloromethane			0.500	3	2.000	-17	5.000	-5	10.00	2	20.00	-8	50.00	10	75.00	8	100.0	6
1,2-Dibromoethane			0.500	-17	2.000	-2	5.000	-2	10.00	0	20.00	2	50.00	10	75.00	6	100.0	4
Chlorobenzene			0.500	12	2.000	-9	5.000	-6	10.00	1	20.00	0	50.00	2	75.00	1	100.0	-1
1,1,1,2-Tetrachloroethane			0.500	-20	2.000	-9	5.000	-7	10.00	3	20.00	0	50.00	14	75.00	7	100.0	11
Ethylbenzene			0.500	11	2.000	1	5.000	-7	10.00	3	20.00	0	50.00	5	75.00	-7	100.0	-6

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	-4	1.000	4	4.000	-3	10.00	-9	20.00	0	40.00	1	100.0	7	150.0	3	200.0	1
o-Xylene			0.500	-8	2.000	-2	5.000	-12	10.00	0	20.00	0	50.00	11	75.00	7	100.0	4
Styrene			0.500	-9	2.000	-12	5.000	-10	10.00	1	20.00	0	50.00	16	75.00	12	100.0	3
Bromoform					2.000	-27	5.000	-8	10.00	5	20.00	-5	50.00	14	75.00	12	100.0	9
Isopropylbenzene			0.500	6	2.000	-1	5.000	-5	10.00	8	20.00	0	50.00	-1	75.00	-7	100.0	1
1,1,2,2-Tetrachloroethane			0.500	-9	2.000	4	5.000	-2	10.00	-1	20.00	2	50.00	3	75.00	-3	100.0	6
1,2,3-Trichloropropane					2.000	-2	5.000	-18	10.00	5	20.00	3	50.00	6	75.00	4	100.0	3
Propylbenzene			0.500	8	2.000	3	5.000	2	10.00	10	20.00	-2	50.00	0	75.00	-12	100.0	-8
Bromobenzene			0.500	6	2.000	-5	5.000	-9	10.00	2	20.00	-3	50.00	5	75.00	-3	100.0	7
1,3,5-Trimethylbenzene			0.500	3	2.000	0	5.000	0	10.00	5	20.00	4	50.00	1	75.00	-10	100.0	-3
2-Chlorotoluene			0.500	6	2.000	4	5.000	3	10.00	3	20.00	-2	50.00	0	75.00	-10	100.0	-4
4-Chlorotoluene			0.500	9	2.000	-2	5.000	-7	10.00	8	20.00	0	50.00	4	75.00	-10	100.0	-2
tert-Butylbenzene			0.500	-7	2.000	1	5.000	2	10.00	4	20.00	2	50.00	4	75.00	-8	100.0	1
1,2,4-Trimethylbenzene			0.500	4	2.000	-7	5.000	-3	10.00	3	20.00	2	50.00	6	75.00	-7	100.0	2
sec-Butylbenzene			0.500	-1	2.000	3	5.000	-1	10.00	10	20.00	2	50.00	2	75.00	-10	100.0	-4
para-Isopropyl Toluene			0.500	6	2.000	1	5.000	-6	10.00	7	20.00	0	50.00	2	75.00	-10	100.0	1
1,3-Dichlorobenzene			0.500	-10	2.000	3	5.000	-7	10.00	0	20.00	3	50.00	8	75.00	-4	100.0	6
1,4-Dichlorobenzene			0.500	-5	2.000	7	5.000	-2	10.00	2	20.00	-1	50.00	4	75.00	-6	100.0	1
n-Butylbenzene			0.500	7	2.000	-8	5.000	1	10.00	8	20.00	5	50.00	-2	75.00	-9	100.0	-3
1,2-Dichlorobenzene			0.500	-1	2.000	-1	5.000	-4	10.00	2	20.00	-2	50.00	2	75.00	-3	100.0	8
1,2-Dibromo-3-Chloropropane					2.000	3	5.000	-17	10.00	1	20.00	-2	50.00	7	75.00	-1	100.0	8
1,2,4-Trichlorobenzene			0.500	-20	2.000	-3	5.000	-3	10.00	0	20.00	2	50.00	10	75.00	7	100.0	7
Hexachlorobutadiene			0.500	-30	2.000	9	5.000	-4	10.00	8	20.00	3	50.00	4	75.00	4	100.0	7
Naphthalene			0.500	-14	2.000	-14	5.000	-10	10.00	1	20.00	0	50.00	10	75.00	13	100.0	14
1,2,3-Trichlorobenzene			0.500	-6	2.000	-9	5.000	-13	10.00	8	20.00	3	50.00	9	75.00	2	100.0	5
Dibromofluoromethane	50.00	1	50.00	-2	50.00	0	50.00	2	50.00	-1	50.00	0	50.00	0	50.00	1	50.00	-1
1,2-Dichloroethane-d4	50.00	3	50.00	2	50.00	0	50.00	8	50.00	-3	50.00	1	50.00	-8	50.00	0	50.00	-5
Toluene-d8	50.00	0	50.00	-1	50.00	-3	50.00	0	50.00	1	50.00	0	50.00	4	50.00	3	50.00	-4
Bromofluorobenzene	50.00	3	50.00	0	50.00	0	50.00	0	50.00	3	50.00	-4	50.00	-1	50.00	-2	50.00	1

BJP 06/23/10 [2-Chloroethylvinylether]: DO NOT USE!

BJP 06/23/10 [1,2-Dichloropropane]: Separated from coeluting peak in multiple levels.

BJP 06/23/10 [Dibromomethane]: Combined split peak1PPB (hfg09).

BJP 06/23/10 [Ethyl tert-Butyl Ether (ETBE)]: Picked or reassigned peak1PPB (hfg09).

BJP 06/23/10 [Acetone]: Corrected baseline noise or negative peak in multiple levels.

LW 06/23/10 : Indexing error in hfg09. DO NOT USE FOR LEVEL IV!

Analyst: BJP

Date: 06/23/10

Reviewer: LW

Date: 06/23/10

m=manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor; LINR=Linear regression; QUAD=Quadratic regression

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470241127001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA08
Calnum : 470241127001

Name : 826GOX8
Cal Date : 16-JUN-2010

Type : WATER

ICV 470241127017 (hfg17 17-JUN-2010) stds: S14846 (10000X), S14572 (5000X)
ICV 470241127018 (hfg18 17-JUN-2010) stds: S14688 (10000X), S14573 (10000X),
S14594 (10000X), S14572 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	470241127017	25.00	22.46	ug/L	-10	25	
Chloromethane	470241127017	25.00	22.19	ug/L	-11	25	
Vinyl Chloride	470241127017	25.00	23.44	ug/L	-6	25	
Bromomethane	470241127017	25.00	20.46	ug/L	-18	25	
Chloroethane	470241127017	25.00	22.80	ug/L	-9	25	
Trichlorofluoromethane	470241127017	25.00	22.22	ug/L	-11	25	
Acetone	470241127018	25.00	23.45	ug/L	-6	25	
1,1-Dichloroethene	470241127018	25.00	23.49	ug/L	-6	25	
Iodomethane	470241127018	25.00	21.31	ug/L	-15	25	
Methylene Chloride	470241127018	25.00	22.52	ug/L	-10	25	
Carbon Disulfide	470241127018	25.00	20.48	ug/L	-18	25	
MTBE	470241127018	25.00	22.13	ug/L	-11	25	
trans-1,2-Dichloroethene	470241127018	25.00	23.26	ug/L	-7	25	
Vinyl Acetate	470241127018	25.00	18.52	ug/L	-26	25	v-
1,1-Dichloroethane	470241127018	25.00	23.92	ug/L	-4	25	
2-Butanone	470241127018	25.00	23.56	ug/L	-6	25	
2,2-Dichloropropane	470241127018	25.00	22.54	ug/L	-10	25	
cis-1,2-Dichloroethene	470241127018	25.00	24.58	ug/L	-2	25	
Chloroform	470241127018	25.00	25.17	ug/L	1	25	
Bromochloromethane	470241127018	25.00	24.00	ug/L	-4	25	
1,1,1-Trichloroethane	470241127018	25.00	26.63	ug/L	7	25	
1,1-Dichloropropene	470241127018	25.00	27.50	ug/L	10	25	
Carbon Tetrachloride	470241127018	25.00	28.70	ug/L	15	25	
1,2-Dichloroethane	470241127018	25.00	26.11	ug/L	4	25	
Benzene	470241127018	25.00	26.25	ug/L	5	25	
Trichloroethene	470241127018	25.00	27.15	ug/L	9	25	
1,2-Dichloropropane	470241127018	25.00	24.00	ug/L	-4	25	
Bromodichloromethane	470241127018	25.00	25.78	ug/L	3	25	
Dibromomethane	470241127018	25.00	26.38	ug/L	6	25	
4-Methyl-2-Pentanone	470241127018	25.00	23.62	ug/L	-6	25	
cis-1,3-Dichloropropene	470241127018	25.00	23.89	ug/L	-4	25	
Toluene	470241127018	25.00	26.14	ug/L	5	25	
trans-1,3-Dichloropropene	470241127018	25.00	23.04	ug/L	-8	25	
1,1,2-Trichloroethane	470241127018	25.00	25.54	ug/L	2	25	
2-Hexanone	470241127018	25.00	24.97	ug/L	0	25	
1,3-Dichloropropane	470241127018	25.00	24.74	ug/L	-1	25	
Tetrachloroethene	470241127018	25.00	27.09	ug/L	8	25	
Dibromochloromethane	470241127018	25.00	24.16	ug/L	-3	25	
1,2-Dibromoethane	470241127018	25.00	24.24	ug/L	-3	25	
Chlorobenzene	470241127018	25.00	26.11	ug/L	4	25	
1,1,1,2-Tetrachloroethane	470241127018	25.00	25.34	ug/L	1	25	
Ethylbenzene	470241127018	25.00	26.10	ug/L	4	25	
m,p-Xylenes	470241127018	50.00	54.07	ug/L	8	25	
o-Xylene	470241127018	25.00	25.98	ug/L	4	25	
Styrene	470241127018	25.00	27.39	ug/L	10	25	
Bromoform	470241127018	25.00	25.12	ug/L	0	25	
Isopropylbenzene	470241127018	25.00	25.06	ug/L	0	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	470241127018	25.00	24.97	ug/L	0	25	
1,2,3-Trichloropropane	470241127018	25.00	24.79	ug/L	-1	25	
Propylbenzene	470241127018	25.00	27.85	ug/L	11	25	
Bromobenzene	470241127018	25.00	25.87	ug/L	3	25	
1,3,5-Trimethylbenzene	470241127018	25.00	28.36	ug/L	13	25	
2-Chlorotoluene	470241127018	25.00	27.96	ug/L	12	25	
4-Chlorotoluene	470241127018	25.00	26.89	ug/L	8	25	
tert-Butylbenzene	470241127018	25.00	28.11	ug/L	12	25	
1,2,4-Trimethylbenzene	470241127018	25.00	27.67	ug/L	11	25	
sec-Butylbenzene	470241127018	25.00	29.48	ug/L	18	25	
para-Isopropyl Toluene	470241127018	25.00	27.49	ug/L	10	25	
1,3-Dichlorobenzene	470241127018	25.00	27.20	ug/L	9	25	
1,4-Dichlorobenzene	470241127018	25.00	26.52	ug/L	6	25	
n-Butylbenzene	470241127018	25.00	27.87	ug/L	11	25	
1,2-Dichlorobenzene	470241127018	25.00	26.99	ug/L	8	25	
1,2-Dibromo-3-Chloropropane	470241127018	25.00	24.72	ug/L	-1	25	
1,2,4-Trichlorobenzene	470241127018	25.00	26.93	ug/L	8	25	
Hexachlorobutadiene	470241127018	25.00	27.45	ug/L	10	25	
Naphthalene	470241127018	25.00	27.20	ug/L	9	25	
1,2,3-Trichlorobenzene	470241127018	25.00	27.30	ug/L	9	25	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 MSVOA Water: EPA 8260B

Inst : MSVOA09
 Calnum : 480169480001
 Units : ug/L

Name : 826GOX9W
 Date : 27-APR-2010 19:48
 X Axis : R

Type : WATER

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	idr06	480169480006	.25/.5PPB	27-APR-2010 19:48	S14416 (20000X), S14417 (20000X), S14419 (10000X), S14420 (20000X), S14481 (5000X)
L2	idr07	480169480007	.5/1PPB	27-APR-2010 20:21	S14416 (10000X), S14417 (10000X), S14419 (5000X), S14420 (10000X), S14481 (5000X)
L3	idr08	480169480008	2PPB	27-APR-2010 20:55	S14416 (25000X), S14417 (25000X), S14419 (25000X), S14420 (50000X), S14481 (5000X)
L4	idr09	480169480009	5PPB	27-APR-2010 21:28	S14416 (10000X), S14417 (10000X), S14419 (10000X), S14420 (20000X), S14481 (5000X)
L5	idr10	480169480010	10PPB	27-APR-2010 22:02	S14416 (5000X), S14417 (5000X), S14419 (5000X), S14420 (10000X), S14481 (5000X)
L6	idr11	480169480011	20PPB	27-APR-2010 22:36	S14415 (25000X), S14386 (25000X), S14050 (25000X), S14228 (50000X), S14481 (5000X)
L7	idr12	480169480012	50PPB	27-APR-2010 23:09	S14415 (10000X), S14386 (10000X), S14050 (10000X), S14228 (20000X), S14481 (5000X)
L8	idr13	480169480013	75PPB	27-APR-2010 23:44	S14415 (6667X), S14386 (6667X), S14050 (6667X), S14228 (13330X), S14481 (5000X)
L9	idr14	480169480014	100PPB	28-APR-2010 00:19	S14415 (5000X), S14386 (5000X), S14050 (5000X), S14228 (10000X), S14481 (5000X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r ² %RSD	Max %RSD	Min RF	Min r ²	Flg
Freon 12		0.4375	0.5066	0.4988	0.5257	0.6146	0.5617	0.5581	0.5625	AVRG		1.87551		0.5332	10	15	0.05	0.99	
Chloromethane		0.7916	0.7758	0.8835	0.7228	0.7854	0.7010	0.7147	0.7234	AVRG		1.31189		0.7623	8	15	0.10	0.99	
Vinyl Chloride	0.4016	0.5600	0.5625	0.6221	0.5872	0.6291	0.5817	0.5581	0.5507	AVRG		1.78113		0.5614	12	15	0.05	0.99	
Bromomethane		0.2971m	0.3196	0.3676	0.3211	0.3739	0.3592	0.3491	0.3652	AVRG		2.90603		0.3441	8	15	0.05	0.99	
Chloroethane		0.3651	0.3545	0.4003	0.3826	0.3848	0.3543	0.3672	0.3708	AVRG		2.68487		0.3725	4	15	0.05	0.99	
Trichlorofluoromethane		0.5445	0.6350	0.6278	0.6386	0.6924	0.6147	0.6082	0.5994	AVRG		1.61272		0.6201	7	15	0.05	0.99	
Acetone			0.1456	0.1281	0.1239	0.1054	0.1019	0.1059	0.0961	AVRG		8.67461		0.1153	15	15	0.05	0.99	
1,1-Dichloroethene		0.3811	0.3677	0.3884	0.3910	0.3823	0.3904	0.3908	0.3925	AVRG		2.59382		0.3855	2	15	0.05	0.99	
Iodomethane			0.1773	0.2772	0.3123	0.4229	0.4536	0.4917		QUAD	1.73528	2.32663	-0.00918	0.3558	1.000	15	0.05	0.99	
Methylene Chloride		0.4566	0.4476	0.5236	0.4642	0.4522	0.4535	0.4599	0.4561	AVRG		2.15428		0.4642	5	15	0.05	0.99	
Carbon Disulfide		1.5830	1.5499	1.7075	1.6648	1.6414	1.6252	1.5959	1.6084	AVRG		0.61653		1.6220	3	15	0.05	0.99	
MTBE		0.8117	0.9156	0.9409	0.9114	0.9105	0.8972	0.8880	0.8280	AVRG		1.12624		0.8879	5	15	0.05	0.99	
trans-1,2-Dichloroethene		0.4398	0.4184	0.4693	0.4385	0.4397	0.4267	0.4216	0.4288	AVRG		2.29701		0.4353	4	15	0.05	0.99	
Vinyl Acetate		0.7750	0.8225	0.8854	0.8923	0.8427	0.8668	0.8150	0.7143	AVRG		1.20954		0.8268	7	15	0.05	0.99	
1,1-Dichloroethane		0.8632	0.8954	1.0222	0.9322	0.9484	0.8670	0.8608	0.8326	AVRG		1.10775		0.9027	7	15	0.10	0.99	
2-Butanone			0.1764	0.1858	0.1835	0.1567	0.1558	0.1534	0.1353	AVRG		6.10382		0.1638	11	15	0.05	0.99	
2,2-Dichloropropane		0.6073	0.6034	0.6309	0.5908	0.5608	0.5375	0.5320	0.4958	AVRG		1.75498		0.5698	8	15	0.05	0.99	
cis-1,2-Dichloroethene		0.4610	0.4465	0.5310	0.4856	0.4837	0.4700	0.4596	0.4577	AVRG		2.10802		0.4744	6	15	0.05	0.99	
Chloroform		0.7708	0.7476	0.8722	0.7855	0.7786	0.7504	0.7428	0.7273	AVRG		1.29549		0.7719	6	15	0.05	0.99	
Bromochloromethane		0.2009	0.1912	0.2241	0.2010	0.1993	0.1996	0.2021	0.1991	AVRG		4.94650		0.2022	5	15	0.05	0.99	
1,1,1-Trichloroethane		0.5672	0.5415	0.6117	0.5832	0.5471	0.5593	0.5484	0.5355	AVRG		1.78021		0.5617	5	15	0.05	0.99	
1,1-Dichloropropene		0.4364	0.3906	0.4098	0.3938	0.3632	0.3912	0.3709	0.3592	AVRG		2.56815		0.3894	7	15	0.05	0.99	
Carbon Tetrachloride		0.3790	0.3085	0.3295	0.3191	0.2890	0.3073	0.2980	0.2908	AVRG		3.17294		0.3152	9	15	0.05	0.99	
1,2-Dichloroethane		0.3252	0.3145	0.3570	0.3340	0.3189	0.3241	0.3136	0.2883	AVRG		3.10612		0.3219	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r ² %RSD	Max %RSD	Min RF	Min r ²	Flg
Benzene		1.0862	1.0288	1.1893	1.0717	1.0474	1.0221	0.9679	0.9133	AVRG		0.96076		1.0408	8	15	0.05	0.99	
Trichloroethene		0.2887	0.2594	0.2931	0.2804	0.2658	0.2742	0.2715	0.2600	AVRG		3.64773		0.2741	5	15	0.05	0.99	
1,2-Dichloropropane		0.3625	0.3295	0.3757	0.3430	0.3438	0.3327	0.3265	0.3055	AVRG		2.94206		0.3399	6	15	0.05	0.99	
Bromodichloromethane		0.3275	0.3410	0.3846	0.3628	0.3480	0.3562	0.3567	0.3270	AVRG		2.85338		0.3505	5	15	0.05	0.99	
Dibromomethane		0.1470	0.1486	0.1635	0.1527	0.1485	0.1548	0.1532	0.1426	AVRG		6.60635		0.1514	4	15	0.05	0.99	
4-Methyl-2-Pentanone		0.2321	0.2442	0.2363	0.2585	0.2215	0.2391	0.2448	0.2134	AVRG		4.23314		0.2362	6	15	0.05	0.99	
cis-1,3-Dichloropropene		0.4067	0.4127	0.4727	0.4374	0.4148	0.4335	0.4211	0.3834	AVRG		2.36530		0.4228	6	15	0.05	0.99	
Toluene		0.8762	0.8094	0.9168	0.8556	0.8095	0.8290	0.7987	0.7626	AVRG		1.20161		0.8322	6	15	0.05	0.99	
trans-1,3-Dichloropropene		0.4508	0.4528	0.5154	0.4850	0.4717	0.4790	0.4637	0.4304	AVRG		2.13396		0.4686	5	15	0.05	0.99	
1,1,2-Trichloroethane		0.1365	0.1365	0.1458	0.1455	0.1403	0.1424	0.1420	0.1339	AVRG		7.12360		0.1404	3	15	0.05	0.99	
2-Hexanone		0.2079	0.2135	0.2125	0.2335	0.2019	0.2211	0.2143	0.1874	AVRG		4.72733		0.2115	6	15	0.05	0.99	
1,3-Dichloropropane		0.4286	0.4585	0.4976	0.4831	0.4573	0.4713	0.4519	0.4219	AVRG		2.17970		0.4588	6	15	0.05	0.99	
Tetrachloroethene		0.3066	0.3027	0.3242	0.3127	0.2859	0.3214	0.3199	0.3191	AVRG		3.20955		0.3116	4	15	0.05	0.99	
Dibromochloromethane		0.2850	0.2737	0.3206	0.3125	0.3083	0.3155	0.3164	0.2983	AVRG		3.29187		0.3038	6	15	0.05	0.99	
1,2-Dibromoethane		0.2262	0.2463	0.2652	0.2637	0.2563	0.2713	0.2696	0.2486	AVRG		3.90780		0.2559	6	15	0.05	0.99	
Chlorobenzene		0.8142	0.8330	0.9469	0.8751	0.8590	0.8750	0.8484	0.8087	AVRG		1.16612		0.8575	5	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3053	0.2861	0.3278	0.3047	0.3003	0.3035	0.3125	0.2958	AVRG		3.28411		0.3045	4	15	0.05	0.99	
Ethylbenzene		1.5630	1.5004	1.6945	1.5908	1.4670	1.4531	1.3688	1.2197	AVRG		0.67469		1.4822	10	15	0.05	0.99	
m,p-Xylenes	0.5984	0.5460	0.5243	0.5962	0.5616	0.5325	0.5423	0.4840	0.4345	AVRG		1.86724		0.5355	10	15	0.05	0.99	
o-Xylene		0.5140	0.5113	0.5961	0.5656	0.5388	0.5604	0.5273	0.5061	AVRG		1.85202		0.5400	6	15	0.05	0.99	
Styrene		0.9078	0.9210	1.0645	0.9772	0.9775	0.9855	0.9166	0.8706	AVRG		1.04977		0.9526	6	15	0.05	0.99	
Bromoform		0.1395	0.1596	0.1742	0.1753	0.1732	0.1907	0.1923	0.1820	AVRG		5.76847		0.1734	10	15	0.10	0.99	
Isopropylbenzene		3.0305	2.8815	3.1900	3.0250	2.7480	2.8097	2.7103	2.4892	AVRG		0.34958		2.8605	8	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.5870	0.5995	0.6497	0.6383	0.6132	0.6405	0.6285	0.5744	AVRG		1.62235		0.6164	4	15	0.30	0.99	
1,2,3-Trichloropropane		0.1395	0.1508	0.1598	0.1515	0.1453	0.1515	0.1452	0.1381	AVRG		6.76984		0.1477	5	15	0.05	0.99	
Propylbenzene		3.8643	3.6217	3.9896	3.7128	3.4128	3.3992	3.0185	2.6641	AVRG		0.28899		3.4604	13	15	0.05	0.99	
Bromobenzene		0.7318	0.6998	0.7987	0.7402	0.7397	0.7615	0.7408	0.6736	AVRG		1.35911		0.7358	5	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.4206	2.2628	2.6233	2.3450	2.2256	2.1936	1.9925	1.8075	AVRG		0.44765		2.2339	11	15	0.05	0.99	
2-Chlorotoluene		2.5899	2.4509	2.8053	2.4785	2.3645	2.2023	1.9895	1.7838	AVRG		0.42862		2.3331	14	15	0.05	0.99	
4-Chlorotoluene		2.4331	2.2233	2.5697	2.3089	2.2271	2.1762	2.1123	1.9426	AVRG		0.44461		2.2491	9	15	0.05	0.99	
tert-Butylbenzene		1.9417	1.8155	2.0051	1.9426	1.7739	1.8532	1.8352	1.7653	AVRG		0.53575		1.8666	5	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.3920	2.2739	2.5670	2.3055	2.2659	2.2821	2.1895	2.0021	AVRG		0.43768		2.2848	7	15	0.05	0.99	
sec-Butylbenzene		2.9421	2.9728	3.2620	3.0792	2.7616	2.9170	2.8275	2.6453	AVRG		0.34177		2.9259	7	15	0.05	0.99	
para-Isopropyl Toluene		2.2299	2.1922	2.3790	2.3055	2.0855	2.2907	2.1701	2.0847	AVRG		0.45102		2.2172	5	15	0.05	0.99	
1,3-Dichlorobenzene		1.2599	1.2333	1.4128	1.2989	1.2878	1.3101	1.3404	1.2699	AVRG		0.76826		1.3016	4	15	0.05	0.99	
1,4-Dichlorobenzene		1.3633	1.2509	1.4724	1.3371	1.3050	1.3582	1.3582	1.2718	AVRG		0.74649		1.3396	5	15	0.05	0.99	
n-Butylbenzene		2.1569	2.1238	2.3069	2.1886	2.0121	2.1909	2.0726	1.9797	AVRG		0.46972		2.1289	5	15	0.05	0.99	
1,2-Dichlorobenzene		1.1375	1.1196	1.2908	1.2159	1.1892	1.2002	1.2177	1.1503	AVRG		0.84024		1.1901	5	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane		0.1101	0.0991	0.1038	0.1097	0.0960	0.1032	0.1035	0.0917	AVRG		9.78933		0.1022	6	15	0.05	0.99	
1,2,4-Trichlorobenzene		0.5980	0.6069	0.6824	0.6573	0.6592	0.7157	0.7450	0.7195	AVRG		1.48585		0.6730	8	15	0.05	0.99	
Hexachlorobutadiene		0.3610	0.3333	0.3640	0.3622	0.3164	0.3616	0.3686	0.3768	AVRG		2.81305		0.3555	6	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	a0	a1	a2	Avg	r ² %RSD	Max %RSD	Min RF	Min r ²	Flg
Naphthalene		0.9384	1.0490	1.1997	1.1816	1.1552	1.2732	1.2736	1.1982	AVRG		0.86311		1.1586	10	15	0.05	0.99	
1,2,3-Trichlorobenzene		0.4785	0.5260	0.5921	0.5815	0.5932	0.6412	0.6611	0.6337	AVRG		1.69946		0.5884	10	15	0.05	0.99	
Dibromofluoromethane	0.5429	0.5465	0.5597	0.5580	0.5647	0.5516	0.5483	0.5457	0.5289	AVRG		1.81954		0.5496	2	15	0.05	0.99	
1,2-Dichloroethane-d4	0.3196	0.3309	0.3386	0.3347	0.3378	0.3155	0.3053	0.2815	0.2609	AVRG		3.18586		0.3139	9	15	0.05	0.99	
Toluene-d8	1.4291	1.4829	1.4454	1.4459	1.4167	1.4831	1.4460	1.4489	1.4061	AVRG		0.69209		1.4449	2	15	0.05	0.99	
Bromofluorobenzene	1.0741	1.0717	1.0759	1.0842	1.0614	1.0834	1.0378	1.0381	0.9919	AVRG		0.94553		1.0576	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-18	2.000	-5	5.000	-6	10.00	-1	20.00	15	50.00	5	75.00	5	100.0	5
Chloromethane			1.000	4	2.000	2	5.000	16	10.00	-5	20.00	3	50.00	-8	75.00	-6	100.0	-5
Vinyl Chloride	0.500	-28	1.000	0	2.000	0	5.000	11	10.00	5	20.00	12	50.00	4	75.00	-1	100.0	-2
Bromomethane			1.000	-14	2.000	-7	5.000	7	10.00	-7	20.00	9	50.00	4	75.00	1	100.0	6
Chloroethane			1.000	-2	2.000	-5	5.000	7	10.00	3	20.00	3	50.00	-5	75.00	-1	100.0	0
Trichlorofluoromethane			1.000	-12	2.000	2	5.000	1	10.00	3	20.00	12	50.00	-1	75.00	-2	100.0	-3
Acetone					2.000	26	5.000	11	10.00	7	20.00	-9	50.00	-12	75.00	-8	100.0	-17
1,1-Dichloroethene			0.500	-1	2.000	-5	5.000	1	10.00	1	20.00	-1	50.00	1	75.00	1	100.0	2
Iodomethane					2.000	28	5.000	-1	10.00	-11	20.00	4	50.00	0	75.00	0		
Methylene Chloride			0.500	-2	2.000	-4	5.000	13	10.00	0	20.00	-3	50.00	-2	75.00	-1	100.0	-2
Carbon Disulfide			0.500	-2	2.000	-4	5.000	5	10.00	3	20.00	1	50.00	0	75.00	-2	100.0	-1
MTBE			0.500	-9	2.000	3	5.000	6	10.00	3	20.00	3	50.00	1	75.00	0	100.0	-7
trans-1,2-Dichloroethene			0.500	1	2.000	-4	5.000	8	10.00	1	20.00	1	50.00	-2	75.00	-3	100.0	-2
Vinyl Acetate			0.500	-6	2.000	-1	5.000	7	10.00	8	20.00	2	50.00	5	75.00	-1	100.0	-14
1,1-Dichloroethane			0.500	-4	2.000	-1	5.000	13	10.00	3	20.00	5	50.00	-4	75.00	-5	100.0	-8
2-Butanone					2.000	8	5.000	13	10.00	12	20.00	-4	50.00	-5	75.00	-6	100.0	-17
2,2-Dichloropropane			0.500	7	2.000	6	5.000	11	10.00	4	20.00	-2	50.00	-6	75.00	-7	100.0	-13
cis-1,2-Dichloroethene			0.500	-3	2.000	-6	5.000	12	10.00	2	20.00	2	50.00	-1	75.00	-3	100.0	-4
Chloroform			0.500	0	2.000	-3	5.000	13	10.00	2	20.00	1	50.00	-3	75.00	-4	100.0	-6
Bromochloromethane			0.500	-1	2.000	-5	5.000	11	10.00	-1	20.00	-1	50.00	-1	75.00	0	100.0	-2
1,1,1-Trichloroethane			0.500	1	2.000	-4	5.000	9	10.00	4	20.00	-3	50.00	0	75.00	-2	100.0	-5
1,1-Dichloropropene			0.500	12	2.000	0	5.000	5	10.00	1	20.00	-7	50.00	0	75.00	-5	100.0	-8
Carbon Tetrachloride			0.500	20	2.000	-2	5.000	5	10.00	1	20.00	-8	50.00	-2	75.00	-5	100.0	-8
1,2-Dichloroethane			0.500	1	2.000	-2	5.000	11	10.00	4	20.00	-1	50.00	1	75.00	-3	100.0	-10
Benzene			0.500	4	2.000	-1	5.000	14	10.00	3	20.00	1	50.00	-2	75.00	-7	100.0	-12
Trichloroethene			0.500	5	2.000	-5	5.000	7	10.00	2	20.00	-3	50.00	0	75.00	-1	100.0	-5
1,2-Dichloropropane			0.500	7	2.000	-3	5.000	11	10.00	1	20.00	1	50.00	-2	75.00	-4	100.0	-10
Bromodichloromethane			0.500	-7	2.000	-3	5.000	10	10.00	4	20.00	-1	50.00	2	75.00	2	100.0	-7
Dibromomethane			0.500	-3	2.000	-2	5.000	8	10.00	1	20.00	-2	50.00	2	75.00	1	100.0	-6
4-Methyl-2-Pentanone			0.500	-2	2.000	3	5.000	0	10.00	9	20.00	-6	50.00	1	75.00	4	100.0	-10
cis-1,3-Dichloropropene			0.500	-4	2.000	-2	5.000	12	10.00	3	20.00	-2	50.00	3	75.00	0	100.0	-9
Toluene			0.500	5	2.000	-3	5.000	10	10.00	3	20.00	-3	50.00	0	75.00	-4	100.0	-8
trans-1,3-Dichloropropene			0.500	-4	2.000	-3	5.000	10	10.00	3	20.00	1	50.00	2	75.00	-1	100.0	-8
1,1,2-Trichloroethane			0.500	-3	2.000	-3	5.000	4	10.00	4	20.00	0	50.00	1	75.00	1	100.0	-5
2-Hexanone			0.500	-2	2.000	1	5.000	0	10.00	10	20.00	-5	50.00	5	75.00	1	100.0	-11
1,3-Dichloropropane			0.500	-7	2.000	0	5.000	8	10.00	5	20.00	0	50.00	3	75.00	-2	100.0	-8
Tetrachloroethene			0.500	-2	2.000	-3	5.000	4	10.00	0	20.00	-8	50.00	3	75.00	3	100.0	2
Dibromochloromethane			0.500	-6	2.000	-10	5.000	6	10.00	3	20.00	1	50.00	4	75.00	4	100.0	-2
1,2-Dibromoethane			0.500	-12	2.000	-4	5.000	4	10.00	3	20.00	0	50.00	6	75.00	5	100.0	-3
Chlorobenzene			0.500	-5	2.000	-3	5.000	10	10.00	2	20.00	0	50.00	2	75.00	-1	100.0	-6
1,1,1,2-Tetrachloroethane			0.500	0	2.000	-6	5.000	8	10.00	0	20.00	-1	50.00	0	75.00	3	100.0	-3
Ethylbenzene			0.500	5	2.000	1	5.000	14	10.00	7	20.00	-1	50.00	-2	75.00	-8	100.0	-18

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	12	1.000	2	4.000	-2	10.00	11	20.00	5	40.00	-1	100.0	1	150.0	-10	200.0	-19
o-Xylene			0.500	-5	2.000	-5	5.000	10	10.00	5	20.00	0	50.00	4	75.00	-2	100.0	-6
Styrene			0.500	-5	2.000	-3	5.000	12	10.00	3	20.00	3	50.00	3	75.00	-4	100.0	-9
Bromoform			0.500	-20	2.000	-8	5.000	0	10.00	1	20.00	0	50.00	10	75.00	11	100.0	5
Isopropylbenzene			0.500	6	2.000	1	5.000	12	10.00	6	20.00	-4	50.00	-2	75.00	-5	100.0	-13
1,1,2,2-Tetrachloroethane			0.500	-5	2.000	-3	5.000	5	10.00	4	20.00	-1	50.00	4	75.00	2	100.0	-7
1,2,3-Trichloropropane			0.500	-6	2.000	2	5.000	8	10.00	3	20.00	-2	50.00	3	75.00	-2	100.0	-6
Propylbenzene			0.500	12	2.000	5	5.000	15	10.00	7	20.00	-1	50.00	-2	75.00	-13	100.0	-23
Bromobenzene			0.500	-1	2.000	-5	5.000	9	10.00	1	20.00	1	50.00	4	75.00	1	100.0	-8
1,3,5-Trimethylbenzene			0.500	8	2.000	1	5.000	17	10.00	5	20.00	0	50.00	-2	75.00	-11	100.0	-19
2-Chlorotoluene			0.500	11	2.000	5	5.000	20	10.00	6	20.00	1	50.00	-6	75.00	-15	100.0	-24
4-Chlorotoluene			0.500	8	2.000	-1	5.000	14	10.00	3	20.00	-1	50.00	-3	75.00	-6	100.0	-14
tert-Butylbenzene			0.500	4	2.000	-3	5.000	7	10.00	4	20.00	-5	50.00	-1	75.00	-2	100.0	-5
1,2,4-Trimethylbenzene			0.500	5	2.000	0	5.000	12	10.00	1	20.00	-1	50.00	0	75.00	-4	100.0	-12
sec-Butylbenzene			0.500	1	2.000	2	5.000	11	10.00	5	20.00	-6	50.00	0	75.00	-3	100.0	-10
para-Isopropyl Toluene			0.500	1	2.000	-1	5.000	7	10.00	4	20.00	-6	50.00	3	75.00	-2	100.0	-6
1,3-Dichlorobenzene			0.500	-3	2.000	-5	5.000	9	10.00	0	20.00	-1	50.00	1	75.00	3	100.0	-2
1,4-Dichlorobenzene			0.500	2	2.000	-7	5.000	10	10.00	0	20.00	-3	50.00	1	75.00	1	100.0	-5
n-Butylbenzene			0.500	1	2.000	0	5.000	8	10.00	3	20.00	-5	50.00	3	75.00	-3	100.0	-7
1,2-Dichlorobenzene			0.500	-4	2.000	-6	5.000	8	10.00	2	20.00	0	50.00	1	75.00	2	100.0	-3
1,2-Dibromo-3-Chloropropane			0.500	8	2.000	-3	5.000	2	10.00	7	20.00	-6	50.00	1	75.00	1	100.0	-10
1,2,4-Trichlorobenzene			0.500	-11	2.000	-10	5.000	1	10.00	-2	20.00	-2	50.00	6	75.00	11	100.0	7
Hexachlorobutadiene			0.500	2	2.000	-6	5.000	2	10.00	2	20.00	-11	50.00	2	75.00	4	100.0	6
Naphthalene			0.500	-19	2.000	-9	5.000	4	10.00	2	20.00	0	50.00	10	75.00	10	100.0	3
1,2,3-Trichlorobenzene			0.500	-19	2.000	-11	5.000	1	10.00	-1	20.00	1	50.00	9	75.00	12	100.0	8
Dibromofluoromethane	50.00	-1	50.00	-1	50.00	2	50.00	2	50.00	3	50.00	0	50.00	0	50.00	-1	50.00	-4
1,2-Dichloroethane-d4	50.00	2	50.00	5	50.00	8	50.00	7	50.00	8	50.00	1	50.00	-3	50.00	-10	50.00	-17
Toluene-d8	50.00	-1	50.00	3	50.00	0	50.00	0	50.00	-2	50.00	3	50.00	0	50.00	0	50.00	-3
Bromofluorobenzene	50.00	2	50.00	1	50.00	2	50.00	3	50.00	0	50.00	2	50.00	-2	50.00	-2	50.00	-6

TDL 05/03/10 [Bromomethane]: Combined split peak1PPB (idr07).

TDL 05/03/10 [Isopropanol]: Combined split peak1PPB (idr07).

LW 05/03/10 [Iodomethane]: Does not meet 8260C criteria (ICV)

LW 05/03/10 [2-Chloroethylvinylether]: Does not meet 8260C criteria (ICV)

LW 05/03/10 [Cyclohexanone]: Does not meet 8260C criteria

Analyst: TDL

Date: 05/03/10

Reviewer: LW

Date: 05/03/10

m=manual integration

Instrument amount = $a_0 + \text{response} * a_1 + \text{response}^2 * a_2$; AVRG=Average response factor; QUAD=Quadratic regression

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480169480001

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA09
Calnum : 480169480001

Name : 826GOX9W
Cal Date : 27-APR-2010

Type : WATER

ICV 480169480016 (idr16 28-APR-2010) stds: S14323 (10000X), S14144 (10000X),
S14253 (10000X), S14481 (5000X)

ICV 480171128004 (ids04 28-APR-2010) stds: S14422 (10000X), S14481 (5000X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	480171128004	25.00	22.54	ug/L	-10	25	
Chloromethane	480171128004	25.00	23.58	ug/L	-6	25	
Vinyl Chloride	480171128004	25.00	23.81	ug/L	-5	25	
Bromomethane	480171128004	25.00	21.01	ug/L	-16	25	
Chloroethane	480171128004	25.00	26.24	ug/L	5	25	
Trichlorofluoromethane	480171128004	25.00	26.50	ug/L	6	25	
Acetone	480169480016	25.00	23.15	ug/L	-7	25	
1,1-Dichloroethene	480169480016	25.00	22.60	ug/L	-10	25	
Iodomethane	480169480016	25.00	10.89	ug/L	-56	25	v-
Methylene Chloride	480169480016	25.00	23.29	ug/L	-7	25	
Carbon Disulfide	480169480016	25.00	21.16	ug/L	-15	25	
MTBE	480169480016	25.00	22.62	ug/L	-10	25	
trans-1,2-Dichloroethene	480169480016	25.00	24.03	ug/L	-4	25	
Vinyl Acetate	480169480016	25.00	26.59	ug/L	6	25	
1,1-Dichloroethane	480169480016	25.00	23.62	ug/L	-6	25	
2-Butanone	480169480016	25.00	24.25	ug/L	-3	25	
2,2-Dichloropropane	480169480016	25.00	21.99	ug/L	-12	25	
cis-1,2-Dichloroethene	480169480016	25.00	24.38	ug/L	-2	25	
Chloroform	480169480016	25.00	23.65	ug/L	-5	25	
Bromochloromethane	480169480016	25.00	24.09	ug/L	-4	25	
1,1,1-Trichloroethane	480169480016	25.00	24.02	ug/L	-4	25	
1,1-Dichloropropene	480169480016	25.00	22.83	ug/L	-9	25	
Carbon Tetrachloride	480169480016	25.00	23.68	ug/L	-5	25	
1,2-Dichloroethane	480169480016	25.00	24.13	ug/L	-3	25	
Benzene	480169480016	25.00	24.40	ug/L	-2	25	
Trichloroethene	480169480016	25.00	23.90	ug/L	-4	25	
1,2-Dichloropropane	480169480016	25.00	23.16	ug/L	-7	25	
Bromodichloromethane	480169480016	25.00	24.52	ug/L	-2	25	
Dibromomethane	480169480016	25.00	25.65	ug/L	3	25	
4-Methyl-2-Pentanone	480169480016	25.00	25.08	ug/L	0	25	
cis-1,3-Dichloropropene	480169480016	25.00	25.07	ug/L	0	25	
Toluene	480169480016	25.00	24.94	ug/L	0	25	
trans-1,3-Dichloropropene	480169480016	25.00	22.39	ug/L	-10	25	
1,1,2-Trichloroethane	480169480016	25.00	25.35	ug/L	1	25	
2-Hexanone	480169480016	25.00	26.64	ug/L	7	25	
1,3-Dichloropropane	480169480016	25.00	25.41	ug/L	2	25	
Tetrachloroethene	480169480016	25.00	25.05	ug/L	0	25	
Dibromochloromethane	480169480016	25.00	25.46	ug/L	2	25	
1,2-Dibromoethane	480169480016	25.00	25.60	ug/L	2	25	
Chlorobenzene	480169480016	25.00	25.27	ug/L	1	25	
1,1,1,2-Tetrachloroethane	480169480016	25.00	24.86	ug/L	-1	25	
Ethylbenzene	480169480016	25.00	25.19	ug/L	1	25	
m,p-Xylenes	480169480016	50.00	52.09	ug/L	4	25	
o-Xylene	480169480016	25.00	25.90	ug/L	4	25	
Styrene	480169480016	25.00	25.99	ug/L	4	25	
Bromoform	480169480016	25.00	27.05	ug/L	8	25	
Isopropylbenzene	480169480016	25.00	23.03	ug/L	-8	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	480169480016	25.00	25.56	ug/L	2	25	
1,2,3-Trichloropropane	480169480016	25.00	25.44	ug/L	2	25	
Propylbenzene	480169480016	25.00	25.76	ug/L	3	25	
Bromobenzene	480169480016	25.00	26.14	ug/L	5	25	
1,3,5-Trimethylbenzene	480169480016	25.00	25.94	ug/L	4	25	
2-Chlorotoluene	480169480016	25.00	25.76	ug/L	3	25	
4-Chlorotoluene	480169480016	25.00	25.05	ug/L	0	25	
tert-Butylbenzene	480169480016	25.00	25.54	ug/L	2	25	
1,2,4-Trimethylbenzene	480169480016	25.00	25.99	ug/L	4	25	
sec-Butylbenzene	480169480016	25.00	26.44	ug/L	6	25	
para-Isopropyl Toluene	480169480016	25.00	24.78	ug/L	-1	25	
1,3-Dichlorobenzene	480169480016	25.00	25.32	ug/L	1	25	
1,4-Dichlorobenzene	480169480016	25.00	25.44	ug/L	2	25	
n-Butylbenzene	480169480016	25.00	26.09	ug/L	4	25	
1,2-Dichlorobenzene	480169480016	25.00	25.75	ug/L	3	25	
1,2-Dibromo-3-Chloropropane	480169480016	25.00	24.75	ug/L	-1	25	
1,2,4-Trichlorobenzene	480169480016	25.00	25.51	ug/L	2	25	
Hexachlorobutadiene	480169480016	25.00	24.57	ug/L	-2	25	
Naphthalene	480169480016	25.00	28.03	ug/L	12	25	
1,2,3-Trichlorobenzene	480169480016	25.00	27.14	ug/L	9	25	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 220709 MSVOA Water: EPA 8260B

Inst : MSVOA13
 Calnum : 940202186001
 Units : ug/L

Date : 20-MAY-2010 20:20

Level	File	Seqnum	Sample ID	Analyzed	Std
L1	mek12	940202186012	.25/.5PPB	20-MAY-2010 20:20	S14651 (20000X), S14417 (20000X), S14420 (20000X), S14574 (10000X), S14658 (2500X)
L2	mek13	940202186013	0.5/1PPB	20-MAY-2010 20:49	S14651 (10000X), S14417 (10000X), S14420 (10000X), S14574 (50000X), S14658 (2500X)
L3	mek14	940202186014	2PPB	20-MAY-2010 21:17	S14651 (25000X), S14417 (25000X), S14420 (50000X), S14574 (25000X), S14658 (2500X)
L4	mek15	940202186015	5PPB	20-MAY-2010 21:46	S14651 (10000X), S14417 (10000X), S14420 (20000X), S14574 (10000X), S14658 (2500X)
L5	mek16	940202186016	10PPB	20-MAY-2010 22:14	S14651 (5000X), S14417 (5000X), S14420 (10000X), S14574 (5000X), S14658 (2500X)
L6	mek17	940202186017	20PPB	20-MAY-2010 22:42	S14415 (25000X), S14386 (25000X), S14228 (50000X), S14158 (25000X), S14658 (2500X)
L7	mek18	940202186018	50PPB	20-MAY-2010 23:11	S14415 (10000X), S14386 (10000X), S14228 (20000X), S14158 (10000X), S14658 (2500X)
L8	mek19	940202186019	75PPB	20-MAY-2010 23:39	S14415 (6667X), S14386 (6667X), S14228 (13330X), S14158 (6667X), S14658 (2500X)
L9	mek20	940202186020	100PPB	21-MAY-2010 00:08	S14415 (5000X), S14386 (5000X), S14228 (10000X), S14158 (5000X), S14658 (2500X)

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Freon 12		0.6207	0.5838	0.6649	0.6860	0.7912	0.8488	0.8310	0.8209	AVRG	R		1.36814		0.7309	14	15	0.05	0.99	
Chloromethane		0.7068	0.6553	0.7333	0.8055	0.8634	0.8988	0.8936	0.8785	AVRG	R		1.24316		0.8044	12	15	0.10	0.99	
Vinyl Chloride	0.7561	0.8019	0.7712	0.8661	0.8744	0.9374	1.0053	1.0040	1.0014	AVRG	R		1.12250		0.8909	11	15	0.05	0.99	
Bromomethane		0.3338	0.3966	0.4162	0.4244	0.4282	0.4059	0.3840	0.4043	AVRG	R		2.50519		0.3992	8	15	0.05	0.99	
Chloroethane		0.4623	0.4522	0.4837	0.4870	0.5084	0.5146	0.5008	0.5093	AVRG	R		2.04171		0.4898	5	15	0.05	0.99	
Trichlorofluoromethane		0.8870	0.8131	0.9233	0.9498	0.9355	0.9804	0.9289	0.9327	AVRG	R		1.08834		0.9188	5	15	0.05	0.99	
Acetone			0.4242m	0.3903	0.3618	0.3501	0.3024	0.3102	0.2760	AVRG	R		2.89861		0.3450	15	15	0.05	0.99	
1,1-Dichloroethene		0.5830m	0.5196m	0.5076m	0.5260m	0.5146	0.4791	0.4753	0.4681	AVRG	R		1.96401		0.5092	7	15	0.05	0.99	
Iodomethane				0.1546	0.2033	0.2593	0.4125	0.4200	0.4593	QUAD	A	-1.7238	0.37728	9.812E-4	0.3182	0.998	15	0.05	0.99	
Methylene Chloride		0.6859	0.6558	0.6308	0.6387	0.6423	0.5841	0.5856	0.5742	AVRG	R		1.60084		0.6247	6	15	0.05	0.99	
Carbon Disulfide		2.0831	1.9579	1.9925	2.0372	2.0434	1.8813	1.9261	1.8479	AVRG	R		0.50731		1.9712	4	15	0.05	0.99	
MTBE		2.0694	2.1590	2.1357	2.1851	2.2273	2.0224	2.0569	2.0152	AVRG	R		0.47418		2.1089	4	15	0.05	0.99	
trans-1,2-Dichloroethene		0.4681m	0.6412m	0.5737m	0.5792	0.5994m	0.5424	0.5483	0.5344	AVRG	R		1.78302		0.5608	9	15	0.05	0.99	
Vinyl Acetate			1.5899	1.4761	1.6134	1.7650	1.6690	1.6626	1.6821	AVRG	R		0.61092		1.6369	6	15	0.05	0.99	
1,1-Dichloroethane		1.2529	1.2811	1.2825	1.3264	1.3520	1.2089	1.2378	1.1968	AVRG	R		0.78907		1.2673	4	15	0.10	0.99	
2-Butanone			0.5307m	0.5429m	0.5254m	0.5175m	0.4717	0.4656	0.4459	AVRG	R		2.00006		0.5000	8	15	0.05	0.99	
2,2-Dichloropropane		0.9422m	0.9694m	0.9620m	0.9768m	0.9320m	0.9013	0.8898	0.8933	AVRG	R		1.07140		0.9334	4	15	0.05	0.99	
cis-1,2-Dichloroethene		0.7800m	0.6959m	0.6414m	0.6814m	0.6828m	0.6242	0.6466	0.6170	AVRG	R		1.48995		0.6712	8	15	0.05	0.99	
Chloroform		0.9850	1.0973	1.0934	1.1400	1.1669	1.0631	1.0942	1.0593	AVRG	R		0.91962		1.0874	5	15	0.05	0.99	
Bromochloromethane		0.2360	0.2830	0.2799	0.2903	0.2850	0.2559	0.2631	0.2524	AVRG	R		3.72874		0.2682	7	15	0.05	0.99	
1,1,1-Trichloroethane		1.0569	0.9443	0.9704	1.0015	0.9661	0.9221	0.9493	0.9101	AVRG	R		1.03616		0.9651	5	15	0.05	0.99	
1,1-Dichloropropene		0.5176	0.4857	0.4966	0.5108	0.5008	0.4883	0.5134	0.4861	AVRG	R		2.00042		0.4999	3	15	0.05	0.99	
Carbon Tetrachloride		0.3725	0.4250	0.4225	0.4420	0.4265	0.4231	0.4411	0.4183	AVRG	R		2.37313		0.4214	5	15	0.05	0.99	
1,2-Dichloroethane		0.4749	0.5358	0.5362	0.5405	0.5517	0.5012	0.5220	0.4995	AVRG	R		1.92221		0.5202	5	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Benzene		1.5330	1.4859	1.5120	1.5540	1.5906	1.4879	1.5473	1.4785	AVRG	R		0.65632		1.5236	3	15	0.05	0.99	
Trichloroethene		0.3452	0.3380	0.3570	0.3747	0.3593	0.3425	0.3578	0.3389	AVRG	R		2.84365		0.3517	4	15	0.05	0.99	
1,2-Dichloropropane		0.3847	0.4276	0.4243	0.4361m	0.4448m	0.4107	0.4254m	0.4096m	AVRG	R		2.37864		0.4204	4	15	0.05	0.99	
Bromodichloromethane		0.4375	0.4666	0.4695	0.4890	0.5056	0.4698	0.4939	0.4729	AVRG	R		2.10258		0.4756	4	15	0.05	0.99	
Dibromomethane		0.2054	0.2259	0.2181	0.2292	0.2313	0.2134	0.2189	0.2095	AVRG	R		4.56695		0.2190	4	15	0.05	0.99	
4-Methyl-2-Pentanone			0.5563	0.5495	0.5438	0.5631	0.5119	0.5160	0.5011	AVRG	R		1.87080		0.5345	5	15	0.05	0.99	
cis-1,3-Dichloropropene		0.5623	0.6395	0.6190	0.6478	0.6683	0.6239	0.6451	0.6252	AVRG	R		1.59009		0.6289	5	15	0.05	0.99	
Toluene		1.6921	1.7145	1.6419	1.7495	1.7354	1.6280	1.6839	1.5946	AVRG	R		0.59524		1.6800	3	15	0.05	0.99	
trans-1,3-Dichloropropene		0.6046	0.6205	0.6291	0.6350	0.6622	0.6155	0.6318	0.6068	AVRG	R		1.59826		0.6257	3	15	0.05	0.99	
1,1,2-Trichloroethane		0.1839	0.1951	0.2035	0.2022	0.2088	0.1877	0.1943	0.1855	AVRG	R		5.12492		0.1951	5	15	0.05	0.99	
2-Hexanone			0.4220	0.4180	0.4173	0.4152	0.3812	0.3834	0.3652	AVRG	R		2.49792		0.4003	6	15	0.05	0.99	
1,3-Dichloropropane		0.6517	0.6708	0.6748	0.6912	0.7161	0.6567	0.6724	0.6407	AVRG	R		1.48853		0.6718	4	15	0.05	0.99	
Tetrachloroethene		0.3185	0.3340	0.3306	0.3517	0.3299	0.3249	0.3388	0.3234	AVRG	R		3.01688		0.3315	3	15	0.05	0.99	
Dibromochloromethane		0.3009	0.3377	0.3340	0.3483	0.3635	0.3469	0.3576	0.3442	AVRG	R		2.92692		0.3417	6	15	0.05	0.99	
1,2-Dibromoethane		0.2965	0.3538	0.3671	0.3525	0.3673	0.3412	0.3503	0.3360	AVRG	R		2.89354		0.3456	7	15	0.05	0.99	
Chlorobenzene		0.9838	1.0143	1.0272	1.0550	1.0640	0.9976	1.0317	0.9910	AVRG	R		0.97985		1.0206	3	15	0.30	0.99	
1,1,1,2-Tetrachloroethane		0.3218	0.3567	0.3333	0.3586	0.3590	0.3443	0.3589	0.3435	AVRG	R		2.88170		0.3470	4	15	0.05	0.99	
Ethylbenzene		1.9938	1.9169m	1.9192m	1.9906m	1.9496m	1.8867	1.9671	1.8648	AVRG	R		0.51651		1.9361	2	15	0.05	0.99	
m,p-Xylenes	0.6166	0.6577	0.6688	0.6786	0.7217	0.7209	0.7023	0.7338	0.7014	AVRG	R		1.45122		0.6891	5	15	0.05	0.99	
o-Xylene		0.6480	0.6310	0.6561	0.6972	0.7092	0.6840	0.7157	0.6856	AVRG	R		1.47415		0.6784	4	15	0.05	0.99	
Styrene		1.0580	1.1437	1.1524	1.2337	1.2661	1.2221	1.2811	1.2309	AVRG	R		0.83437		1.1985	6	15	0.05	0.99	
Bromoform		0.2064	0.2141	0.2291	0.2400	0.2568	0.2531	0.2649	0.2584	AVRG	R		4.16049		0.2404	9	15	0.10	0.99	
Isopropylbenzene		3.3630	3.4369	3.4563	3.5006	3.3397	3.2747	3.3878	3.2372	AVRG	R		0.29634		3.3745	3	15	0.05	0.99	
1,1,2,2-Tetrachloroethane		0.9987	1.0397	1.0276	1.0082	1.0169	0.9250	0.9369	0.9138	AVRG	R		1.01691		0.9834	5	15	0.30	0.99	
1,2,3-Trichloropropane		1.1331	1.1044	1.0664	1.0621	1.0294	0.9529	0.9565	0.9367	AVRG	R		0.97070		1.0302	7	15	0.05	0.99	
Propylbenzene		4.4394m	4.4068m	4.3807	4.5104	4.2339	4.1508	4.2797	4.0513	AVRG	R		0.23220		4.3066	4	15	0.05	0.99	
Bromobenzene		0.7893	0.7962	0.7925	0.7879	0.7883	0.7384	0.7656	0.7411	AVRG	R		1.29046		0.7749	3	15	0.05	0.99	
1,3,5-Trimethylbenzene		2.8633	2.8522	2.9209	3.0036	2.8832	2.7809	2.8899	2.7498	AVRG	R		0.34868		2.8680	3	15	0.05	0.99	
2-Chlorotoluene		2.9160m	2.9162m	2.9394	2.9685	2.8906	2.7401	2.8100	2.6889	AVRG	R		0.34981		2.8587	4	15	0.05	0.99	
4-Chlorotoluene		2.7315m	2.6877m	2.6732	2.6941	2.6721	2.5128	2.5876	2.4836	AVRG	R		0.38018		2.6303	3	15	0.05	0.99	
tert-Butylbenzene		2.3683m	2.4888m	2.5651	2.6293	2.4529	2.4420	2.5329	2.3865	AVRG	R		0.40270		2.4832	4	15	0.05	0.99	
1,2,4-Trimethylbenzene		2.9380	2.9085	3.0032	3.0755	3.0054	2.8972	2.9892	2.8551	AVRG	R		0.33795		2.9590	2	15	0.05	0.99	
sec-Butylbenzene		3.6863	3.8931	3.9316	4.0827	3.7750	3.8453	3.9276	3.6834	AVRG	R		0.25953		3.8531	4	15	0.05	0.99	
para-Isopropyl Toluene		3.0877m	3.1738	3.2140	3.2934	3.1250	3.1329	3.2259	3.0654	AVRG	R		0.31598		3.1648	2	15	0.05	0.99	
1,3-Dichlorobenzene		1.4066	1.5103	1.5760	1.6115	1.5884	1.5067	1.5506	1.4931	AVRG	R		0.65342		1.5304	4	15	0.05	0.99	
1,4-Dichlorobenzene		1.6731	1.6824	1.6526	1.6836	1.6723	1.5716	1.6114	1.5609	AVRG	R		0.61032		1.6385	3	15	0.05	0.99	
n-Butylbenzene		3.1020m	3.1692m	3.3104	3.3975	3.1589	3.1698	3.2415	3.0878	AVRG	R		0.31205		3.2046	3	15	0.05	0.99	
1,2-Dichlorobenzene		1.5047	1.5004	1.5244	1.5736	1.5410	1.4524	1.5065	1.4475	AVRG	R		0.66388		1.5063	3	15	0.05	0.99	
1,2-Dibromo-3-Chloropropane			0.2342m	0.2411m	0.2385m	0.2341m	0.2143	0.2111	0.2058	AVRG	R		4.43289		0.2256	6	15	0.05	0.99	
1,2,4-Trichlorobenzene		1.0460	1.1527	1.1143	1.1545	1.1506	1.1011	1.1470	1.1125	AVRG	R		0.89101		1.1223	3	15	0.05	0.99	
Hexachlorobutadiene		0.5217	0.5491	0.5174	0.5362	0.4943	0.5214	0.5356	0.5083	AVRG	R		1.91204		0.5230	3	15	0.05	0.99	

Analyte	L1	L2	L3	L4	L5	L6	L7	L8	L9	Type	X	a0	a1	a2	Avg	r^2 %RSD	Max %RSD	Min RF	Min r^2	Flg
Naphthalene		3.0383	3.3321	3.3047	3.3896	3.4430	3.2662	3.3505	3.2186	AVRG	R		0.30368		3.2929	4	15	0.05	0.99	
1,2,3-Trichlorobenzene		1.0017	1.0967	1.0560	1.0841	1.1051	1.0550	1.0923	1.0477	AVRG	R		0.93691		1.0673	3	15	0.05	0.99	
Dibromofluoromethane	0.5221	0.5260	0.5289	0.5291	0.5242	0.5311	0.5252	0.5275	0.5238	AVRG	R		1.89962		0.5264	1	15	0.05	0.99	
1,2-Dichloroethane-d4	0.4167	0.4231	0.4259	0.4240	0.4248	0.4258	0.4342	0.4303	0.4298	AVRG	R		2.34705		0.4261	1	15	0.05	0.99	
Toluene-d8	1.4326	1.4339	1.4384	1.4106	1.4261	1.4255	1.4237	1.4062	1.3969	AVRG	R		0.70346		1.4215	1	15	0.05	0.99	
Bromofluorobenzene	1.0316	1.0440	1.0247	1.0269	0.9963	0.9844	0.9829	0.9776	0.9776	AVRG	R		0.99490		1.0051	3	15	0.05	0.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
Freon 12			1.000	-15	2.000	-20	5.000	-9	10.00	-6	20.00	8	50.00	16	75.00	14	100.0	12
Chloromethane			1.000	-12	2.000	-19	5.000	-9	10.00	0	20.00	7	50.00	12	75.00	11	100.0	9
Vinyl Chloride	0.500	-15	1.000	-10	2.000	-13	5.000	-3	10.00	-2	20.00	5	50.00	13	75.00	13	100.0	12
Bromomethane			1.000	-16	2.000	-1	5.000	4	10.00	6	20.00	7	50.00	2	75.00	-4	100.0	1
Chloroethane			1.000	-6	2.000	-8	5.000	-1	10.00	-1	20.00	4	50.00	5	75.00	2	100.0	4
Trichlorofluoromethane			1.000	-3	2.000	-12	5.000	0	10.00	3	20.00	2	50.00	7	75.00	1	100.0	2
Acetone					2.000	23	5.000	13	10.00	5	20.00	1	50.00	-12	75.00	-10	100.0	-20
1,1-Dichloroethene			0.500	15	2.000	2	5.000	0	10.00	3	20.00	1	50.00	-6	75.00	-7	100.0	-8
Iodomethane							5.000	30	10.00	-3	20.00	-12	50.00	4	75.00	-2	100.0	0
Methylene Chloride			0.500	10	2.000	5	5.000	1	10.00	2	20.00	3	50.00	-6	75.00	-6	100.0	-8
Carbon Disulfide			0.500	6	2.000	-1	5.000	1	10.00	3	20.00	4	50.00	-5	75.00	-2	100.0	-6
MTBE			0.500	-2	2.000	2	5.000	1	10.00	4	20.00	6	50.00	-4	75.00	-2	100.0	-4
trans-1,2-Dichloroethene			0.500	-17	2.000	14	5.000	2	10.00	3	20.00	7	50.00	-3	75.00	-2	100.0	-5
Vinyl Acetate					2.000	-3	5.000	-10	10.00	-1	20.00	8	50.00	2	75.00	2	100.0	3
1,1-Dichloroethane			0.500	-1	2.000	1	5.000	1	10.00	5	20.00	7	50.00	-5	75.00	-2	100.0	-6
2-Butanone					2.000	6	5.000	9	10.00	5	20.00	4	50.00	-6	75.00	-7	100.0	-11
2,2-Dichloropropane			0.500	1	2.000	4	5.000	3	10.00	5	20.00	0	50.00	-3	75.00	-5	100.0	-4
cis-1,2-Dichloroethene			0.500	16	2.000	4	5.000	-4	10.00	2	20.00	2	50.00	-7	75.00	-4	100.0	-8
Chloroform			0.500	-9	2.000	1	5.000	1	10.00	5	20.00	7	50.00	-2	75.00	1	100.0	-3
Bromochloromethane			0.500	-12	2.000	6	5.000	4	10.00	8	20.00	6	50.00	-5	75.00	-2	100.0	-6
1,1,1-Trichloroethane			0.500	10	2.000	-2	5.000	1	10.00	4	20.00	0	50.00	-4	75.00	-2	100.0	-6
1,1-Dichloropropene			0.500	4	2.000	-3	5.000	-1	10.00	2	20.00	0	50.00	-2	75.00	3	100.0	-3
Carbon Tetrachloride			0.500	-12	2.000	1	5.000	0	10.00	5	20.00	1	50.00	0	75.00	5	100.0	-1
1,2-Dichloroethane			0.500	-9	2.000	3	5.000	3	10.00	4	20.00	6	50.00	-4	75.00	0	100.0	-4
Benzene			0.500	1	2.000	-2	5.000	-1	10.00	2	20.00	4	50.00	-2	75.00	2	100.0	-3
Trichloroethene			0.500	-2	2.000	-4	5.000	2	10.00	7	20.00	2	50.00	-3	75.00	2	100.0	-4
1,2-Dichloropropane			0.500	-8	2.000	2	5.000	1	10.00	4	20.00	6	50.00	-2	75.00	1	100.0	-3
Bromodichloromethane			0.500	-8	2.000	-2	5.000	-1	10.00	3	20.00	6	50.00	-1	75.00	4	100.0	-1
Dibromomethane			0.500	-6	2.000	3	5.000	0	10.00	5	20.00	6	50.00	-3	75.00	0	100.0	-4
4-Methyl-2-Pentanone					2.000	4	5.000	3	10.00	2	20.00	5	50.00	-4	75.00	-3	100.0	-6
cis-1,3-Dichloropropene			0.500	-11	2.000	2	5.000	-2	10.00	3	20.00	6	50.00	-1	75.00	3	100.0	-1
Toluene			0.500	1	2.000	2	5.000	-2	10.00	4	20.00	3	50.00	-3	75.00	0	100.0	-5
trans-1,3-Dichloropropene			0.500	-3	2.000	-1	5.000	1	10.00	1	20.00	6	50.00	-2	75.00	1	100.0	-3
1,1,2-Trichloroethane			0.500	-6	2.000	0	5.000	4	10.00	4	20.00	7	50.00	-4	75.00	0	100.0	-5
2-Hexanone					2.000	5	5.000	4	10.00	4	20.00	4	50.00	-5	75.00	-4	100.0	-9
1,3-Dichloropropane			0.500	-3	2.000	0	5.000	0	10.00	3	20.00	7	50.00	-2	75.00	0	100.0	-5
Tetrachloroethene			0.500	-4	2.000	1	5.000	0	10.00	6	20.00	0	50.00	-2	75.00	2	100.0	-2
Dibromochloromethane			0.500	-12	2.000	-1	5.000	-2	10.00	2	20.00	6	50.00	2	75.00	5	100.0	1
1,2-Dibromoethane			0.500	-14	2.000	2	5.000	6	10.00	2	20.00	6	50.00	-1	75.00	1	100.0	-3
Chlorobenzene			0.500	-4	2.000	-1	5.000	1	10.00	3	20.00	4	50.00	-2	75.00	1	100.0	-3
1,1,1,2-Tetrachloroethane			0.500	-7	2.000	3	5.000	-4	10.00	3	20.00	3	50.00	-1	75.00	3	100.0	-1
Ethylbenzene			0.500	3	2.000	-1	5.000	-1	10.00	3	20.00	1	50.00	-3	75.00	2	100.0	-4

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D	L9	%D
m,p-Xylenes	0.500	-11	1.000	-5	4.000	-3	10.00	-2	20.00	5	40.00	5	100.0	2	150.0	6	200.0	2
o-Xylene			0.500	-4	2.000	-7	5.000	-3	10.00	3	20.00	5	50.00	1	75.00	6	100.0	1
Styrene			0.500	-12	2.000	-5	5.000	-4	10.00	3	20.00	6	50.00	2	75.00	7	100.0	3
Bromoform			0.500	-14	2.000	-11	5.000	-5	10.00	0	20.00	7	50.00	5	75.00	10	100.0	8
Isopropylbenzene			0.500	0	2.000	2	5.000	2	10.00	4	20.00	-1	50.00	-3	75.00	0	100.0	-4
1,1,2,2-Tetrachloroethane			0.500	2	2.000	6	5.000	5	10.00	3	20.00	3	50.00	-6	75.00	-5	100.0	-7
1,2,3-Trichloropropane			0.500	10	2.000	7	5.000	4	10.00	3	20.00	0	50.00	-8	75.00	-7	100.0	-9
Propylbenzene			0.500	3	2.000	2	5.000	2	10.00	5	20.00	-2	50.00	-4	75.00	-1	100.0	-6
Bromobenzene			0.500	2	2.000	3	5.000	2	10.00	2	20.00	2	50.00	-5	75.00	-1	100.0	-4
1,3,5-Trimethylbenzene			0.500	0	2.000	-1	5.000	2	10.00	5	20.00	1	50.00	-3	75.00	1	100.0	-4
2-Chlorotoluene			0.500	2	2.000	2	5.000	3	10.00	4	20.00	1	50.00	-4	75.00	-2	100.0	-6
4-Chlorotoluene			0.500	4	2.000	2	5.000	2	10.00	2	20.00	2	50.00	-4	75.00	-2	100.0	-6
tert-Butylbenzene			0.500	-5	2.000	0	5.000	3	10.00	6	20.00	-1	50.00	-2	75.00	2	100.0	-4
1,2,4-Trimethylbenzene			0.500	-1	2.000	-2	5.000	1	10.00	4	20.00	2	50.00	-2	75.00	1	100.0	-4
sec-Butylbenzene			0.500	-4	2.000	1	5.000	2	10.00	6	20.00	-2	50.00	0	75.00	2	100.0	-4
para-Isopropyl Toluene			0.500	-2	2.000	0	5.000	2	10.00	4	20.00	-1	50.00	-1	75.00	2	100.0	-3
1,3-Dichlorobenzene			0.500	-8	2.000	-1	5.000	3	10.00	5	20.00	4	50.00	-2	75.00	1	100.0	-2
1,4-Dichlorobenzene			0.500	2	2.000	3	5.000	1	10.00	3	20.00	2	50.00	-4	75.00	-2	100.0	-5
n-Butylbenzene			0.500	-3	2.000	-1	5.000	3	10.00	6	20.00	-1	50.00	-1	75.00	1	100.0	-4
1,2-Dichlorobenzene			0.500	0	2.000	0	5.000	1	10.00	4	20.00	2	50.00	-4	75.00	0	100.0	-4
1,2-Dibromo-3-Chloropropane					2.000	4	5.000	7	10.00	6	20.00	4	50.00	-5	75.00	-6	100.0	-9
1,2,4-Trichlorobenzene			0.500	-7	2.000	3	5.000	-1	10.00	3	20.00	3	50.00	-2	75.00	2	100.0	-1
Hexachlorobutadiene			0.500	0	2.000	5	5.000	-1	10.00	3	20.00	-5	50.00	0	75.00	2	100.0	-3
Naphthalene			0.500	-8	2.000	1	5.000	0	10.00	3	20.00	5	50.00	-1	75.00	2	100.0	-2
1,2,3-Trichlorobenzene			0.500	-6	2.000	3	5.000	-1	10.00	2	20.00	4	50.00	-1	75.00	2	100.0	-2
Dibromofluoromethane	50.00	-1	50.00	0	50.00	0	50.00	1	50.00	0	50.00	1	50.00	0	50.00	0	50.00	-1
1,2-Dichloroethane-d4	50.00	-2	50.00	-1	50.00	0	50.00	0	50.00	0	50.00	0	50.00	2	50.00	1	50.00	1
Toluene-d8	50.00	1	50.00	1	50.00	1	50.00	-1	50.00	0	50.00	0	50.00	0	50.00	-1	50.00	-2
Bromofluorobenzene	50.00	3	50.00	4	50.00	2	50.00	2	50.00	-1	50.00	-2	50.00	-2	50.00	-3	50.00	-3

BO 05/21/10 [Acetone]: Corrected baseline noise or negative peak in 2PPB (mek14).

BO 05/21/10 [1,1-Dichloroethene]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [trans-1,2-Dichloroethene]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [2-Butanone]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [2,2-Dichloropropane]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [cis-1,2-Dichloroethene]: Corrected baseline noise or negative peak in multiple levels.

BO 05/21/10 [1,2-Dichloropropane]: Separated from coeluting peak in multiple levels.
BO 05/21/10 [Ethylbenzene]: Separated from coeluting peak in multiple levels.
BO 05/21/10 [Propylbenzene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [2-Chlorotoluene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [4-Chlorotoluene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [tert-Butylbenzene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [para-Isopropyl Toluene]: Corrected baseline noise or negative peak1PPB (mek13).
BO 05/21/10 [n-Butylbenzene]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [1,2-Dibromo-3-Chloropropane]: Corrected baseline noise or negative peak in multiple levels.
BO 05/21/10 [Isopropyl Ether (DIPE)]: Corrected baseline noise or negative peak1PPB (mek13).
BO 05/21/10 [Ethanol]: Corrected fronting or tailing peak integration in 50PPB (mek18).

Analyst: BJP

Date: 06/14/10

Reviewer: LW

Date: 06/14/10

m=manual integration

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA13
Calnum : 940202186001

Cal Date : 20-MAY-2010

ICV 940203930005 (mel05 21-MAY-2010) stds: S14605 (10000X), S14658 (2500X)
ICV 940203930006 (mel06 21-MAY-2010) stds: S14253 (10000X), S14323 (10000X),
S14573 (10000X), S14658 (2500X)

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
Freon 12	940203930005	25.00	20.83	ug/L	-17	25	
Chloromethane	940203930005	25.00	24.77	ug/L	-1	25	
Vinyl Chloride	940203930005	25.00	23.21	ug/L	-7	25	
Bromomethane	940203930005	25.00	17.38	ug/L	-30	25	v-
Chloroethane	940203930005	25.00	25.88	ug/L	4	25	
Trichlorofluoromethane	940203930005	25.00	25.52	ug/L	2	25	
Acetone	940203930006	25.00	25.92	ug/L	4	25	
1,1-Dichloroethene	940203930006	25.00	23.46	ug/L	-6	25	
Iodomethane	940203930006	25.00	15.33	ug/L	-39	25	v-
Methylene Chloride	940203930006	25.00	25.01	ug/L	0	25	
Carbon Disulfide	940203930006	25.00	22.32	ug/L	-11	25	
MTBE	940203930006	25.00	24.51	ug/L	-2	25	
trans-1,2-Dichloroethene	940203930006	25.00	26.08	ug/L	4	25	
Vinyl Acetate	940203930006	25.00	31.55	ug/L	26	25	v+
1,1-Dichloroethane	940203930006	25.00	26.05	ug/L	4	25	
2-Butanone	940203930006	25.00	26.78	ug/L	7	25	
2,2-Dichloropropane	940203930006	25.00	29.40	ug/L	18	25	
cis-1,2-Dichloroethene	940203930006	25.00	24.94	ug/L	0	25	
Chloroform	940203930006	25.00	26.29	ug/L	5	25	
Bromochloromethane	940203930006	25.00	25.11	ug/L	0	25	
1,1,1-Trichloroethane	940203930006	25.00	25.70	ug/L	3	25	
1,1-Dichloropropene	940203930006	25.00	24.52	ug/L	-2	25	
Carbon Tetrachloride	940203930006	25.00	25.53	ug/L	2	25	
1,2-Dichloroethane	940203930006	25.00	25.50	ug/L	2	25	
Benzene	940203930006	25.00	25.07	ug/L	0	25	
Trichloroethene	940203930006	25.00	25.21	ug/L	1	25	
1,2-Dichloropropane	940203930006	25.00	24.84	ug/L	-1	25	
Bromodichloromethane	940203930006	25.00	25.58	ug/L	2	25	
Dibromomethane	940203930006	25.00	25.43	ug/L	2	25	
4-Methyl-2-Pentanone	940203930006	25.00	25.84	ug/L	3	25	
cis-1,3-Dichloropropene	940203930006	25.00	25.84	ug/L	3	25	
Toluene	940203930006	25.00	24.98	ug/L	0	25	
trans-1,3-Dichloropropene	940203930006	25.00	23.66	ug/L	-5	25	
1,1,2-Trichloroethane	940203930006	25.00	24.52	ug/L	-2	25	
2-Hexanone	940203930006	25.00	25.59	ug/L	2	25	
1,3-Dichloropropane	940203930006	25.00	25.29	ug/L	1	25	
Tetrachloroethene	940203930006	25.00	25.29	ug/L	1	25	
Dibromochloromethane	940203930006	25.00	24.86	ug/L	-1	25	
1,2-Dibromoethane	940203930006	25.00	24.78	ug/L	-1	25	
Chlorobenzene	940203930006	25.00	25.36	ug/L	1	25	
1,1,1,2-Tetrachloroethane	940203930006	25.00	24.65	ug/L	-1	25	
Ethylbenzene	940203930006	25.00	25.47	ug/L	2	25	
m,p-Xylenes	940203930006	50.00	52.43	ug/L	5	25	
o-Xylene	940203930006	25.00	25.99	ug/L	4	25	
Styrene	940203930006	25.00	26.03	ug/L	4	25	
Bromoform	940203930006	25.00	25.80	ug/L	3	25	
Isopropylbenzene	940203930006	25.00	22.24	ug/L	-11	25	

Analyte	ICV Seqnum	Spiked	Quant	Units	%D	Max	Flags
1,1,2,2-Tetrachloroethane	940203930006	25.00	24.33	ug/L	-3	25	
1,2,3-Trichloropropane	940203930006	25.00	24.36	ug/L	-3	25	
Propylbenzene	940203930006	25.00	25.73	ug/L	3	25	
Bromobenzene	940203930006	25.00	25.26	ug/L	1	25	
1,3,5-Trimethylbenzene	940203930006	25.00	25.88	ug/L	4	25	
2-Chlorotoluene	940203930006	25.00	25.74	ug/L	3	25	
4-Chlorotoluene	940203930006	25.00	25.53	ug/L	2	25	
tert-Butylbenzene	940203930006	25.00	25.53	ug/L	2	25	
1,2,4-Trimethylbenzene	940203930006	25.00	26.03	ug/L	4	25	
sec-Butylbenzene	940203930006	25.00	26.50	ug/L	6	25	
para-Isopropyl Toluene	940203930006	25.00	25.25	ug/L	1	25	
1,3-Dichlorobenzene	940203930006	25.00	26.01	ug/L	4	25	
1,4-Dichlorobenzene	940203930006	25.00	25.40	ug/L	2	25	
n-Butylbenzene	940203930006	25.00	27.77	ug/L	11	25	
1,2-Dichlorobenzene	940203930006	25.00	25.73	ug/L	3	25	
1,2-Dibromo-3-Chloropropane	940203930006	25.00	24.78	ug/L	-1	25	
1,2,4-Trichlorobenzene	940203930006	25.00	24.98	ug/L	0	25	
Hexachlorobutadiene	940203930006	25.00	24.98	ug/L	0	25	
Naphthalene	940203930006	25.00	25.73	ug/L	3	25	
1,2,3-Trichlorobenzene	940203930006	25.00	25.44	ug/L	2	25	

+ = high bias - = low bias v = ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA08 Run Name : QC549901 IDF : 1.0
 Seqnum : 470252482004.11 File : hfo04 Time : 24-JUN-2010 10:12
 Cal : 470241127001 Caldate : 16-JUN-2010 Caltype : WATER
 Standards: S14594 (10000X), S14688 (10000X), S14846 (10000X), S14573 (10000X),
 S14572 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.9832	1.2158	25.00	27.85	ug/L	11	20	0.0500	u
Chloromethane	1.4844	1.6708	25.00	28.14	ug/L	13	20	0.1000	u
Vinyl Chloride	1.1275	1.1901	25.00	26.39	ug/L	6	20	0.0500	u
Bromomethane	0.6785	0.5935	25.00	21.87	ug/L	-13	20	0.0500	u
Chloroethane	0.5798	0.6827	25.00	29.44	ug/L	18	20	0.0500	u
Trichlorofluoromethane	1.0267	1.2243	25.00	29.81	ug/L	19	20	0.0500	u
Iodomethane	0.6588	0.7366	25.00	24.77	ug/L	-1	20	0.0500	u
Acetone	0.1921	0.1565	25.00	21.61	ug/L	-14	20	0.0500	u
1,1-Dichloroethene	0.5971	0.5902	25.00	24.71	ug/L	-1	20	0.0500	u
Methylene Chloride	0.6920	0.6479	25.00	23.41	ug/L	-6	20	0.0500	u
Carbon Disulfide	3.1353	2.6128	25.00	20.83	ug/L	-17	20	0.0500	u
MTBE	1.0870	0.9365	25.00	21.54	ug/L	-14	20	0.0500	u
trans-1,2-Dichloroethene	0.7767	0.7182	25.00	23.12	ug/L	-8	20	0.0500	u
Vinyl Acetate	0.6081	1.2091	25.00	49.71	ug/L	99	20	0.0500	c+ u v- ***
1,1-Dichloroethane	1.5849	1.6787	25.00	26.48	ug/L	6	20	0.1000	u
2-Butanone	0.2766	0.2491	25.00	22.52	ug/L	-10	20	0.0500	u
cis-1,2-Dichloroethene	0.7152	0.7183	25.00	25.11	ug/L	0	20	0.0500	u
2,2-Dichloropropane	0.9359	1.2282	25.00	32.81	ug/L	31	20	0.0500	c+ u ***
Chloroform	1.1337	1.2301	25.00	27.12	ug/L	8	20	0.0500	u
Bromochloromethane	0.2108	0.1988	25.00	23.58	ug/L	-6	20	0.0500	u
1,1,1-Trichloroethane	0.9170	1.0596	25.00	28.89	ug/L	16	20	0.0500	u
1,1-Dichloropropene	0.6426	0.7103	25.00	27.63	ug/L	11	20	0.0500	u
Carbon Tetrachloride	0.3974	0.4668	25.00	29.37	ug/L	17	20	0.0500	u
1,2-Dichloroethane	0.3861	0.3743	25.00	24.23	ug/L	-3	20	0.0500	u
Benzene	1.5548	1.6165	25.00	25.99	ug/L	4	20	0.0500	u
Trichloroethene	0.4506	0.4201	25.00	23.30	ug/L	-7	20	0.0500	u
1,2-Dichloropropane	0.4380	0.4125	25.00	23.54	ug/L	-6	20	0.0500	u
Bromodichloromethane	0.4031	0.3902	25.00	24.20	ug/L	-3	20	0.0500	u
Dibromomethane	0.1635	0.1528	25.00	23.37	ug/L	-7	20	0.0500	u
4-Methyl-2-Pentanone	0.3188	0.2662	25.00	20.88	ug/L	-16	20	0.0500	u
cis-1,3-Dichloropropene	0.4825	0.4707	25.00	24.39	ug/L	-2	20	0.0500	u
Toluene	1.2501	1.2744	25.00	25.49	ug/L	2	20	0.0500	u
trans-1,3-Dichloropropene	0.5309	0.4683	25.00	22.06	ug/L	-12	20	0.0500	u
1,1,2-Trichloroethane	0.1674	0.1598	25.00	23.86	ug/L	-5	20	0.0500	u
2-Hexanone	0.3057	0.2619	25.00	21.42	ug/L	-14	20	0.0500	u
1,3-Dichloropropane	0.5313	0.4803	25.00	22.60	ug/L	-10	20	0.0500	u
Tetrachloroethene	0.4432	0.4396	25.00	24.80	ug/L	-1	20	0.0500	u
Dibromochloromethane	0.2762	0.2479	25.00	22.44	ug/L	-10	20	0.0500	u
1,2-Dibromoethane	0.2718	0.2454	25.00	22.57	ug/L	-10	20	0.0500	u
Chlorobenzene	1.1495	1.1293	25.00	24.56	ug/L	-2	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.2949	0.2987	25.00	25.32	ug/L	1	20	0.0500	u
Ethylbenzene	2.4645	2.5193	25.00	25.56	ug/L	2	20	0.0500	u
m,p-Xylenes	0.8525	0.8668	50.00	50.84	ug/L	2	20	0.0500	u
o-Xylene	0.7633	0.7618	25.00	24.95	ug/L	0	20	0.0500	u
Styrene	1.1500	1.1644	25.00	25.31	ug/L	1	20	0.0500	u
Bromoform	0.1340	0.1168	25.00	21.79	ug/L	-13	20	0.1000	u y
Isopropylbenzene	5.9119	5.5359	25.00	23.41	ug/L	-6	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.8230	0.9092	25.00	27.62	ug/L	10	20	0.3000	u
1,2,3-Trichloropropane	0.1979	0.1790	25.00	22.61	ug/L	-10	20	0.0500	u y
Propylbenzene	8.1781	8.8288	25.00	26.99	ug/L	8	20	0.0500	u
Bromobenzene	0.9367	0.8868	25.00	23.67	ug/L	-5	20	0.0500	u
1,3,5-Trimethylbenzene	4.6969	5.1497	25.00	27.41	ug/L	10	20	0.0500	u
2-Chlorotoluene	4.7727	5.3020	25.00	27.77	ug/L	11	20	0.0500	u
4-Chlorotoluene	4.3284	4.3838	25.00	25.32	ug/L	1	20	0.0500	u
tert-Butylbenzene	3.8104	4.1464	25.00	27.20	ug/L	9	20	0.0500	u
1,2,4-Trimethylbenzene	4.4422	4.6509	25.00	26.17	ug/L	5	20	0.0500	u
sec-Butylbenzene	6.7433	7.9475	25.00	29.46	ug/L	18	20	0.0500	u
para-Isopropyl Toluene	4.8835	5.3511	25.00	27.39	ug/L	10	20	0.0500	u
1,3-Dichlorobenzene	1.9427	2.0908	25.00	26.91	ug/L	8	20	0.0500	u
1,4-Dichlorobenzene	1.9096	1.9771	25.00	25.88	ug/L	4	20	0.0500	u
n-Butylbenzene	5.5295	6.6429	25.00	30.03	ug/L	20	20	0.0500	u
1,2-Dichlorobenzene	1.5815	1.6472	25.00	26.04	ug/L	4	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1394	0.1191	25.00	21.35	ug/L	-15	20	0.0500	u
1,2,4-Trichlorobenzene	0.8695	0.7999	25.00	23.00	ug/L	-8	20	0.0500	u
Hexachlorobutadiene	0.5292	0.5732	25.00	27.08	ug/L	8	20	0.0500	u
Naphthalene	1.5465	1.2806	25.00	20.70	ug/L	-17	20	0.0500	u
1,2,3-Trichlorobenzene	0.7185	0.5872	25.00	20.43	ug/L	-18	20	0.0500	u
Dibromofluoromethane	0.5173	0.5333	50.00	51.54	ug/L	3	20	0.0500	u
1,2-Dichloroethane-d4	0.2585	0.2542	50.00	49.17	ug/L	-2	20	0.0500	u
Toluene-d8	1.7005	1.6589	50.00	48.78	ug/L	-2	20	0.0500	u
Bromofluorobenzene	1.3419	1.3027	50.00	48.54	ug/L	-3	20	0.0500	u

ISTD (ICAL hfg14)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	300864	347037	15.35	9.81	9.80	-0.01
1,4-Difluorobenzene	542097	627833	15.82	10.93	10.93	0.00
Chlorobenzene-d5	359798	442520	22.99	15.07	15.06	-0.01
1,4-Dichlorobenzene-d4	140701	163361	16.11	17.79	17.79	0.00

Analyst: BJP Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV u = use v = ICV y = RL raised

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.8230	0.9012	25.00	27.37	ug/L	9	20	0.3000	
1,2,3-Trichloropropane	0.1979	0.1910	25.00	24.12	ug/L	-4	20	0.0500	
Propylbenzene	8.1781	8.7335	25.00	26.70	ug/L	7	20	0.0500	
Bromobenzene	0.9367	0.8884	25.00	23.71	ug/L	-5	20	0.0500	
1,3,5-Trimethylbenzene	4.6969	4.8569	25.00	25.85	ug/L	3	20	0.0500	
2-Chlorotoluene	4.7727	5.0027	25.00	26.21	ug/L	5	20	0.0500	
4-Chlorotoluene	4.3284	4.3533	25.00	25.14	ug/L	1	20	0.0500	
tert-Butylbenzene	3.8104	4.0786	25.00	26.76	ug/L	7	20	0.0500	
1,2,4-Trimethylbenzene	4.4422	4.5653	25.00	25.69	ug/L	3	20	0.0500	
sec-Butylbenzene	6.7433	7.4059	25.00	27.46	ug/L	10	20	0.0500	
para-Isopropyl Toluene	4.8835	4.9562	25.00	25.37	ug/L	1	20	0.0500	
1,3-Dichlorobenzene	1.9427	1.9251	25.00	24.77	ug/L	-1	20	0.0500	
1,4-Dichlorobenzene	1.9096	1.8901	25.00	24.75	ug/L	-1	20	0.0500	
n-Butylbenzene	5.5295	6.1879	25.00	27.98	ug/L	12	20	0.0500	
1,2-Dichlorobenzene	1.5815	1.5094	25.00	23.86	ug/L	-5	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.1394	0.1237	25.00	22.19	ug/L	-11	20	0.0500	
1,2,4-Trichlorobenzene	0.8695	0.7994	25.00	22.98	ug/L	-8	20	0.0500	
Hexachlorobutadiene	0.5292	0.5473	25.00	25.85	ug/L	3	20	0.0500	
Naphthalene	1.5465	1.4460	25.00	23.38	ug/L	-6	20	0.0500	
1,2,3-Trichlorobenzene	0.7185	0.7016	25.00	24.41	ug/L	-2	20	0.0500	
Dibromofluoromethane	0.5173	0.5305	50.00	51.27	ug/L	3	20	0.0500	
1,2-Dichloroethane-d4	0.2585	0.2531	50.00	48.95	ug/L	-2	20	0.0500	
Toluene-d8	1.7005	1.6717	50.00	49.16	ug/L	-2	20	0.0500	
Bromofluorobenzene	1.3419	1.2931	50.00	48.18	ug/L	-4	20	0.0500	

ISTD (ICAL hfg14)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	300864	359443	19.47	9.81	9.81	0.00
1,4-Difluorobenzene	542097	656316	21.07	10.93	10.94	0.01
Chlorobenzene-d5	359798	432605	20.24	15.07	15.08	0.01
1,4-Dichlorobenzene-d4	140701	172917	22.90	17.79	17.80	0.01

MCT 06/25/10 : 2-Chloroethylvinylether was high in CCV but the associated samples were used for 8020 & Fuel oxygenated compounds list, Iodomethane and MTBE. [general version]

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : QC549704 IDF : 1.0
 Seqnum : 480251057006.6 File : ifn06 Time : 23-JUN-2010 11:31
 Cal : 480169480001 Caldate : 27-APR-2010 Caltype : WATER
 Standards: S14737 (13333X), S14573 (13333X), S14688 (13333X), S14845 (13333X),
 S14956 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.5332	0.6617	18.75	23.27	ug/L	24	20	0.0500	c+ u ***
Chloromethane	0.7623	0.8426	18.75	20.73	ug/L	11	20	0.1000	u
Vinyl Chloride	0.5614	0.6154	18.75	20.55	ug/L	10	20	0.0500	u
Bromomethane	0.3441	0.4289	18.75	23.37	ug/L	25	20	0.0500	c+ u ***
Chloroethane	0.3725	0.4363	18.75	21.96	ug/L	17	20	0.0500	u
Trichlorofluoromethane	0.6201	0.7463	18.75	22.57	ug/L	20	20	0.0500	u
Iodomethane	0.3558	0.5140	18.75	23.31	ug/L	24	20	0.0500	c+ u v- ***
Acetone	0.1153	0.1111	18.75	18.06	ug/L	-4	20	0.0500	u
1,1-Dichloroethene	0.3855	0.3602	18.75	17.52	ug/L	-7	20	0.0500	u
Methylene Chloride	0.4642	0.4744	18.75	19.16	ug/L	2	20	0.0500	u
Carbon Disulfide	1.6220	1.3158	18.75	15.21	ug/L	-19	20	0.0500	u
MTBE	0.8879	0.8310	18.75	17.55	ug/L	-6	20	0.0500	u
trans-1,2-Dichloroethene	0.4353	0.4553	18.75	19.61	ug/L	5	20	0.0500	u
Vinyl Acetate	0.8268	0.6590	18.75	14.95	ug/L	-20	20	0.0500	u
1,1-Dichloroethane	0.9027	0.8698	18.75	18.07	ug/L	-4	20	0.1000	u
2-Butanone	0.1638	0.1546	18.75	17.70	ug/L	-6	20	0.0500	u
cis-1,2-Dichloroethene	0.4744	0.5033	18.75	19.89	ug/L	6	20	0.0500	u
2,2-Dichloropropane	0.5698	0.6269	18.75	20.63	ug/L	10	20	0.0500	u
Chloroform	0.7719	0.8209	18.75	19.94	ug/L	6	20	0.0500	u
Bromochloromethane	0.2022	0.2161	18.75	20.04	ug/L	7	20	0.0500	u
1,1,1-Trichloroethane	0.5617	0.5968	18.75	19.92	ug/L	6	20	0.0500	u
1,1-Dichloropropene	0.3894	0.3903	18.75	18.80	ug/L	0	20	0.0500	u
Carbon Tetrachloride	0.3152	0.3494	18.75	20.79	ug/L	11	20	0.0500	u
1,2-Dichloroethane	0.3219	0.3224	18.75	18.78	ug/L	0	20	0.0500	u
Benzene	1.0408	1.0757	18.75	19.38	ug/L	3	20	0.0500	u
Trichloroethene	0.2741	0.3018	18.75	20.64	ug/L	10	20	0.0500	u
1,2-Dichloropropane	0.3399	0.3020	18.75	16.66	ug/L	-11	20	0.0500	u
Bromodichloromethane	0.3505	0.3648	18.75	19.52	ug/L	4	20	0.0500	u
Dibromomethane	0.1514	0.1616	18.75	20.02	ug/L	7	20	0.0500	u
4-Methyl-2-Pentanone	0.2362	0.1904	18.75	15.11	ug/L	-19	20	0.0500	u
cis-1,3-Dichloropropene	0.4228	0.4187	18.75	18.57	ug/L	-1	20	0.0500	u
Toluene	0.8322	0.8281	18.75	18.66	ug/L	0	20	0.0500	u
trans-1,3-Dichloropropene	0.4686	0.5182	18.75	20.74	ug/L	11	20	0.0500	u
1,1,2-Trichloroethane	0.1404	0.1405	18.75	18.76	ug/L	0	20	0.0500	u
2-Hexanone	0.2115	0.1891	18.75	16.76	ug/L	-11	20	0.0500	u
1,3-Dichloropropane	0.4588	0.4461	18.75	18.23	ug/L	-3	20	0.0500	u
Tetrachloroethene	0.3116	0.3622	18.75	21.80	ug/L	16	20	0.0500	u
Dibromochloromethane	0.3038	0.3080	18.75	19.01	ug/L	1	20	0.0500	u
1,2-Dibromoethane	0.2559	0.2656	18.75	19.46	ug/L	4	20	0.0500	u
Chlorobenzene	0.8575	0.9348	18.75	20.44	ug/L	9	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3045	0.3313	18.75	20.40	ug/L	9	20	0.0500	u
Ethylbenzene	1.4822	1.6175	18.75	20.46	ug/L	9	20	0.0500	u
m,p-Xylenes	0.5355	0.6042	37.50	42.31	ug/L	13	20	0.0500	u
o-Xylene	0.5400	0.6137	18.75	21.31	ug/L	14	20	0.0500	u
Styrene	0.9526	1.0484	18.75	20.64	ug/L	10	20	0.0500	u
Bromoform	0.1734	0.1978	18.75	21.40	ug/L	14	20	0.1000	u
Isopropylbenzene	2.8605	2.6222	18.75	17.19	ug/L	-8	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.6164	0.5877	18.75	17.88	ug/L	-5	20	0.3000	u
1,2,3-Trichloropropane	0.1477	0.1420	18.75	18.03	ug/L	-4	20	0.0500	u
Propylbenzene	3.4604	3.6837	18.75	19.96	ug/L	6	20	0.0500	u
Bromobenzene	0.7358	0.8147	18.75	20.76	ug/L	11	20	0.0500	u
1,3,5-Trimethylbenzene	2.2339	2.4502	18.75	20.57	ug/L	10	20	0.0500	u
2-Chlorotoluene	2.3331	2.4757	18.75	19.90	ug/L	6	20	0.0500	u
4-Chlorotoluene	2.2491	2.3076	18.75	19.24	ug/L	3	20	0.0500	u
tert-Butylbenzene	1.8666	2.0981	18.75	21.08	ug/L	12	20	0.0500	u
1,2,4-Trimethylbenzene	2.2848	2.4881	18.75	20.42	ug/L	9	20	0.0500	u
sec-Butylbenzene	2.9259	3.2538	18.75	20.85	ug/L	11	20	0.0500	u
para-Isopropyl Toluene	2.2172	2.4551	18.75	20.76	ug/L	11	20	0.0500	u
1,3-Dichlorobenzene	1.3016	1.4568	18.75	20.99	ug/L	12	20	0.0500	u
1,4-Dichlorobenzene	1.3396	1.4373	18.75	20.12	ug/L	7	20	0.0500	u
n-Butylbenzene	2.1289	2.2919	18.75	20.19	ug/L	8	20	0.0500	u
1,2-Dichlorobenzene	1.1901	1.3170	18.75	20.75	ug/L	11	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1022	0.0875	18.75	16.06	ug/L	-14	20	0.0500	u
1,2,4-Trichlorobenzene	0.6730	0.7850	18.75	21.87	ug/L	17	20	0.0500	u
Hexachlorobutadiene	0.3555	0.4178	18.75	22.04	ug/L	18	20	0.0500	u
Naphthalene	1.1586	1.3535	18.75	21.90	ug/L	17	20	0.0500	u
1,2,3-Trichlorobenzene	0.5884	0.6964	18.75	22.19	ug/L	18	20	0.0500	u
Dibromofluoromethane	0.5496	0.5253	50.00	47.79	ug/L	-4	20	0.0500	u
1,2-Dichloroethane-d4	0.3139	0.3092	50.00	49.25	ug/L	-2	20	0.0500	u
Toluene-d8	1.4449	1.3235	50.00	45.80	ug/L	-8	20	0.0500	u
Bromofluorobenzene	1.0576	0.9986	50.00	47.21	ug/L	-6	20	0.0500	u

ISTD (ICAL idr12)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2485414	2112494	-15.00	12.38	12.36	-0.02
1,4-Difluorobenzene	3818086	3203333	-16.10	13.67	13.65	-0.02
Chlorobenzene-d5	2849149	2588397	-9.15	17.67	17.66	-0.01
1,4-Dichlorobenzene-d4	1373915	1277981	-6.98	20.18	20.17	-0.01

Analyst: BJP Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias - = low bias c = CCV u = use v = ICV

CURTIS & TOMPKINS SPIKE USER REPORT FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA09 Run Name : QC549880 IDF : 1.0
 Seqnum : 480252482003.8 File : ifo03 Time : 24-JUN-2010 08:58
 Cal : 480169480001 Caldate : 27-APR-2010 Caltype : WATER
 Standards: S14737 (10000X), S14573 (10000X), S14688 (10000X), S14845 (10000X),
 S14956 (5000X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.5332	0.5408	25.00	25.36	ug/L	1	20	0.0500	u
Chloromethane	0.7623	0.6571	25.00	21.55	ug/L	-14	20	0.1000	u
Vinyl Chloride	0.5614	0.5224	25.00	23.26	ug/L	-7	20	0.0500	u
Bromomethane	0.3441	0.3681	25.00	26.74	ug/L	7	20	0.0500	u
Chloroethane	0.3725	0.3683	25.00	24.72	ug/L	-1	20	0.0500	u
Trichlorofluoromethane	0.6201	0.6438	25.00	25.96	ug/L	4	20	0.0500	u
Iodomethane	0.3558	0.5386	25.00	31.40	ug/L	26	20	0.0500	c+ u v- ***
Acetone	0.1153	0.0997	25.00	21.62	ug/L	-14	20	0.0500	u
1,1-Dichloroethene	0.3855	0.3346	25.00	21.69	ug/L	-13	20	0.0500	u
Methylene Chloride	0.4642	0.4319	25.00	23.26	ug/L	-7	20	0.0500	u
Carbon Disulfide	1.6220	1.1901	25.00	18.34	ug/L	-27	20	0.0500	c- u ***
MTBE	0.8879	0.7181	25.00	20.22	ug/L	-19	20	0.0500	u
trans-1,2-Dichloroethene	0.4353	0.4184	25.00	24.03	ug/L	-4	20	0.0500	u
Vinyl Acetate	0.8268	0.6468	25.00	19.56	ug/L	-22	20	0.0500	c- u ***
1,1-Dichloroethane	0.9027	0.7871	25.00	21.80	ug/L	-13	20	0.1000	u
2-Butanone	0.1638	0.1294	25.00	19.74	ug/L	-21	20	0.0500	c- u ***
cis-1,2-Dichloroethene	0.4744	0.4706	25.00	24.80	ug/L	-1	20	0.0500	u
2,2-Dichloropropane	0.5698	0.5704	25.00	25.03	ug/L	0	20	0.0500	u
Chloroform	0.7719	0.7270	25.00	23.55	ug/L	-6	20	0.0500	u
Bromochloromethane	0.2022	0.2045	25.00	25.28	ug/L	1	20	0.0500	u
1,1,1-Trichloroethane	0.5617	0.5192	25.00	23.11	ug/L	-8	20	0.0500	u
1,1-Dichloropropene	0.3894	0.3589	25.00	23.04	ug/L	-8	20	0.0500	u
Carbon Tetrachloride	0.3152	0.3124	25.00	24.78	ug/L	-1	20	0.0500	u
1,2-Dichloroethane	0.3219	0.2680	25.00	20.81	ug/L	-17	20	0.0500	u
Benzene	1.0408	1.0074	25.00	24.20	ug/L	-3	20	0.0500	u
Trichloroethene	0.2741	0.2709	25.00	24.70	ug/L	-1	20	0.0500	u
1,2-Dichloropropane	0.3399	0.2918	25.00	21.46	ug/L	-14	20	0.0500	u
Bromodichloromethane	0.3505	0.3372	25.00	24.05	ug/L	-4	20	0.0500	u
Dibromomethane	0.1514	0.1502	25.00	24.81	ug/L	-1	20	0.0500	u
4-Methyl-2-Pentanone	0.2362	0.1774	25.00	18.77	ug/L	-25	20	0.0500	c- u ***
cis-1,3-Dichloropropene	0.4228	0.3968	25.00	23.46	ug/L	-6	20	0.0500	u
Toluene	0.8322	0.8461	25.00	25.42	ug/L	2	20	0.0500	u
trans-1,3-Dichloropropene	0.4686	0.5307	25.00	28.31	ug/L	13	20	0.0500	u
1,1,2-Trichloroethane	0.1404	0.1420	25.00	25.30	ug/L	1	20	0.0500	u
2-Hexanone	0.2115	0.1812	25.00	21.41	ug/L	-14	20	0.0500	u
1,3-Dichloropropane	0.4588	0.4286	25.00	23.36	ug/L	-7	20	0.0500	u
Tetrachloroethene	0.3116	0.3767	25.00	30.23	ug/L	21	20	0.0500	c+ u ***
Dibromochloromethane	0.3038	0.3141	25.00	25.85	ug/L	3	20	0.0500	u
1,2-Dibromoethane	0.2559	0.2668	25.00	26.06	ug/L	4	20	0.0500	u
Chlorobenzene	0.8575	0.9603	25.00	27.99	ug/L	12	20	0.3000	u
1,1,1,2-Tetrachloroethane	0.3045	0.3352	25.00	27.52	ug/L	10	20	0.0500	u
Ethylbenzene	1.4822	1.6265	25.00	27.43	ug/L	10	20	0.0500	u
m,p-Xylenes	0.5355	0.5955	50.00	55.60	ug/L	11	20	0.0500	u
o-Xylene	0.5400	0.6024	25.00	27.89	ug/L	12	20	0.0500	u
Styrene	0.9526	1.0411	25.00	27.32	ug/L	9	20	0.0500	u
Bromoform	0.1734	0.1959	25.00	28.25	ug/L	13	20	0.1000	u
Isopropylbenzene	2.8605	2.7066	25.00	23.65	ug/L	-5	20	0.0500	u

Analyte	Avg		Spiked	Quant	Units	%D	Max %D	Min RF	Flags
	RF/CF	RF/CF							
1,1,2,2-Tetrachloroethane	0.6164	0.5843	25.00	23.70	ug/L	-5	20	0.3000	u
1,2,3-Trichloropropane	0.1477	0.1361	25.00	23.03	ug/L	-8	20	0.0500	u
Propylbenzene	3.4604	3.5641	25.00	25.75	ug/L	3	20	0.0500	u
Bromobenzene	0.7358	0.8184	25.00	27.81	ug/L	11	20	0.0500	u
1,3,5-Trimethylbenzene	2.2339	2.3772	25.00	26.60	ug/L	6	20	0.0500	u
2-Chlorotoluene	2.3331	2.3141	25.00	24.80	ug/L	-1	20	0.0500	u
4-Chlorotoluene	2.2491	2.1964	25.00	24.41	ug/L	-2	20	0.0500	u
tert-Butylbenzene	1.8666	2.1343	25.00	28.59	ug/L	14	20	0.0500	u
1,2,4-Trimethylbenzene	2.2848	2.4353	25.00	26.65	ug/L	7	20	0.0500	u
sec-Butylbenzene	2.9259	3.2382	25.00	27.67	ug/L	11	20	0.0500	u
para-Isopropyl Toluene	2.2172	2.3830	25.00	26.87	ug/L	7	20	0.0500	u
1,3-Dichlorobenzene	1.3016	1.3809	25.00	26.52	ug/L	6	20	0.0500	u
1,4-Dichlorobenzene	1.3396	1.4221	25.00	26.54	ug/L	6	20	0.0500	u
n-Butylbenzene	2.1289	2.2794	25.00	26.77	ug/L	7	20	0.0500	u
1,2-Dichlorobenzene	1.1901	1.2962	25.00	27.23	ug/L	9	20	0.0500	u
1,2-Dibromo-3-Chloropropane	0.1022	0.0759	25.00	18.57	ug/L	-26	20	0.0500	c- u ***
1,2,4-Trichlorobenzene	0.6730	0.7797	25.00	28.96	ug/L	16	20	0.0500	u
Hexachlorobutadiene	0.3555	0.3997	25.00	28.11	ug/L	12	20	0.0500	u
Naphthalene	1.1586	1.3282	25.00	28.66	ug/L	15	20	0.0500	u
1,2,3-Trichlorobenzene	0.5884	0.7031	25.00	29.87	ug/L	19	20	0.0500	u
Dibromofluoromethane	0.5496	0.4821	50.00	43.86	ug/L	-12	20	0.0500	u
1,2-Dichloroethane-d4	0.3139	0.2619	50.00	41.71	ug/L	-17	20	0.0500	u
Toluene-d8	1.4449	1.4044	50.00	48.60	ug/L	-3	20	0.0500	u
Bromofluorobenzene	1.0576	0.9590	50.00	45.34	ug/L	-9	20	0.0500	u

ISTD (ICAL idr12)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2485414	2605673	4.84	12.38	12.36	-0.02
1,4-Difluorobenzene	3818086	3961660	3.76	13.67	13.65	-0.02
Chlorobenzene-d5	2849149	2962109	3.96	17.67	17.66	-0.01
1,4-Dichlorobenzene-d4	1373915	1503291	9.42	20.18	20.17	-0.01

TDL 06/24/10 : Standard info fixed in LIMS [general version]

Analyst: BJP Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV u = use v = ICV

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.6164	0.6025	10.00	9.774	ug/L	-2	20	0.3000	
1,2,3-Trichloropropane	0.1477	0.1409	10.00	9.536	ug/L	-5	20	0.0500	
Propylbenzene	3.4604	3.8877	10.00	11.23	ug/L	12	20	0.0500	
Bromobenzene	0.7358	0.8407	10.00	11.43	ug/L	14	20	0.0500	
1,3,5-Trimethylbenzene	2.2339	2.5986	10.00	11.63	ug/L	16	20	0.0500	
2-Chlorotoluene	2.3331	2.6342	10.00	11.29	ug/L	13	20	0.0500	
4-Chlorotoluene	2.2491	2.3674	10.00	10.53	ug/L	5	20	0.0500	
tert-Butylbenzene	1.8666	2.2041	10.00	11.81	ug/L	18	20	0.0500	
1,2,4-Trimethylbenzene	2.2848	2.5155	10.00	11.01	ug/L	10	20	0.0500	
sec-Butylbenzene	2.9259	3.4881	10.00	11.92	ug/L	19	20	0.0500	
para-Isopropyl Toluene	2.2172	2.5554	10.00	11.53	ug/L	15	20	0.0500	
1,3-Dichlorobenzene	1.3016	1.5106	10.00	11.61	ug/L	16	20	0.0500	
1,4-Dichlorobenzene	1.3396	1.4911	10.00	11.13	ug/L	11	20	0.0500	
n-Butylbenzene	2.1289	2.4314	10.00	11.42	ug/L	14	20	0.0500	
1,2-Dichlorobenzene	1.1901	1.3669	10.00	11.49	ug/L	15	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.1022	0.0858	10.00	8.395	ug/L	-16	20	0.0500	
1,2,4-Trichlorobenzene	0.6730	0.7891	10.00	11.72	ug/L	17	20	0.0500	
Hexachlorobutadiene	0.3555	0.4308	10.00	12.12	ug/L	21	20	0.0500	c+ ***
Naphthalene	1.1586	1.3803	10.00	11.91	ug/L	19	20	0.0500	
1,2,3-Trichlorobenzene	0.5884	0.7055	10.00	11.99	ug/L	20	20	0.0500	
Dibromofluoromethane	0.5496	0.5140	50.00	46.76	ug/L	-6	20	0.0500	
1,2-Dichloroethane-d4	0.3139	0.2916	50.00	46.45	ug/L	-7	20	0.0500	
Toluene-d8	1.4449	1.3404	50.00	46.38	ug/L	-7	20	0.0500	
Bromofluorobenzene	1.0576	1.0136	50.00	47.92	ug/L	-4	20	0.0500	

ISTD (ICAL idr12)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	2485414	2232032	-10.19	12.38	12.35	-0.03
1,4-Difluorobenzene	3818086	3383801	-11.37	13.67	13.64	-0.03
Chlorobenzene-d5	2849149	2713777	-4.75	17.67	17.66	-0.01
1,4-Dichlorobenzene-d4	1373915	1297883	-5.53	20.18	20.17	-0.01

TDL 06/25/10 [Vinyl Acetate]: Corrected automatically drawn baseline. [general version]

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/28/10

+ = high bias -- = low bias c = CCV m = manual integration

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 220709 MSVOA Water
EPA 8260B

Inst : MSVOA13 Run Name : 20PPB IDF : 1.0
 Seqnum : 940251064012.1 File : mfn12 Time : 23-JUN-2010 13:17
 Cal : 940202186001 Caldate : 20-MAY-2010
 Standards: S14722 (25000X), S14747 (25000X), S14228 (50000X), S14330 (25000X),
 S14658 (2500X)

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
Freon 12	0.7309	0.7924	20.00	21.68	ug/L	8	20	0.0500	
Chloromethane	0.8044	0.6220	20.00	15.46	ug/L	-23	20	0.1000	c- ***
Vinyl Chloride	0.8909	0.7292	20.00	16.37	ug/L	-18	20	0.0500	
Bromomethane	0.3992	0.2538	20.00	12.71	ug/L	-36	20	0.0500	c- ***
Chloroethane	0.4898	0.4021	20.00	16.42	ug/L	-18	20	0.0500	
Trichlorofluoromethane	0.9188	1.0475	20.00	22.80	ug/L	14	20	0.0500	
Acetone	0.3450	0.2975	20.00	17.25	ug/L	-14	20	0.0500	
1,1-Dichloroethene	0.5092	0.4051	20.00	15.91	ug/L	-20	20	0.0500	
Iodomethane	0.3182	0.1377	20.00	11.52	ug/L	-42	20	0.0500	c- ***
Methylene Chloride	0.6247	0.4866	20.00	15.58	ug/L	-22	20	0.0500	c- ***
Carbon Disulfide	1.9712	1.7148	20.00	17.40	ug/L	-13	20	0.0500	
MTBE	2.1089	1.6798	20.00	15.93	ug/L	-20	20	0.0500	
trans-1,2-Dichloroethene	0.5608	0.4731	20.00	16.87	ug/L	-16	20	0.0500	
Vinyl Acetate	1.6369	1.3323	20.00	16.28	ug/L	-19	20	0.0500	
1,1-Dichloroethane	1.2673	1.0286	20.00	16.23	ug/L	-19	20	0.1000	
2-Butanone	0.5000	0.3537	20.00	14.15	ug/L	-29	20	0.0500	c- ***
2,2-Dichloropropane	0.9334	0.9598	20.00	20.57	ug/L	3	20	0.0500	
cis-1,2-Dichloroethene	0.6712	0.5122	20.00	15.26	ug/L	-24	20	0.0500	c- ***
Chloroform	1.0874	0.9925	20.00	18.26	ug/L	-9	20	0.0500	
Bromochloromethane	0.2682	0.2322	20.00	17.31	ug/L	-13	20	0.0500	
1,1,1-Trichloroethane	0.9651	0.9368	20.00	19.41	ug/L	-3	20	0.0500	
1,1-Dichloropropene	0.4999	0.4780	20.00	19.12	ug/L	-4	20	0.0500	
Carbon Tetrachloride	0.4214	0.5206	20.00	24.71	ug/L	24	20	0.0500	c+ ***
1,2-Dichloroethane	0.5202	0.5832	20.00	22.42	ug/L	12	20	0.0500	
Benzene	1.5236	1.4417	20.00	18.92	ug/L	-5	20	0.0500	
Trichloroethene	0.3517	0.3478	20.00	19.78	ug/L	-1	20	0.0500	
1,2-Dichloropropane	0.4204	0.3893	20.00	18.52	ug/L	-7	20	0.0500	
Bromodichloromethane	0.4756	0.5016	20.00	21.09	ug/L	5	20	0.0500	
Dibromomethane	0.2190	0.2155	20.00	19.68	ug/L	-2	20	0.0500	
4-Methyl-2-Pentanone	0.5345	0.4511	20.00	16.88	ug/L	-16	20	0.0500	
cis-1,3-Dichloropropene	0.6289	0.6136	20.00	19.51	ug/L	-2	20	0.0500	
Toluene	1.6800	1.5903	20.00	18.93	ug/L	-5	20	0.0500	
trans-1,3-Dichloropropene	0.6257	0.5943	20.00	19.00	ug/L	-5	20	0.0500	
1,1,2-Trichloroethane	0.1951	0.1795	20.00	18.40	ug/L	-8	20	0.0500	
2-Hexanone	0.4003	0.3173	20.00	15.85	ug/L	-21	20	0.0500	c- ***
1,3-Dichloropropane	0.6718	0.6208	20.00	18.48	ug/L	-8	20	0.0500	
Tetrachloroethene	0.3315	0.3730	20.00	22.51	ug/L	13	20	0.0500	
Dibromochloromethane	0.3417	0.3675	20.00	21.51	ug/L	8	20	0.0500	
1,2-Dibromoethane	0.3456	0.3293	20.00	19.06	ug/L	-5	20	0.0500	
Chlorobenzene	1.0206	1.0435	20.00	20.45	ug/L	2	20	0.3000	
1,1,1,2-Tetrachloroethane	0.3470	0.3693	20.00	21.29	ug/L	6	20	0.0500	
Ethylbenzene	1.9361	1.8364	20.00	18.97	ug/L	-5	20	0.0500	
m,p-Xylenes	0.6891	0.6894	40.00	40.02	ug/L	0	20	0.0500	
o-Xylene	0.6784	0.6365	20.00	18.77	ug/L	-6	20	0.0500	
Styrene	1.1985	1.1662	20.00	19.46	ug/L	-3	20	0.0500	
Bromoform	0.2404	0.2785	20.00	23.18	ug/L	16	20	0.1000	
Isopropylbenzene	3.3745	2.9020	20.00	17.20	ug/L	-14	20	0.0500	

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Min RF	Flags
1,1,2,2-Tetrachloroethane	0.9834	0.8283	20.00	16.85	ug/L	-16	20	0.3000	
1,2,3-Trichloropropane	1.0302	0.9307	20.00	18.07	ug/L	-10	20	0.0500	
Propylbenzene	4.3066	3.7133	20.00	17.24	ug/L	-14	20	0.0500	
Bromobenzene	0.7749	0.7722	20.00	19.93	ug/L	0	20	0.0500	
1,3,5-Trimethylbenzene	2.8680	2.5017	20.00	17.45	ug/L	-13	20	0.0500	
2-Chlorotoluene	2.8587	2.5817	20.00	18.06	ug/L	-10	20	0.0500	
4-Chlorotoluene	2.6303	2.2963	20.00	17.46	ug/L	-13	20	0.0500	
tert-Butylbenzene	2.4832	2.1493	20.00	17.31	ug/L	-13	20	0.0500	
1,2,4-Trimethylbenzene	2.9590	2.6362	20.00	17.82	ug/L	-11	20	0.0500	
sec-Butylbenzene	3.8531	3.2065	20.00	16.64	ug/L	-17	20	0.0500	
para-Isopropyl Toluene	3.1648	2.7952	20.00	17.66	ug/L	-12	20	0.0500	
1,3-Dichlorobenzene	1.5304	1.5128	20.00	19.77	ug/L	-1	20	0.0500	
1,4-Dichlorobenzene	1.6385	1.5828	20.00	19.32	ug/L	-3	20	0.0500	
n-Butylbenzene	3.2046	2.6743	20.00	16.69	ug/L	-17	20	0.0500	
1,2-Dichlorobenzene	1.5063	1.4029	20.00	18.63	ug/L	-7	20	0.0500	
1,2-Dibromo-3-Chloropropane	0.2256	0.2132	20.00	18.90	ug/L	-6	20	0.0500	
1,2,4-Trichlorobenzene	1.1223	1.0780	20.00	19.21	ug/L	-4	20	0.0500	
Hexachlorobutadiene	0.5230	0.5823	20.00	22.27	ug/L	11	20	0.0500	
Naphthalene	3.2929	2.6634	20.00	16.18	ug/L	-19	20	0.0500	
1,2,3-Trichlorobenzene	1.0673	1.0184	20.00	19.08	ug/L	-5	20	0.0500	
Dibromofluoromethane	0.5264	0.4703	50.00	44.67	ug/L	-11	20	0.0500	
1,2-Dichloroethane-d4	0.4261	0.4572	50.00	53.65	ug/L	7	20	0.0500	
Toluene-d8	1.4215	1.3794	50.00	48.52	ug/L	-3	20	0.0500	
Bromofluorobenzene	1.0051	0.8917	50.00	44.36	ug/L	-11	20	0.0500	

ISTD (ICAL mek18)	ICAL Area	Area	%Drift	ICAL RT	RT	Drift
Pentafluorobenzene	316611	486045	53.51	11.63	11.62	-0.01
1,4-Difluorobenzene	577014	733518	27.12	12.47	12.46	-0.01
Chlorobenzene-d5	558006	703739	26.12	15.28	15.27	-0.01
1,4-Dichlorobenzene-d4	319977	406188	26.94	17.34	17.34	0.00

Analyst: TDL

Date: 06/25/10

Reviewer: LW

Date: 06/28/10

+ = high bias - = low bias c = CCV

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 470252482

Date : 06/24/10
 Sequence : MSVOA08 hfo

Reference : hfg14
 Analyzed : 06/17/10 00:40

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	300864	9.81	542097	10.93	359798	15.07	140701	17.79
		LOWER LIMIT	150432	9.31	271049	10.43	179899	14.57	70351	17.29
		UPPER LIMIT	601728	10.31	1084194	11.43	719596	15.57	281402	18.29
004	CCV/BS	QC549901	347037	9.80	627833	10.93	442520	15.06	163361	17.79
005	BSD	QC549902	286995	9.81	537734	10.93	370177	15.07	139804	17.79
006	CCV/BS	QC549903	315439	9.80	557953	10.94	387913	15.07	147141	17.80
007	BSD	QC549904	317864	9.81	570435	10.93	405230	15.07	149489	17.79
009	BLANK	QC549900	318708	9.81	583057	10.93	370600	15.07	135930	17.79
010	IB		252871	9.81	588569	10.94	502273	15.07	192627	17.79
011	SAMPLE	220795-003	295067	9.81	563060	10.94	386992	15.07	141443	17.79
012	SAMPLE	220794-001	318180	9.80	581381	10.94	386298	15.07	136809	17.80
013	SAMPLE	220794-002	310372	9.80	594162	10.94	407387	15.07	150789	17.80
014	SAMPLE	220794-004	363612	9.81	644064	10.94	448096	15.07	159182	17.79
017	CCV		359443	9.81	656316	10.94	432605	15.08	172917	17.80
018	CCV		334315	9.80	587950	10.94	402560	15.07	158974	17.80
020	BLANK	QC549980	318867	9.81	592252	10.94	416156	15.07	134326	17.79
021	SAMPLE	220680-010	301094	9.81	571328	10.94	383150	15.07	135079	17.79
022	SAMPLE	220680-011	291732	9.81	534412	10.93	372579	15.07	128868	17.79
023	SAMPLE	220709-013	295822	9.80	549267	10.94	383132	15.07	127557	17.80
024	SAMPLE	220709-002	301831	9.81	573276	10.94	361250	15.07	130766	17.79
025	SAMPLE	220709-003	285712	9.80	570139	10.94	376360	15.07	129783	17.80
026	SAMPLE	220709-004	281973	9.81	527630	10.94	345743	15.07	127034	17.79
027	SAMPLE	220709-005	284256	9.80	549654	10.94	360313	15.07	126411	17.79
028	SAMPLE	220709-011	272432	9.80	549957	10.94	377715	15.07	127548	17.80
029	SAMPLE	220709-012	278433	9.80	537384	10.94	351282	15.07	121729	17.79
030	SAMPLE	220877-001	276039	9.80	532588	10.94	366591	15.07	126827	17.79
031	SAMPLE	220877-002	273732	9.81	534685	10.93	328360	15.07	117253	17.79
032	SAMPLE	220794-001	252291	9.80	479594	10.94	340940	15.07	121011	17.79
033	SAMPLE	220794-002	333466	9.80	597760	10.93	400212	15.07	155103	17.80
034	SAMPLE	220794-004	376858	9.81	659839	10.93	436318	15.07	165745	17.79
035	SAMPLE	220795-003	388635	9.80	672926	10.93	463722	15.07	169603	17.80

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 470252482

Date : 06/24/10
 Sequence : MSVOA08 hfo

Reference : hfi10
 Analyzed : 06/18/10 15:55

#	Type	Sample ID	CLBZD5-TIC	RT
		ICAL STD	1435731	15.07
		LOWER LIMIT	717866	14.57
		UPPER LIMIT	2871462	15.57
006	CCV/BS	QC549903	1484588	15.07
011	SAMPLE	220795-003	1459482	15.07
012	SAMPLE	220794-001	1490650	15.07
013	SAMPLE	220794-002	1617827	15.07
014	SAMPLE	220794-004	1655602	15.07
018	CCV		1558856	15.07
030	SAMPLE	220877-001	1415575	15.07
031	SAMPLE	220877-002	1278540	15.06

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 480251057

Date : 06/23/10
 Sequence : MSVOA09 ifn

Reference : idr12
 Analyzed : 04/27/10 23:09

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	2485414	12.38	3818086	13.67	2849149	17.67	1373915	20.18
		LOWER LIMIT	1242707	11.88	1909043	13.17	1424575	17.17	686958	19.68
		UPPER LIMIT	4970828	12.88	7636172	14.17	5698298	18.17	2747830	20.68
003	CCV/BS	QC549704	2014960	12.36	3042367	13.64	2471872	17.65	1276011	20.17
006	CCV/BS	QC549704	2112494	12.36	3203333	13.65	2588397	17.66	1277981	20.17
007	BSD	QC549705	2083951	12.36	3046314	13.65	2401973	17.66	1230149	20.17
008	IB	IB	1866690	12.36	2767157	13.65	2426376	17.66	1271610	20.17
009	BLANK	QC549706	1874838	12.36	2754331	13.65	2224752	17.66	1066880	20.17
010	SAMPLE	220802-003	1843082	12.35	2727408	13.64	2037928	17.66	1029958	20.17
011	SAMPLE	220709-016	1732688	12.35	2558270	13.64	2036303	17.66	994220	20.17
012	SAMPLE	220709-013	1697860	12.36	2523902	13.65	1976020	17.66	1004761	20.17
013	SAMPLE	220709-014	1835940	12.35	2688566	13.64	2187755	17.66	1100365	20.17
014	SAMPLE	220709-015	1920727	12.35	2826635	13.64	2312643	17.66	1126035	20.17
015	SAMPLE	220680-002	1874955	12.35	2847429	13.64	2236170	17.66	1107929	20.16
016	MSS	220680-003	1889065	12.35	2787339	13.64	2200470	17.66	1123713	20.18
017	SAMPLE	220680-005	2060343	12.36	3036764	13.65	2473032	17.66	1203638	20.17
018	SAMPLE	220709-006	2162357	12.35	3157780	13.64	2468830	17.65	1242315	20.17
019	SAMPLE	220709-007	2144509	12.35	3163646	13.64	2463968	17.66	1242606	20.17
020	SAMPLE	220793-016	2114875	12.35	3106461	13.64	2415153	17.66	1247954	20.17
021	SAMPLE	220723-011	2052222	12.35	3109413	13.64	2407225	17.66	1181747	20.17
022	SAMPLE	220723-012	2056821	12.35	3069852	13.64	2428856	17.65	1209958	20.17
023	MS	QC549831	2109136	12.36	3059013	13.65	2385160	17.66	1269678	20.17
024	MSD	QC549832	2205719	12.35	3242580	13.64	2507462	17.66	1293342	20.17
025	IB	IB	2333168	12.35	3391442	13.64	2664904	17.66	1358093	20.17
026	IB	IB	2116868	12.35	3123646	13.64	2697096	17.66	1429442	20.17
027	IB	IB	2140242	12.35	3171737	13.64	2732296	17.66	1436662	20.17

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 480252482

Date : 06/24/10
 Sequence : MSVOA09 ifo

Reference : idr12
 Analyzed : 04/27/10 23:09

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	2485414	12.38	3818086	13.67	2849149	17.67	1373915	20.18
		LOWER LIMIT	1242707	11.88	1909043	13.17	1424575	17.17	686958	19.68
		UPPER LIMIT	4970828	12.88	7636172	14.17	5698298	18.17	2747830	20.68
003	CCV/BS	QC549880	2605673	12.36	3961660	13.65	2962109	17.66	1503291	20.17
004	BSD	QC549881	2516659	12.37	3594318	13.65	2821923	17.66	1437093	20.17
005	IB	IB	2578224	12.37	3775224	13.66	2876969	17.66	1441621	20.17
006	BLANK	QC549882	2490482	12.37	3519519	13.65	2730046	17.66	1388150	20.17
007	SAMPLE	220879-002	2410655	12.36	3474286	13.65	2739317	17.66	1346791	20.17
008	SAMPLE	220879-001	2258964	12.36	3355513	13.65	2599351	17.65	1285297	20.16
009	MSS	220723-002	2268668	12.36	3337497	13.64	2639482	17.66	1297383	20.16
010	SAMPLE	220821-003	2217095	12.36	3278380	13.64	2562523	17.66	1261991	20.17
011	MS	QC549929	2251266	12.36	3343843	13.64	2558520	17.66	1297793	20.16
012	MSD	QC549930	2280148	12.35	3405948	13.64	2629182	17.66	1355594	20.17
014	CCV		2232032	12.35	3383801	13.64	2713777	17.66	1297883	20.17
015	IB	IB	2158001	12.36	3176671	13.65	2748222	17.66	1424161	20.16
016	BLANK	QC549961	2264291	12.37	3243401	13.65	2688285	17.66	1280115	20.17
017	SAMPLE	220723-003	2243408	12.36	3260107	13.65	2541536	17.66	1249350	20.17
018	SAMPLE	220723-009	2095973	12.36	3215151	13.65	2488706	17.66	1240942	20.17
019	SAMPLE	220709-008	2107869	12.36	3176976	13.65	2530640	17.66	1237538	20.17
020	SAMPLE	220709-009	2253905	12.38	3428375	13.66	2655035	17.67	1316720	20.18
021	SAMPLE	220680-004	2315225	12.37	3368963	13.65	2681666	17.66	1340768	20.17
022	SAMPLE	220780-010	2381381	12.37	3409895	13.66	2750580	17.66	1347692	20.17
023	SAMPLE	220780-011	2332173	12.36	3429195	13.65	2675005	17.66	1310527	20.17
024	SAMPLE	220680-012	2384683	12.36	3498924	13.65	2742049	17.66	1335722	20.18
025	SAMPLE	220723-001	2433826	12.37	3493260	13.66	2694472	17.66	1307212	20.17
026	SAMPLE	220723-004	2368201	12.37	3545920	13.65	2736151	17.66	1316743	20.17
027	SAMPLE	220723-005	2324465	12.37	3393975	13.65	2767031	17.66	1310575	20.17
028	SAMPLE	220723-006	2320792	12.37	3459844	13.66	2791429	17.66	1337641	20.17
029	SAMPLE	220723-007	2231313	12.37	3356562	13.66	2610105	17.66	1260549	20.17
030	SAMPLE	220723-008	2232464	12.37	3333659	13.66	2514098	17.66	1250613	20.17
031	SAMPLE	220723-010	2200579	12.37	3286148	13.66	2564440	17.66	1245800	20.17
032	IB	IB	1966276	12.38	2996856	13.66	2619847	17.66	1376945	20.17
033	IB	IB	1999905	12.36	3101002	13.65	2700992	17.67	1445524	20.17
034	IB	IB	1945416	12.37	3012870	13.66	2650783	17.66	1394566	20.17

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 940251064

Date : 06/23/10
 Sequence : MSVOA13 mfn

Reference : mek18
 Analyzed : 05/20/10 23:11

#	Type	Sample ID	PFLBZ	RT	14DFB	RT	CLBZD5	RT	DCBZ14D4	RT
		ICAL STD	316611	11.63	577014	12.47	558006	15.28	319977	17.34
		LOWER LIMIT	158306	11.13	288507	11.97	279003	14.78	159989	16.84
		UPPER LIMIT	633222	12.13	1154028	12.97	1116012	15.78	639954	17.84
008	CCV	20PPB	549855	11.62	829652	12.46	800253	15.27	456312	17.34
010	CCV	20PPB	532102	11.62	809138	12.46	779246	15.27	451986	17.34
012	CCV	20PPB	486045	11.62	733518	12.46	703739	15.27	406188	17.34
013	BS	QC549695	492265	11.62	750286	12.46	739405	15.27	430483	17.34
014	BSD	QC549696	505758	11.62	770069	12.46	757886	15.27	443412	17.34
016	BLANK	QC549697	457645	11.63	733480	12.46	700561	15.27	382648	17.34
017	SAMPLE	220709-001	454549	11.63	745804	12.46	696518	15.27	376967	17.34
018	SAMPLE	220709-010	456234	11.63	743835	12.46	688816	15.27	373319	17.34
019	SAMPLE	220709-002	436638	11.63	711801	12.46	671056	15.27	368970	17.34
020	SAMPLE	220709-003	434672	11.63	721243	12.46	678670	15.27	376198	17.34
021	SAMPLE	220709-004	432353	11.63	707458	12.46	682048	15.27	372078	17.34
022	SAMPLE	220709-005	429663	11.63	709840	12.46	674495	15.27	371728	17.34
023	SAMPLE	220709-011	428313	11.64	707826	12.47	676622	15.27	370255	17.34
024	SAMPLE	220709-012	432588	11.63	711787	12.46	676143	15.27	375976	17.34
025	SAMPLE	220832-001	439953	11.63	711737	12.46	672431	15.27	374249	17.34
026	SAMPLE	220832-002	448649	11.63	705609	12.46	665693	15.27	370385	17.34
027	SAMPLE	220832-005	426506	11.63	704793	12.46	670147	15.27	372296	17.34
028	SAMPLE	220832-006	420656	11.63	697576	12.46	669100	15.27	369005	17.34
029	SAMPLE	220846-001	416530	11.63	690515	12.46	658399	15.27	363620	17.33
030	SAMPLE	220832-003	436307	11.64	694636	12.47	654766	15.27	359372	17.34
031	SAMPLE	220832-004	408037	11.63	677954	12.46	649131	15.27	357389	17.34
032	SAMPLE	220680-004	409532	11.63	688474	12.46	664432	15.27	373718	17.33
033	SAMPLE	220680-010	434227	11.63	712256	12.46	688484	15.27	372699	17.34
034	SAMPLE	220680-011	424795	11.63	706631	12.46	671945	15.27	368691	17.33
035	SAMPLE	220680-012	423680	11.63	696592	12.46	670116	15.27	365038	17.34
036	IB	NP	433854	11.62	695540	12.46	671022	15.27	365638	17.34
037	IB	NP	433831	11.63	706392	12.46	672750	15.27	367165	17.33
038	IB	NP	413355	11.63	675468	12.46	637766	15.27	347796	17.34

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 470241127

Instrument : MSVOA08 Begun : 06/16/10 10:47
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	hfg01	X	IB			06/16/10 10:47	1.0	1	
002	hfg02	TUN	BFB			06/16/10 17:17	1.0	2	
003	hfg03	TUN	BFB			06/16/10 17:38	1.0	2	
004	hfg04	X	IB			06/16/10 18:27	1.0	1	
005	hfg05	X	IB			06/16/10 19:04	1.0	1	
006	hfg06	X	IB			06/16/10 19:42	1.0	1	
007	hfg07	IB	CALIB IB			06/16/10 20:19	1.0	1	
008	hfg08	ICAL	.25/.5PPB			06/16/10 20:57	1.0	3 4 5 6 1	
009	hfg09	ICAL	0.5/1PPB			06/16/10 21:34	1.0	3 4 5 6 1	
010	hfg10	ICAL	2PPB			06/16/10 22:11	1.0	3 4 5 6 1	
011	hfg11	ICAL	5PPB			06/16/10 22:49	1.0	3 4 5 6 1	
012	hfg12	ICAL	10PPB			06/16/10 23:26	1.0	3 4 5 6 1	
013	hfg13	ICAL	20PPB			06/17/10 00:03	1.0	7 8 9 10 1	
014	hfg14	ICAL	50PPB			06/17/10 00:40	1.0	7 8 9 10 1	
015	hfg15	ICAL	75PPB			06/17/10 01:18	1.0	7 8 9 10 1	
016	hfg16	ICAL	100PPB			06/17/10 01:55	1.0	7 8 9 10 1	
017	hfg17	ICV	25PPB			06/17/10 02:32	1.0	11 1	
018	hfg18	ICV	25PPB			06/17/10 03:08	1.0	12 13 14 1	1:CEVETH=100
019	hfg19	X	IB			06/17/10 03:45	1.0	1	
020	hfg20	X	IB			06/17/10 04:22	1.0	1	

BJP 06/22/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

Analyst: BJP Date: 06/22/10 Reviewer: LW Date: 06/22/10
 Standards used: 1=S14572 2=S13652 3=S14834 4=S14738 5=S14742 6=S14739 7=S14722 8=S14747 9=S14228 10=S14230 11=S14846
 12=S14688 13=S14573 14=S14594

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 470252482

Instrument : MSVOA08 Begun : 06/24/10 08:02
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	hfo01	X	IB			06/24/10 08:02	1.0	1	
002	hfo02	TUN	BFB			06/24/10 09:46	1.0	2	
004	hfo04	CCV/BS	QC549901	Water	164352	06/24/10 10:12	1.0	3 4 5 6 1	
005	hfo05	BSD	QC549902	Water	164352	06/24/10 10:49	1.0	3 4 5 6 1	
006	hfo06	CCV/BS	QC549903	Water	164352	06/24/10 11:26	1.0	7 1	
007	hfo07	BSD	QC549904	Water	164352	06/24/10 12:03	1.0	7 1	
008	hfo08	X	IB			06/24/10 12:41	1.0	1	
009	hfo09	BLANK	QC549900	Water	164352	06/24/10 13:18	1.0	1	
010	hfo10	IB		Water		06/24/10 13:55	1.0	1	
011	hfo11	SAMPLE	220795-003	Water	164352	06/24/10 14:32	5.0	1	
012	hfo12	SAMPLE	220794-001	Water	164352	06/24/10 15:09	1.667	1	
013	hfo13	SAMPLE	220794-002	Water	164352	06/24/10 15:47	2.0	1	
014	hfo14	SAMPLE	220794-004	Water	164352	06/24/10 16:24	10.0	1	
015	hfo15	TUN	BFB			06/24/10 16:51	1.0	2	
016	hfo16	TUN	BFB			06/24/10 17:02	1.0	2	
017	hfo17	CCV				06/24/10 17:26	1.0	3 4 5 6 1	1:CEVETH=110
018	hfo18	CCV				06/24/10 18:04	1.0	7 1	1:BZME=110
019	hfo19	X	IB			06/24/10 18:41	1.0	1	
020	hfo20	BLANK	QC549980	Water	164352	06/24/10 19:18	1.0	1	
021	hfo21	SAMPLE	220680-010	Water	164352	06/24/10 19:55	6.25	1	headspace <= 1 mL
022	hfo22	SAMPLE	220680-011	Water	164352	06/24/10 20:32	16.67	1	headspace <= 1 mL
023	hfo23	SAMPLE	220709-013	Water	164352	06/24/10 21:09	4.0	1	
024	hfo24	SAMPLE	220709-002	Water	164352	06/24/10 21:47	1.0	1	headspace <= 1 mL
025	hfo25	SAMPLE	220709-003	Water	164352	06/24/10 22:24	1.0	1	headspace <= 1 mL
026	hfo26	SAMPLE	220709-004	Water	164352	06/24/10 23:00	1.0	1	headspace <= 1 mL
027	hfo27	SAMPLE	220709-005	Water	164352	06/24/10 23:37	1.0	1	headspace <= 1 mL
028	hfo28	SAMPLE	220709-011	Water	164352	06/25/10 00:15	1.0	1	headspace <= 1 mL
029	hfo29	SAMPLE	220709-012	Water	164352	06/25/10 00:52	1.0	1	headspace <= 1 mL
030	hfo30	SAMPLE	220877-001	Water	164352	06/25/10 01:29	1.0	1	
031	hfo31	SAMPLE	220877-002	Water	164352	06/25/10 02:06	1.0	1	
032	hfo32	SAMPLE	220794-001	Water	164352	06/25/10 02:44	1.0	1	
033	hfo33	SAMPLE	220794-002	Water	164352	06/25/10 03:21	1.0	1	1:PBZN=180
034	hfo34	SAMPLE	220794-004	Water	164352	06/25/10 03:58	1.0	1	1:TMB124=150
035	hfo35	SAMPLE	220795-003	Water	164352	06/25/10 04:35	1.0	1	
036	hfo36	X	IB			06/25/10 05:12	1.0	1	
037	hfo37	X	IB			06/25/10 05:49	1.0	1	

MCT 06/25/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 37.

LW 06/25/10 : Matrix spikes were not performed for this analysis in batch 164352 due to insufficient sample amount.

Analyst: MCT Date: 06/25/10 Reviewer: LW Date: 06/25/10

Standards used: 1=S14572 2=S13652 3=S14594 4=S14688 5=S14846 6=S14573 7=S14540

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 480252482

Instrument : MSVOA09
 Method : EPA 8260B

Begun : 06/24/10 08:02
 SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	ifo01	X	IB			06/24/10 08:02	1.0	1	
002	ifo02	TUN	BFB			06/24/10 08:31	1.0	2	
003	ifo03	CCV/BS	QC549880	Water	164347	06/24/10 08:58	1.0	3 4 5 6 1	
004	ifo04	BSD	QC549881	Water	164347	06/24/10 09:42	1.0	3 4 5 6 1	
005	ifo05	IB	IB			06/24/10 10:17	1.0	1	
006	ifo06	BLANK	QC549882	Water	164347	06/24/10 10:50	1.0	1	
007	ifo07	SAMPLE	220879-002	Water	164347	06/24/10 11:30	1.0	1	
008	ifo08	SAMPLE	220879-001	Water	164347	06/24/10 12:03	1.0	1	
009	ifo09	MSS	220723-002	Water	164347	06/24/10 12:37	1.0	1	
010	ifo10	SAMPLE	220821-003	Water	164347	06/24/10 13:15	2000	1	headspace <= 1 mL, 1:ACE=2600
011	ifo11	MS	QC549929	Water	164347	06/24/10 13:49	1.0	3 4 5 6 1	
012	ifo12	MSD	QC549930	Water	164347	06/24/10 14:23	1.0	3 4 5 6 1	
013	ifo13	TUN	BFB			06/24/10 15:18	1.0	2	
014	ifo14	CCV				06/24/10 15:45	1.0	3 4 5 6 1	
015	ifo15	IB	IB			06/24/10 16:30	1.0	1	
016	ifo16	BLANK	QC549961	Water	164347	06/24/10 17:04	1.0	1	
017	ifo17	SAMPLE	220723-003	Water	164347	06/24/10 17:38	1.0	1	
018	ifo18	SAMPLE	220723-009	Water	164347	06/24/10 18:12	1.0	1	
019	ifo19	SAMPLE	220709-008	Water	164347	06/24/10 18:46	1.0	1	
020	ifo20	SAMPLE	220709-009	Water	164347	06/24/10 19:20	1.0	1	
021	ifo21	SAMPLE	220680-004	Water	164347	06/24/10 19:54	1.0	1	headspace <= 1 mL
022	ifo22	SAMPLE	220780-010	Water	164347	06/24/10 20:27	1.0	1	
023	ifo23	SAMPLE	220780-011	Water	164347	06/24/10 21:01	1.0	1	
024	ifo24	SAMPLE	220680-012	Water	164347	06/24/10 21:34	12.50	1	
025	ifo25	SAMPLE	220723-001	Water	164347	06/24/10 22:08	6.25	1	
026	ifo26	SAMPLE	220723-004	Water	164347	06/24/10 22:41	25.0	1	
027	ifo27	SAMPLE	220723-005	Water	164347	06/24/10 23:15	20.0	1	
028	ifo28	SAMPLE	220723-006	Water	164347	06/24/10 23:48	2.0	1	
029	ifo29	SAMPLE	220723-007	Water	164347	06/25/10 00:21	1.429	1	
030	ifo30	SAMPLE	220723-008	Water	164347	06/25/10 00:54	7.143	1	
031	ifo31	SAMPLE	220723-010	Water	164347	06/25/10 01:28	5.0	1	
032	ifo32	IB	IB			06/25/10 02:02	1.0	1	
033	ifo33	IB	IB			06/25/10 02:36	1.0	1	
034	ifo34	IB	IB			06/25/10 03:09	1.0	1	

TDL 06/24/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

BJP 06/25/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 13 through 34.

Analyst: TDL Date: 06/25/10 Reviewer: LW Date: 06/25/10

Standards used: 1=S14956 2=S13652 3=S14737 4=S14573 5=S14688 6=S14845

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 940202186

Instrument : MSVOA13 Begun : 05/20/10 09:46
 Method : EPA 8260B SOP Version : TVH_8260B_rv0

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	mek01	X	25PPB			05/20/10 09:46	1.0	1
002	mek02	X	IB			05/20/10 10:14	1.0	1
003	mek03	X	IB			05/20/10 10:41	1.0	1
004	mek04	X	IB			05/20/10 11:10	1.0	1
005	mek05	X	LOW PT			05/20/10 11:38	1.0	1
006	mek06	X	LOW PT			05/20/10 12:06	1.0	1
007	mek07	X	LOW PT			05/20/10 14:52	1.0	1
008	mek08	TUN	BFB			05/20/10 18:39	1.0	2
009	mek09	TUN	BFB			05/20/10 18:56	1.0	2
010	mek10	IB	IB			05/20/10 19:23	1.0	1
011	mek11	IB	CALIB IB			05/20/10 19:51	1.0	1
012	mek12	ICAL	.25/.5PPB			05/20/10 20:20	1.0	3 4 5 6 1
013	mek13	ICAL	0.5/1PPB			05/20/10 20:49	1.0	3 4 5 6 1
014	mek14	ICAL	2PPB			05/20/10 21:17	1.0	3 4 5 6 1
015	mek15	ICAL	5PPB			05/20/10 21:46	1.0	3 4 5 6 1
016	mek16	ICAL	10PPB			05/20/10 22:14	1.0	3 4 5 6 1
017	mek17	ICAL	20PPB			05/20/10 22:42	1.0	7 8 9 10 1
018	mek18	ICAL	50PPB			05/20/10 23:11	1.0	7 8 9 10 1
019	mek19	ICAL	75PPB			05/20/10 23:39	1.0	7 8 9 10 1
020	mek20	ICAL	100PPB			05/21/10 00:08	1.0	7 8 9 10 1
021	mek21	ICV	25PPB			05/21/10 00:36	1.0	11 1
022	mek22	ICV	25PPB			05/21/10 01:04	1.0	12 13 14 1
023	mek23	IB	IB			05/21/10 01:32	1.0	1
024	mek24	IB	IB			05/21/10 02:01	1.0	1
025	mek25	IB	IB			05/21/10 02:29	1.0	1

BJP 06/14/10 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 25.

Analyst: BJP Date: 06/14/10 Reviewer: LW Date: 06/14/10
 Standards used: 1=S14658 2=S13652 3=S14651 4=S14417 5=S14420 6=S14574 7=S14415 8=S14386 9=S14228 10=S14158 11=S14605
 12=S14253 13=S14323 14=S14573

GC/MS VOLATILE ORGANICS

Batch #: 164300

Water Sample Prep Sheet

John 5/22/10

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
220709-001	A	<2	~5ml			13	PP TB	10/23/10 JAM
-002	C						IX	
003								
004								
005								
010	A		15ml				TB	
011	C		15ml				IX	
012			15ml				IX	
220680-004	C				6		2X	
-010					7		0.25X	
-011					8		10.7X	
-012					10		20X	
220846-001	A						IX	
210832-001							IX	
002							IX	
003							IX	
004							IX	
005							IX	
010							IX	

GC/MS VOLATILE ORGANICS

Batch #: 164302

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head space?	Shelf	Dilin Flask	MS#	Comments	Initials & Date
1	220802-3							
2	220686-2	4.2	7 ml		100	9	TD @ 1X RL=0.5 for DBCP	TDC 6/24/10
3	3				6/24/10		OD	
4	MS						OD	
5	MSD						OD	
6	5						OD	
7	6						OD	
8	220709-6						OD	
9	7						OD	
10	13						OD	
11	14						OD	
12	15						OD	
13	16						OD	
14	22203-16						OD	
15	220723-11						OD	
16	12						OD	
17							OD	
18							OD	
19							OD	
20							OD	
21							OD	
22							OD	
23							OD	
24							OD	
25							OD	
26							OD	
27							OD	
28							OD	
29							OD	
30							OD	
31							OD	
32							OD	
33							OD	
34							OD	
35							OD	

GC/MS VOLATILE ORGANICS

Batch #: 164347

Water Sample Prep Sheet

Sample Number	Sample Vial	pH	Head spacer?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
1	220819-1	<2		18		9	1x	6/24/10
2	220723-2	<2		13			TB	
3	MS	<2					1x	
4	MSD	<2					6.25x	
5		<2					1x	
6		<2					25x	
7		<2					20x	
8		<2					2x	
9		<2					1.42x	
10		<2					7.14x	
11		<2					1x	
12		<2					5x	
13		<2					PR	
14		<2					PR	
15	220821-3	<2	<1ml		2		@ 2000x	
16	220680-4	<2	<1ml		7		@ 1x	
17		<2					@ 12.5x	
18	220709-8	<2					@ 1x	
19		<2					@ 1x	
20	220780-10	<2					@ 1x	
21		<2					1x	
22		<2					1x	
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								

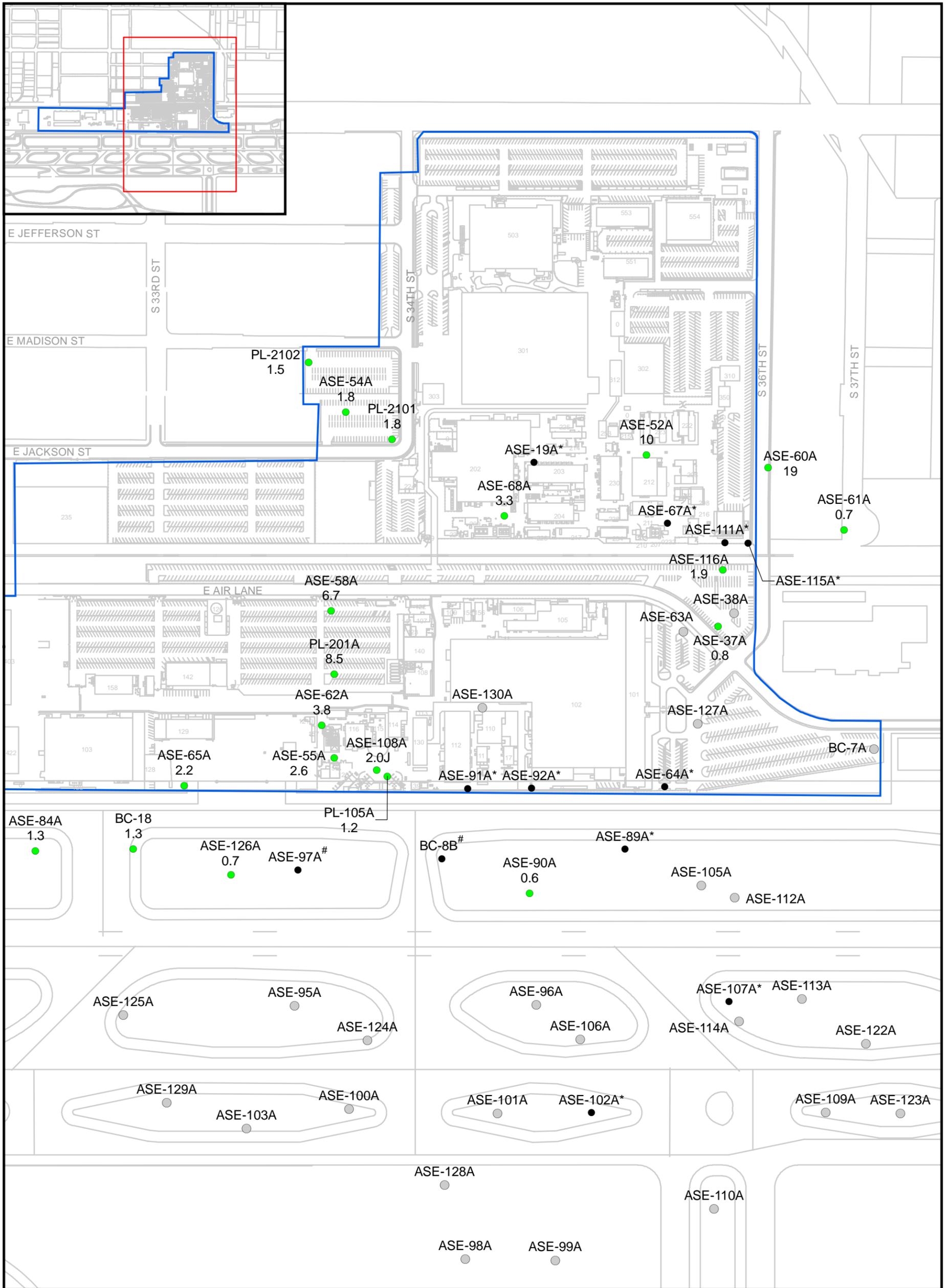
VOA Water Prep Sheet 050508

Curtis & Tompkins, Ltd.

Rv.3 Effective 5/05/08

Sample Number	Sample Vial	pH	Head space?	Shelf	Dil'n Flask	MS#	Comments	Initials & Date
220795-003	B	<2			2	8	RR @ 4x for MIBE.	JUR 6/24/08
220794-001	A	<2			8	RR @ 4x for MIBE.		
220794-002	A	<2			9	RR @ 4x for MIBE.		
220794-004	A	<2			10	RR @ 4x for MIBE.		
220877-001	B	↓						
220877-002	B	↓						
220709-013	B	<2			3	RR @ 4x for MIBE.		
220709-014	B	<2						
220709-015	B	<2						
220709-016	B	<2						
220709-017	B	<2						
220709-018	B	<2						
220709-019	B	<2						
220709-020	B	<2						
220660-010	B	<2						
220795-003	A	<2	1ml		1	RR @ 4x for MIBE.		
220794-001	A	<2	1ml		2	RR @ 4x for MIBE.		
220794-002	B	↓						
220794-004	B	↓						

Appendix I
Total TCE and Total TCA Figures,
Groundwater Parameters



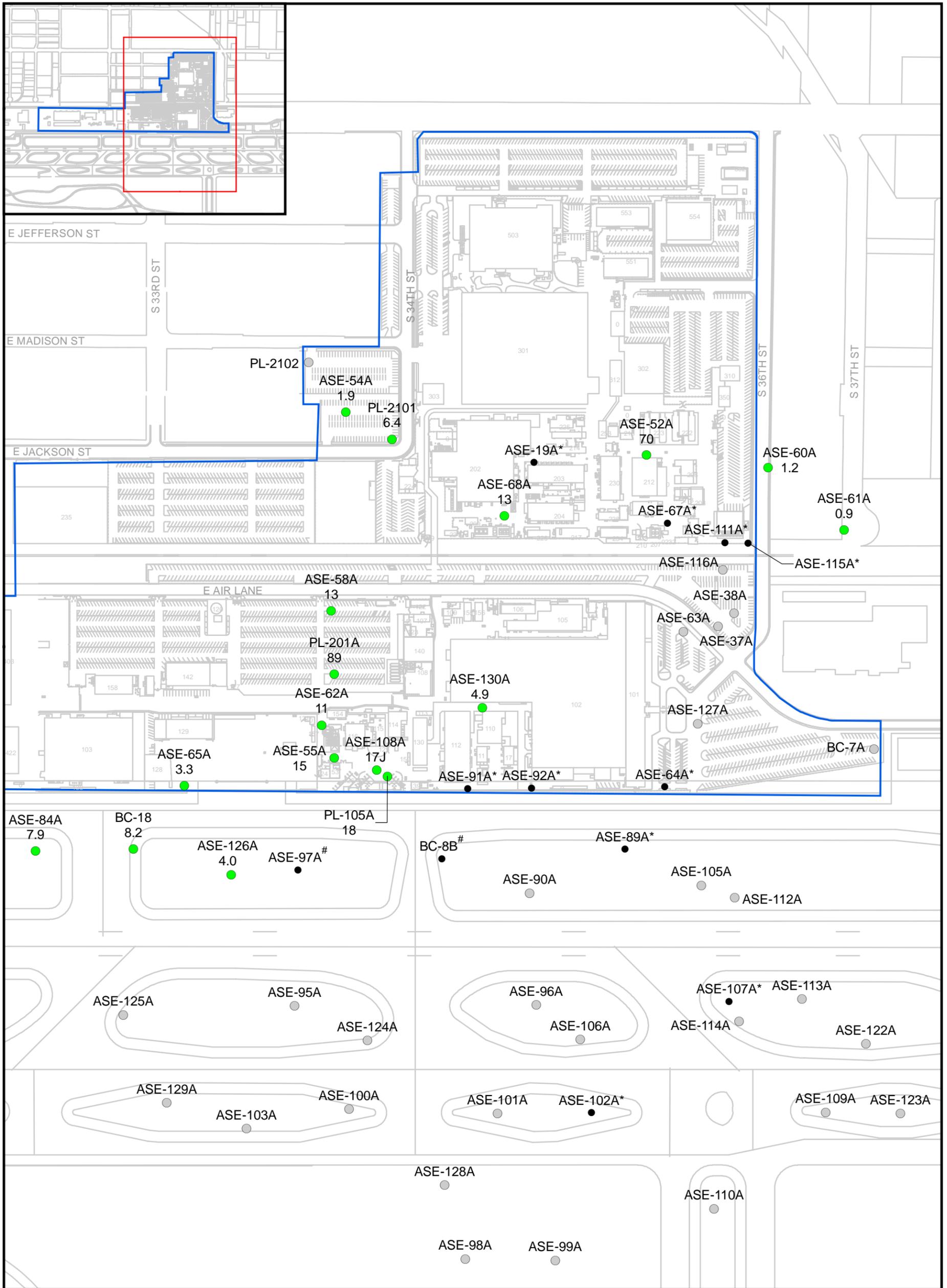
Legend

- Compound Detected (µg/L)
- Compound Not Detected
- Well Not Sampled
- Street and Airport Features
- Honeywell Facility



- Notes:
1. µg/L = micrograms per liter
 2. Value posted is the sum of trichloroethene, cis-1,2-dichloroethene, and vinyl chloride.
 3. Samples collected between June 7, 2010 and June 11, 2010.
 4. * Indicates monitoring well not sampled due to presence of free product per CH2M HILL, 2008a.
 5. # Indicates monitoring well not sampled due to connection to BSVE system.
 6. J = Analyte detected, but concentration estimated by laboratory.

FIGURE I-1
TOTAL TRICHLOROETHENE
JUNE 2010
GROUNDWATER PARAMETERS
Honeywell 34th Street Facility
Phoenix, Arizona



Legend

- Compound Detected (µg/L)
- Compound Not Detected
- Well Not Sampled
- Street and Airport Features
- Honeywell Facility



Notes:
 1. µg/L = micrograms per liter
 2. Value posted is the sum of 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethene, and chloroethane.
 3. Samples collected between June 7, 2010 and June 11, 2010.
 4. * Indicates monitoring well not sampled due to presence of free product per CH2M HILL, 2008a.
 5. # Indicates monitoring well not sampled due to connection to BSVE system.
 6. J = Analyte detected, but concentration estimated by laboratory.

FIGURE I-2
TOTAL TRICHLOROETHANE
JUNE 2010
GROUNDWATER PARAMETERS
Honeywell 34th Street Facility
Phoenix, Arizona

Appendix J
LNAPL Mobility Assessment for the Honeywell
34th Street Facility Phase C Area, Phoenix,
Arizona, Technical Memorandum

LNAPL Mobility Assessment for the Honeywell 34th Street Facility Phase C Area, Phoenix, Arizona

PREPARED FOR: Honeywell International Inc.

PREPARED BY: Robert J. Frank, R.G./CH2M HILL

COPIES: Dr. Robert Hinchee/IST
Doug Ashline/CH2M HILL
Kathy Trapp/CH2M HILL

DATE: August 20, 2010

PROJECT NUMBER: 401699.HW.41.02

An analysis of the potential in-situ light nonaqueous-phase liquid (LNAPL) mobility in subsurface soils associated with the Phase C area on Phoenix Sky Harbor International Airport (the site) indicated that there is little risk of LNAPL mobility. Based on recent soil sampling conducted in 2009, the LNAPL found at the site exists at saturations below the residual saturation level and is therefore deemed immobile. To be conservative, further evaluation was performed that concluded that even if LNAPL saturations existed in exceedance of the residual LNAPL saturation, the LNAPL would have limited mobility. This result was supported by additional lines of evidence such as the limited amount of LNAPL recovered from monitoring wells at the site, as well as the stability of the associated dissolved-phase plumes. The LNAPL as a whole appears to be immobile, and even applying worst-case assumptions, the maximum LNAPL pore seepage velocity generated from the soil and fluid parameters would be approximately 7 feet per year.

These conclusions are based on recent drilling conducted at the site and prior investigative work in the area. The LNAPL mobility assessment was performed using laboratory analytical results from a representative set of soil and fluid samples collected from soil borings and monitoring wells at the site in December 2009 (soil) and June 2004 (fluid). All laboratory analyses were performed by PTS Laboratories, Inc. of Santa Fe Springs, California. The Phase C area is defined as the area located north of Runway 8-26 on Phoenix Sky Harbor International Airport and south of the Honeywell International Inc. (Honeywell) 34th Street facility southern fence line.

This technical memorandum presents:

- The purpose and scope of the LNAPL mobility assessment.
- The sampling approach for the purpose of characterizing the LNAPL mobility.
- The data reduction and calculations used to perform the LNAPL mobility assessment.
- The results of the LNAPL mobility assessment.
- Additional lines of evidence in support of the LNAPL mobility assessment results.

Purpose and Scope

The LNAPL mobility assessment examines the relationship between the characteristics of the subsurface soil matrix and the properties of the fluids (LNAPL and groundwater) found at the site. This relationship is used to evaluate the mobility of the LNAPL under ambient conditions in representative areas of the LNAPL plume. It is important to understand that LNAPL typically moves significantly (orders of magnitude) slower than groundwater. Because LNAPL shares pore spaces with water (water is the wetting fluid so it “coats” the soil particles; LNAPL is the non-wetting fluid so it resides in the remaining pore space, surrounded by water), movement of LNAPL is inhibited by the pressures required to displace the water (American Petroleum Institute, 2003).

The LNAPL mobility assessment was conducted, and the objectives were met through installation of conventional soil borings to collect intact core samples and collection of LNAPL and groundwater pair samples from a nearby monitoring well for specialty testing.

Sampling and Analysis Activities

During the Phase C injection/extraction well installation program in late 2009, intact soil cores from within LNAPL-saturated zones were collected from select borings for specialty laboratory testing. LNAPL and groundwater sample pairs were previously collected from an existing adjacent monitoring well for specialty laboratory testing. The objective was to gather data to evaluate the LNAPL in terms of its potential mobility. The locations of the soil borings and sampling points are shown in Figure J-1.

Soil Borings

As shown in Figure J-1, four soil borings were advanced at the site and used for the LNAPL mobility assessment sampling. Two soil borings (BV-30N and BV-33N) were located within proximity to the center of the historical LNAPL plume, and two soil borings (BV-29N and BV-31N) were located on the flank of the historical LNAPL plume. These locations were selected to provide the best opportunity to collect LNAPL-saturated soil samples and to provide a range of values across the eastern half of the Phase C area. The soil borings were also located near monitoring well ASE-89A, the well from which the LNAPL and water samples were previously collected.

Each borehole was advanced using a Becker-type air percussion drill rig to a depth of approximately 75 feet below ground surface (bgs). Beginning at that depth, soil was continuously cored to approximately 90 feet bgs. Six-inch brass liners were used in conjunction with a 24-inch long (2½-inch inside diameter) core barrel to collect the continuous cores. The collection of continuous core from 75 feet to 90 feet bgs was chosen based on previous samples in the vicinity and the historical maximum LNAPL thickness in nearby monitoring well ASE-89A. In August 2004, the LNAPL thickness in monitoring well ASE-89A was 1.6 feet (historical maximum), and the depth to the water table was approximately 84 feet bgs. Because the depth to the water table in December 2009 was approximately 69.5 feet bgs, all soil samples for the LNAPL mobility assessment were collected from below the water table (submerged conditions).

Upon retrieval of the sampling device, each core was immediately capped, packed, and flash-frozen with dry ice to “lock” the pore fluids, soil grains, and LNAPL in place. The frozen core was then shipped overnight to PTS Laboratories, Inc. of Santa Fe Springs, California, a laboratory specializing in the analysis of soil and LNAPL for parameters used in mobility assessments. Forty-two soil cores were collected from the borings for laboratory analysis.

Soil Laboratory Analysis

Upon receipt of the 42 frozen soil cores, the laboratory cryogenically cut the length of each core to expose the soil profile and photographed each core under white light (color photography) and ultraviolet (UV) light. The color and UV core photographs were reviewed by CH2M HILL to determine areas of high UV fluorescence, indicative of zones of high LNAPL saturation. However, none of the photographs showed any significant UV fluorescence to assist in the selection of samples for further analysis. As such, soil core collected from the two soil borings located within proximity to the center of the historical LNAPL plume (BV-30N and BV-33N) was chosen for the pore fluid saturation (PFS) tests. Representative intervals from three of the four soil borings (BV-30N, BV-31N, and BV-33N) were selected for residual LNAPL saturation analysis. Soil samples were also selected for capillary characteristics analysis to provide data on the variety of soil types observed at the site. A summary of laboratory analyses conducted for each soil boring is included in Table J-1, and the resultant properties from the soils’ analysis from borings BV-31N and BV-33N are included in Table J-2. The detailed results of the laboratory analysis and all the soil core photographs are compiled in Attachment J1.

LNAPL and Groundwater Sampling and Analysis

In addition to the soil cores, an LNAPL sample and a groundwater sample for fluid properties analysis were collected from monitoring well ASE-89A. These samples were collected on June 10, 2004 and were analyzed by PTS Laboratories shortly after collection using their LNAPL Fluid Properties Analysis package. This analysis included dynamic viscosity, fluid density at three temperatures, and interfacial tension (three phase pairs: LNAPL/water, LNAPL/air, and water/air). The LNAPL and groundwater samples were collected from monitoring well ASE-89A using a single-use disposable bailer and twine. Table J-2 presents the properties of the LNAPL and groundwater collected from monitoring well ASE-89A. Attachment J1 contains the detailed laboratory reports.

Results of the LNAPL Mobility Assessment

LNAPL mobility was assessed for three individual locations (BV-30N, BV-31N, and BV-33N) based on the laboratory data collected. In general, analyses were performed at the locations of peak LNAPL saturations (based on historical data, field observations, and laboratory analysis) to understand the potential mobility at the locations and depths where LNAPL is most likely to be mobile. Two soil boring locations (BV-29N and BV-31N) were selected for sampling at the outer limits of the historical LNAPL plume to provide representative data for locations which are not considered to be within the core of the LNAPL plume. However, because the core photographs did not indicate any significant amount of LNAPL in the soil samples, soil boring BV-31N was chosen to represent the

fringe of the LNAPL plume; therefore, soil boring BV-29N was not analyzed beyond the core photography stage.

It should be noted that the LNAPL mobility assessment and data analysis discussed below is considered highly site-specific because all of the data used were generated from the laboratory analysis of intact core samples that are inferred to be representative of in-situ conditions at the site.

LNAPL Pore Fluid Saturation

The first step of the LNAPL mobility analysis involved review of the PFS and residual saturation tests to determine which core locations exhibited the potential for LNAPL mobility. LNAPL saturation was measured by the laboratory for soil samples collected from soil borings BV-30N (nine samples spanning a 12-foot range) and BV-33N (11 samples spanning a 13.5-foot range) based on those borings' location to the historical LNAPL plume and the locations previously analyzed for LNAPL saturation (monitoring wells ASE-89A, ASE-90A, ASE-91A, and ASE-92A). The goal was to select the locations that provided the highest LNAPL saturations.

As shown in Table J-3, the LNAPL saturations in both borings were fairly consistent across the entire depth range of sampling, indicative of a smear zone caused by historical water table fluctuations in an area downgradient or away from the source. The peak LNAPL saturations were 9.8 percent in the poorly-graded sand with gravel (SP) sample from soil boring location BV-33N (89.2 feet bgs) and 9.4 percent in the well-graded sand with gravel (SW) sample from soil boring location BV-30N (79.9 feet bgs). These values are consistent with the LNAPL saturations from soil collected in 2004 at monitoring wells ASE-89A, ASE-90A, ASE, 91A, and ASE-92A. The results from that sampling indicated a peak LNAPL saturation of 10.7 percent (ASE-92A at 85.5 feet bgs), with most detectable saturations of LNAPL in the 0.1 to 1.8 percent range (CH2M HILL, 2004a-b).

Residual LNAPL Saturation

Residual LNAPL saturation is a critical measurement because LNAPL will not migrate if it is present at concentrations below the residual LNAPL saturation. Residual LNAPL saturation is defined as the saturation of LNAPL below which LNAPL is present only as disconnected globules and will not migrate under typical gradients because of physical constraints resulting from the disconnected nature of the LNAPL globules, and the presence of trapped water and air within the same pore space. The residual saturation results, in conjunction with the measured LNAPL saturation, were used to identify locations where more detailed LNAPL mobility analysis was necessary.

Residual LNAPL saturation tests (using the constant rate injection relative permeability test method) were performed on three soil samples to better understand the potential for LNAPL mobility. Representative sub-samples chosen by CH2M HILL were collected by the laboratory from the soil cores, and pressurized water was injected into the soil sample to displace the LNAPL and determine the residual LNAPL saturation. The residual LNAPL saturation tests are summarized in Table J-3.

Table J-3 shows that the residual LNAPL saturation was estimated to range from 16.6 percent in the well-graded sand with gravel (SW) sample from soil boring location BV-30N

to 18.5 percent in the poorly-graded sand with gravel (SP) sample from soil boring location BV-33N. Because the laboratory was forced to repack the sample from soil boring BV-31N into the sampling sleeve, the residual LNAPL saturation result from this location (27.6 percent) was determined not to be representative of the soils in the Phase C area.

As indicated above, the peak measured LNAPL saturation in the poorly-graded sand with gravel sample from soil boring BV-33N (9.8 percent) is below both the residual LNAPL saturation reported from the same soil material in the same soil boring (18.5 percent) and the well-graded sand with gravel sample from soil boring location BV-30N (16.6 percent). Similarly, the peak measured LNAPL saturation in the well-graded sand with gravel sample from soil boring BV-30N (9.4 percent) is below the residual LNAPL saturation reported from that location (16.6 percent) and soil boring BV-33N (18.5 percent). Therefore, because the peak measured LNAPL saturations are lower than the residual LNAPL saturations, LNAPL from these locations is considered immobile.

Further Evaluation

Despite the highest measured LNAPL saturation being below the lowest residual LNAPL saturation, and therefore indicative that the LNAPL is immobile, further analysis was performed to evaluate the potential for LNAPL mobility not accounting for residual LNAPL saturation. Because the highest measured LNAPL saturation was detected in soil boring BV-33N, data from that boring were used for the further analysis.

Capillary Pressure Test Data Analysis

Further evaluation of the potential for LNAPL mobility involved using the raw drainage-capillary pressure test data from soil boring BV-33N, the location that exhibited the greatest measured LNAPL saturation, to estimate the van Genuchten curve-fitting parameters using the following equation (van Genuchten, 1980):

$$S = (1 - S_r) \left[\frac{1}{1 + [\alpha(P_c / \gamma_w)]^N} \right]^{(1 - \frac{1}{N})} + S_r \quad (1)$$

where:

S is the fluid saturation.

S_r is the residual water saturation.

P_c / γ_w is the capillary pressure head (cm).

N and α (cm⁻¹) are model-fitting parameters.

The van Genuchten parameters (α and N) are used to fit the equation to the laboratory drainage-capillary pressure test data (the parameter α is roughly the inverse of the capillary fringe height and N is a measure of the slope of the curve). In addition, the residual water saturation is estimated as part of the curve-fitting analysis.

The two-phase (air and water) van Genuchten equation was modified by the work of Farr et al. (1990) and Lenhard and Parker (1990) to account for a third phase (LNAPL). Thus, under vertical equilibrium, water saturation (S_w), and LNAPL saturation (S_o) are given by:

$$S_w = (1 - S_r) \left[\frac{1}{1 + [\alpha_{ow} (P_c^{ow} / \gamma_w)]^N} \right]^{(1 - \frac{1}{N})} + S_r \quad (2)$$

$$S_o + S_w = (1 - S_r) \left[\frac{1}{1 + [\alpha_{ao} (P_c^{ao} / \gamma_w)]^N} \right]^{(1 - \frac{1}{N})} + S_r \quad (3)$$

where:

α_{ow} is the van Genuchten parameter for an LNAPL/water system.

α_{ao} is the van Genuchten parameter for an air/LNAPL system.

By scaling the van Genuchten parameter, α_{aw} , for an air/water system (the α generated from the curve fit), the LNAPL/water (α_{ow}) and air/LNAPL (α_{ao}) parameters can be calculated as:

$$\alpha_{ow} = \alpha_{aw} \left(\frac{\sigma_{aw}}{\sigma_{ow}} \right); \quad \alpha_{ao} = \alpha_{aw} \left(\frac{\sigma_{aw}}{\sigma_{ao}} \right) \quad (4)$$

where:

σ_{aw} is the air/water surface tension (dyne/cm).

σ_{ow} is the LNAPL/water surface tension (dyne/cm).

σ_{ao} is the air/LNAPL surface tension (dyne/cm).

The modified form of the van Genuchten equation presented above was used to estimate the theoretical LNAPL saturation profile above the LNAPL/water interface using the laboratory capillary pressure data and site-specific fluid (water and LNAPL) parameters. The correlation between LNAPL saturation and elevation above the LNAPL/water interface was then used to determine the relationship between LNAPL saturation (thickness) and mobility using the process and equations described below.

Table J-2 presents the generated van Genuchten curve-fitting parameters, along with other fluid and soil parameters necessary for the LNAPL mobility analysis presented below. The table presents the parameters generated from the BV-33N sample that was collected and analyzed for site-specific capillary characteristics, along with the fluid mobility parameters generated from LNAPL sample collected from nearby monitoring well ASE-89A in 2004.

In addition to the soil capillary characteristic parameters and the fluid mobility parameters, the LNAPL mobility assessment requires a representative LNAPL thickness for each location being evaluated. To represent generally a worst case for potential LNAPL mobility

at the site, the maximum LNAPL thicknesses measured in monitoring well ASE-89A (1.6 feet measured in August 2004) was used for the LNAPL mobility calculations.

LNAPL Saturation Profiles

Using the equations presented above, a theoretical LNAPL saturation curve was generated for the soil sample from BV-33N. The theoretical LNAPL saturation profile above the LNAPL/water interface estimated in this evaluation using the raw drainage-capillary pressure data are presented in Attachment J2 and as Figure J-2.

Conceptually, the theoretical LNAPL saturation profile figure can be interpreted as follows: at the LNAPL/water interface, the theoretical fluid saturation is 100 percent and consists completely of water-filled pores (100 percent water saturation, zero LNAPL saturation, zero air). As the elevation above this interface increases, the LNAPL saturation increases (and consequently the water saturation decreases) to a maximum near the LNAPL/air interface. Between the LNAPL/water interface and the LNAPL/air interface, the total fluid saturation is assumed to be 100 percent and comprises LNAPL and water. Above the LNAPL/air interface (and within the LNAPL capillary fringe), the total saturation consists of LNAPL, water, and air, until at some elevation above this interface, only air and water occupy the pore spaces.

As shown in Figure J-2, the maximum theoretical LNAPL saturation value for the sample collected from soil boring BV-33N at a depth of 75.1 feet bgs (depth of capillary characteristic sample) was 8.1 percent. As stated above, the maximum measured LNAPL saturation at this soil boring location was 9.8 percent (measured at a depth of 89.2 feet bgs). The maximum theoretical LNAPL saturation was generally close to the maximum measured LNAPL saturation for the associated soil boring. Therefore, the laboratory-derived curve-fitting parameters were not refined any further. The LNAPL mobility analysis described below was performed using the theoretical saturation profile presented in Figure J-2.

LNAPL Relative Permeability and Conductivity

LNAPL relative permeability is exponentially related to LNAPL saturation. In other words, as LNAPL saturation decreases, the relative permeability of the LNAPL decreases exponentially. The relative permeability of the LNAPL (k_{ro}) in a three-phase system (air, water, LNAPL) can be calculated using the Mualem expression (Parker, 1989):

$$k_{ro} = (\bar{S}_t - \bar{S}_w)^{1/2} \left[\left(1 - \bar{S}_w^{1/m}\right)^m - \left(1 - \bar{S}_t^{1/m}\right)^m \right]^2 \quad (5)$$

where:

$$\bar{S}_w = \frac{S_w - S_r}{1 - S_r} \quad \bar{S}_t = \frac{S_t - S_r}{1 - S_r} \quad (6)$$

S_w = water saturation.

S_t = total fluid saturation.

S_r = residual saturation.

$$m = 1 - (1/N).$$

The conductivity to LNAPL (K_{LNAPL} ; centimeters/second [cm/sec]) is a measure of the soils' ability to transmit hydrocarbon fluids. It can be calculated as:

$$K_{LNAPL} = k_{ro} K_{sat} \left(\frac{\rho_o / \rho_w}{\mu_o / \mu_w} \right) \quad (7)$$

where:

k_{ro} is the LNAPL relative permeability.

K_{sat} is the saturated hydraulic conductivity (cm/sec).

ρ_o is the LNAPL density (g/cm³).

ρ_w is the water density (g/cm³).

μ_o is the LNAPL viscosity (g/cm sec).

μ_w is the water viscosity (g/cm sec).

Attachment J2 includes the tables showing the theoretical LNAPL relative permeability and LNAPL conductivity values over the entire range of elevations above the LNAPL/water interface for location BV-33N. The maximum value of conductivity to LNAPL generated from the soil and fluid parameters was 4.65×10^{-5} cm/sec in the poorly graded sand with gravel collected from soil boring BV-33N (this value is considered to be a "theoretical" conductivity to LNAPL because it is conservatively calculated based on the maximum saturation, and it was not generated directly from field data, an LNAPL bail-down test).

The resultant conductivity to LNAPL calculated from the above equation can be compared to the generally-accepted LNAPL mobility threshold conductivity of 1×10^{-6} cm/sec. As a point of reference, a hydraulic conductivity of 1×10^{-6} cm/sec is the design standard for hazardous waste landfill liners that are intended to act as impermeable barriers to contain landfill leachate. This value has therefore been suggested by the American Society for Testing and Materials (ASTM) in ASTM E 2531 "Standard Guide for Development of Conceptual Site Models and Remediation Strategies for Light Nonaqueous-Phase Liquids Released to the Subsurface" (ASTM, 2006) as the threshold conductivity value for LNAPL mobility. LNAPL conductivities less than 1×10^{-6} cm/sec are essentially considered non-conductive. Therefore, without consideration for other variables such as LNAPL gradient and residual LNAPL saturation, the LNAPL conductivity results at BV-33N indicate that the LNAPL has some potential for mobility.

Potential LNAPL Mobility

The above analysis uses site-specific data to calculate an in-situ conductivity to LNAPL and this value may be used to estimate an LNAPL pore seepage velocity using a modified form of Darcy's Law. To understand the true potential for LNAPL to migrate in site soils, LNAPL gradients must also be evaluated.

LNAPL Gradients

A critical factor in evaluating LNAPL mobility is an understanding of the LNAPL gradient at the site. Regardless of the conductivity to LNAPL, a gradient has to exist for the LNAPL to actually migrate. By definition, a flat gradient will result in zero movement of fluids. The LNAPL may have the potential to move, but without a “force” (i.e., gradient), the LNAPL will not move.

LNAPL moves under its own gradient based on the elevation of the LNAPL/air interface (the upper “surface” of the LNAPL), but experience has shown that the hydraulic gradient is a good indicator of the LNAPL gradient in cases where the source releases are old, the source is not a continuing source, and the LNAPL plumes are relatively thin, as is the case at the Honeywell facility. That is because with thin LNAPLs, the changes in elevation across the LNAPL are not significantly different than those of the underlying groundwater, and because the piezometric surface is very close to the LNAPL/air interface. Because of this, the pore seepage velocity calculations for this LNAPL mobility assessment were conducted using the March 2010 hydraulic gradient in the vicinity of the soil boring locations and monitoring well ASE-89A (0.0043).

LNAPL Pore Seepage Velocity

Calculations were performed to estimate the distance the LNAPL could migrate under ambient LNAPL gradients at location BV-33N, assuming that the residual LNAPL saturation estimated for the site is somehow lower than the measured LNAPL saturations collected from the soil borings. As stated above, as long as the actual LNAPL saturations are below the residual LNAPL saturation, as was indicated with the laboratory measurements, the LNAPL will not migrate.

The LNAPL pore seepage velocity (PV_{LNAPL}) is calculated as:

$$PV_{LNAPL} = \frac{(K_{LNAPL} * i)}{(\theta * S_{LNAPL})} \quad (8)$$

where:

K_{LNAPL} is the LNAPL conductivity (cm/sec).

i is the LNAPL gradient.

θ is the total porosity.

S_{LNAPL} is the LNAPL saturation.

The LNAPL pore seepage velocity can be calculated for any LNAPL saturation. Because the LNAPL saturation varies within the zone of potentially mobile LNAPL from zero at the LNAPL/water interface to a maximum value near the LNAPL/air interface, the pore velocity also varies from zero at the LNAPL/water interface to a maximum value near the LNAPL/air interface. In other words, LNAPL within the smear zone can move at different rates at the top and bottom of the smear zone. The difference in rate, however, is typically not significant. Therefore, to be conservative for this analysis, the LNAPL pore seepage velocity for the maximum conductivity to LNAPL and PFS was chosen to evaluate the potential for LNAPL movement. The total porosity value was selected from the laboratory tests as presented in Table J-2.

Attachment J2 includes the tables showing the theoretical LNAPL pore velocity values over the entire range of elevations above the LNAPL/water interface for location BV-33N. The maximum LNAPL pore seepage velocity generated from the soil and fluid parameters was approximately 7 feet per year.

This result is in general agreement with the conductivity to LNAPL values suggesting that LNAPL at BV-33N has some limited mobility without regard to residual LNAPL saturation. It should be noted, however, that this value assumes that the LNAPL exists above the LNAPL/water interface in the subsurface. Due to elevation changes in the water table over the past 5 to 6 years, most, if not all, the LNAPL observed at the site now exists beneath the water table (submerged conditions).

Additional Lines of Evidence in Support of the LNAPL Mobility Assessment

The LNAPL mobility assessment presented above used laboratory data to help evaluate the potential mobility of the LNAPL at the site. Further evidence of the very limited mobility of the LNAPL at the site has been indicated through LNAPL bail-down tests (a direct measurement of conductivity to LNAPL), historical liquid recovery efforts, previous LNAPL saturation measurements (as discussed in this document for comparison), and the stability of the benzene, toluene, ethylbenzene, and xylenes (collectively referred to as BTEX) dissolved-phase plumes. In addition, Honeywell recently completed an evaluation of the degree of environmental weathering of the LNAPL found at the site. The results of this evaluation, described in the memorandum included as Attachment J3, are consistent with the results of the LNAPL mobility assessment and therefore provide additional support of its conclusions. This section will discuss these additional lines of evidence supporting the results of the LNAPL mobility assessment presented herein.

LNAPL Bail-down Tests

In 2003, a series of LNAPL bail-down tests were conducted at the Honeywell facility to determine the conductivity to LNAPL across the eastern portion of the Facility. These tests were documented in Honeywell's *Revised Corrective Action Plan, Honeywell 34th Street Facility, Phoenix, Arizona. ADEQ Facility No 0-002227, LUST File Nos. 0393.02 through 0393.10* (CH2M HILL, 2004a-b). Results from these bail-down tests indicated that at the time of the tests, the conductivity to LNAPL ranged from 1.66×10^{-6} cm/sec (monitoring well ASE-41A) to 3.03×10^{-4} cm/sec (monitoring well ASE-56A), with an average value of 7.01×10^{-5} cm/sec. These tests were conducted on monitoring wells containing between 0.66 foot and 3.41 feet of LNAPL at the time of the tests.

The closest monitoring well to the Phase C area that was tested in 2003 was monitoring well ASE-64A (Figure J-1), which indicated a conductivity to LNAPL of 3.04×10^{-5} cm/sec (the well contained 0.98 foot of LNAPL at that time). This specific result, as well as the overall average of the eight tests conducted, is very similar to the theoretical conductivity to LNAPL generated from the soil and fluid parameters from soil boring BV-33N (4.65×10^{-5} cm/sec), which is located approximately 500 feet southwest (downgradient) of monitoring well ASE-64A. As such, the theoretical conductivity to LNAPL results for BV-33N were consistent with the field-measured conductivity values.

Historical Liquid Recovery Efforts

The limited mobility of the LNAPL is further supported by the historical liquid recovery efforts at the site. Between 2000 and 2001, approximately 4,000 gallons of LNAPL were recovered from monitoring well ASE-20A located on the Honeywell facility approximately 900 feet north of the facility/Phoenix Sky Harbor International Airport boundary. Of the remaining 31 monitoring wells historically containing some amount of measurable LNAPL, approximately 3,200 gallons have been recovered (or an average of about 100 gallons per well) as of the end of June 2010. In fact, the two monitoring wells located closest to soil boring BV-33N, monitoring wells ASE-89A and ASE-90A, have only produced a combined 146 gallons of LNAPL since recovery began in those wells in 2004. More specifically, the three monitoring wells surrounding soil boring BV-33N (monitoring wells ASE-92A, upgradient; ASE-90A, downgradient/cross-gradient; and BC-8B, downgradient) have a produced 7 gallons of LNAPL (monitoring well BC-8B has never contained LNAPL and no LNAPL has ever been recovered from monitoring well ASE-92A). These limited volumes of LNAPL recovered from monitoring wells since 1999 when recovery at the site began are consistent with an LNAPL of limited mobility.

Previous LNAPL Saturation Measurements

As discussed earlier, LNAPL saturation was measured in soil samples at locations surrounding soil boring BV-33N in 2004. Those values, obtained from soil at monitoring wells ASE-89A (peak LNAPL saturation of 0.7 percent), ASE-90A (<0.1 percent), ASE-91A (1.8 percent), and ASE-92A (10.7 percent) were consistent with the measured (peak saturation of 9.8 percent) and calculated LNAPL saturations (8.1 percent) presented in the LNAPL mobility assessment. The consistency of measurements between two sets of field data and the theoretical calculations support the results of the mobility assessment indicating the LNAPL at the site is of limited mobility.

Stability of Associated Dissolved-phase Plume

Another indicator that an LNAPL plume is not mobile or has limited mobility is the stability of the dissolved-phase plume associated with the LNAPL. As indicated in Honeywell's quarterly status reports submitted to the Arizona Department of Environmental Quality and the City of Phoenix, the areal extent of the dissolved-phase benzene plume has generally not changed since quarterly UST groundwater monitoring began in December 2005, indicating that the benzene plume associated with releases from the Honeywell facility is stable, and therefore suggests that the LNAPL is not mobile. Similar observations have been reported with the dissolved-phase naphthalene plume, as well as the methyl-tert-butyl-ether (MTBE) plume. Although the MTBE plume has seen some slight increases in its downgradient extent over the past few years, its lack of continued and consistent downgradient migration indicates that its source (the LNAPL) is remaining in the same general area and is not moving. While toluene, ethylbenzene, and xylenes have historically been detected in Honeywell's monitoring wells, the lack of any consistent "plume" for each of these compounds makes it difficult to evaluate their stability.

Environmental Weathering of the LNAPL

Weathering of LNAPL has a direct influence on its potential mobility, specifically because weathering reduces LNAPL saturation and therefore (all other things such as soil

characteristics and fluid gradients being equal) reduces LNAPL mobility. Additionally as the LNAPL weathers, density and viscosity can be expected to increase, further reducing mobility. The evaluation of environmental weathering of the site LNAPL was conducted by Dr. Gregory Douglas at Newfields Environmental Forensics and is presented as Attachment J3.

In summary, the evaluation indicated that the LNAPL in the southern portion of the site (inclusive of the LNAPL in the Phase C area) is moderately to heavily weathered and suggests that more than 50 percent of the originally released LNAPL mass has been removed by weathering processes. This amount of weathering is consistent with an LNAPL of very limited mobility.

Summary of LNAPL Mobility Assessment

An LNAPL mobility assessment was performed using the results of laboratory testing on 42 soil core samples and one LNAPL sample from the Phase C area on Phoenix Sky Harbor International Airport in Phoenix, Arizona. The results presented in this technical memorandum indicate that the LNAPL found at the site exists at saturations below residual and is therefore deemed immobile. The evaluation suggested that even if LNAPL saturations existed in exceedance of the residual LNAPL saturation, the LNAPL found at the site only has limited mobility. This result was supported by additional lines of evidence such as the limited amount of LNAPL recovered from monitoring wells, as well as the stability of the associated dissolved-phase plumes.

The residual LNAPL saturation tests performed by the laboratory indicated that all LNAPL saturations found in the soil samples were at levels below residual and were therefore immobile. Despite this finding, the soil sample with the highest peak LNAPL saturation was selected for further evaluation to evaluate the potential for LNAPL mobility not accounting for residual LNAPL saturation.

Results from this further evaluation showed that the highest conductivity to LNAPL was 4.65×10^{-5} cm/sec. In general, LNAPL conductivities at and less than 1×10^{-6} cm/sec are essentially considered non-conductive, so the conductivity results suggested the LNAPL at the site has some potential for mobility. Consistent with the conductivity, results of the LNAPL pore seepage velocity calculations showed that the estimated velocity of the LNAPL associated with location BV-33N, assuming it existed above the LNAPL/water interface, was about 7 feet per year without regard to LNAPL residual saturation. Because the residual LNAPL saturation test indicated a residual saturation as low as 16.6 percent, and the peak LNAPL saturation measured in the soil borings was only 9.8 percent (10.7 percent from sampling in 2004), the results of the pore seepage velocity calculations are conservative and most likely overestimate the potential LNAPL mobility at the site. In fact, the LNAPL mobility assessment presented in this technical memorandum indicated that the LNAPL at the site smeared and that there is little concern for additional migration of the existing LNAPL at the site.

The results of the LNAPL mobility assessment must be interpreted within the context of the assumptions used for the calculations. However, all practical effort was made to present conservative parameter values so that the results are most likely an overestimate of the potential mobility of the LNAPL.

References

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- American Society for Testing and Materials (ASTM). 2006. "Standard Guide for Development of Conceptual Site Models and Remediation Strategies for Light Nonaqueous-Phase Liquids Released to the Subsurface." ASTM E 2531-06.
- CH2M HILL. 2004a. *Revised Corrective Action Plan, Honeywell 34th Street Facility, Phoenix, Arizona*. ADEQ Facility No 0-002227, LUST File Nos. 0393.02 through 0393.10. July.
- _____. 2004b. Letter from Thomas J. Mooney/CH2M HILL, on behalf of Honeywell, to Mr. Mark Lucas/ADEQ. "Response to ADEQ comments dated September 30, 2004 on Honeywell's Revised Corrective Action Plan, dated July 30, 2004, Honeywell 34th Street Facility, Phoenix, Arizona." November 15.
- Farr, A.M., R.J. Houghtalen, and D.B. McWhorter. 1990. Volume estimation of light nonaqueous phase liquids in porous media. *Ground Water*, 28, No. 1, 48-56.
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- Parker, J.C. 1989. Multiphase flow and transport in porous media. *Review of Geophysics*, 27, No. 3, 311-328.
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Tables

TABLE J-1
 Summary of Laboratory Analysis on Soil Samples
Honeywell 34th Street Facility, Phoenix, AZ

Laboratory Tests	BV-29N Eastern Edge	BV-30N Center	BV-31N Eastern Edge	BV-33 Center
Core Photography	X	X	X	X
LNAPL Pore Fluid Saturation		X		X
Capillary Characteristics		X	X	X
Residual LNAPL Saturation		X	X	X

TABLE J-2

Summary of Soil and LNAPL Modeling Parameters
Honeywell 34th Street Facility, Phoenix, AZ

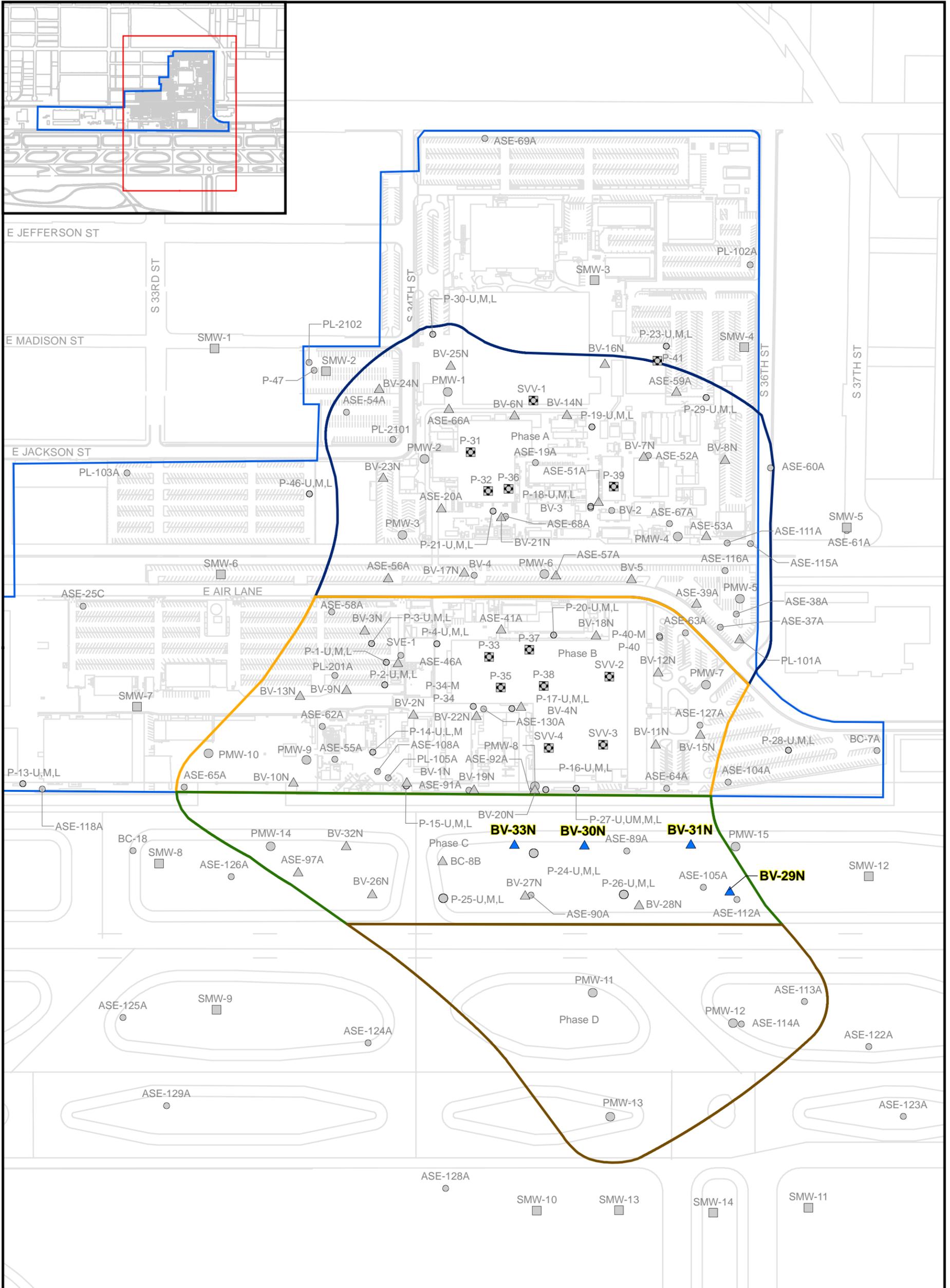
Soil Parameters	BV-33N-001 @ 75.1 Center	BV-31N-004 @ 82.55 Eastern Edge	Comments
Total Porosity (%)	36.8	27.1	PTS Laboratory Analysis
Van Genuchten "N"	2.115	2.108	PTS Laboratory Analysis
Van Genuchten Air-Water "alpha" (1/cm)	0.0222	0.0077	PTS Laboratory Analysis
Residual Water Saturation (frac Pv)	0.290	0.513	PTS Laboratory Analysis
Water Saturated Hydraulic Conductivity (cm/sec)	1.39E-03	3.99E-05	PTS Laboratory Analysis
Groundwater and LNAPL Parameters		Jet Fuel	
Groundwater Density (g/cc)		1.001	PTS Laboratory Analysis (2004)
LNAPL Density (g/cc)		0.802	ASE-89A Sample (PTS Laboratory Analysis - 2004)
Water Viscosity (centipoise)		1.010	PTS Laboratory Analysis (2004)
LNAPL Viscosity (centipoise)		1.420	ASE-89A Sample (PTS Laboratory Analysis - 2004)
Air-Water Interfacial Tension (dyne/cm)		73.500	ASE-89A Sample (PTS Laboratory Analysis - 2004)
Air-LNAPL Interfacial Tension (dyne/cm)		28.900	ASE-89A Sample (PTS Laboratory Analysis - 2004)
LNAPL-Water Interfacial Tension (dyne/cm)		30.600	ASE-89A Sample (PTS Laboratory Analysis - 2004)
Air-LNAPL Scaling Factor		2.54	Calculated from Surface Tension Data
LNAPL-Water Scaling Factor		2.40	Calculated from Surface Tension Data
In Situ LNAPL Thickness (feet)		1.60	Maximum thickness (8/04) measurement from ASE-89A
LNAPL Gradient (ft/ft)		0.0043	Used hydraulic gradient near ASE-89A as presented in First Quarter 2010 Remediation Status Report (CH2M HILL, 2010)

TABLE J-3
 Summary of Pore Fluid and Residual Saturation Tests
 Honeywell 34th Street Facility, Phoenix, AZ

Soil Boring ID	Depth (feet bgs)	Water Saturation (Percent PV)	LNAPL Saturation (Percent PV)	Residual LNAPL Saturation (Percent PV)
BV-30N	75.6	26.2	3.8	---
	78.2	28.9	4.6	---
	78.7	39.7	0.2	---
	79.5	81.1	6.7	---
	79.9	73.2	9.4	---
	81.5	90.4	3.8	---
	81.9	75.7	4.1	---
	84.6	79.2	3.3	---
	85.6	54.1	2.3	---
	87.6	81.0	3.5	---
	89.1	63.8	ND <0.1	---
89.7	---	---	16.6	
BV-31N	82.4	---	---	27.6
BV-33N	75.2	---	---	18.5
	77.2	43.7	ND <0.1	---
	79.9	83.8	8.6	---
	80.3	74.3	9.3	---
	81.9	93.5	0.8	---
	82.4	83.3	1.6	---
	83.8	77.6	7.5	---
	84.1	64.5	6.8	---
	85.4	42.9	1.7	---
89.2	61.7	9.8	---	

Notes:
 LNAPL = light nonaqueous-phase liquid.
 bgs = below ground surface.
 PV = pore volume.
 ND<0.1 = LNAPL was not detected above the reporting limit of 0.1 percent PV.
 --- = not analyzed.

Figures



Legend

- ▲ Injection/Extraction Well (LNAPL Mobility Assessment Soil Boring Locations)
- ▲ Injection/Extraction Well
- Process Monitoring Well
- Sentinel Monitoring Well
- Honeywell Monitoring Well
- ⊠ Existing Sub-slab Monitoring Well
- ▭ Honeywell-owned Property, Phase A
- ▭ Honeywell-leased Property, Phase B
- ▭ PSHIA Property North of Runway 8-26, Phase C
- ▭ PSHIA Property South of Runway 8-26, Phase D

Notes:
1. LNAPL = Light Non-Aqueous Phase Liquid

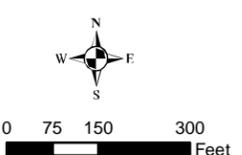
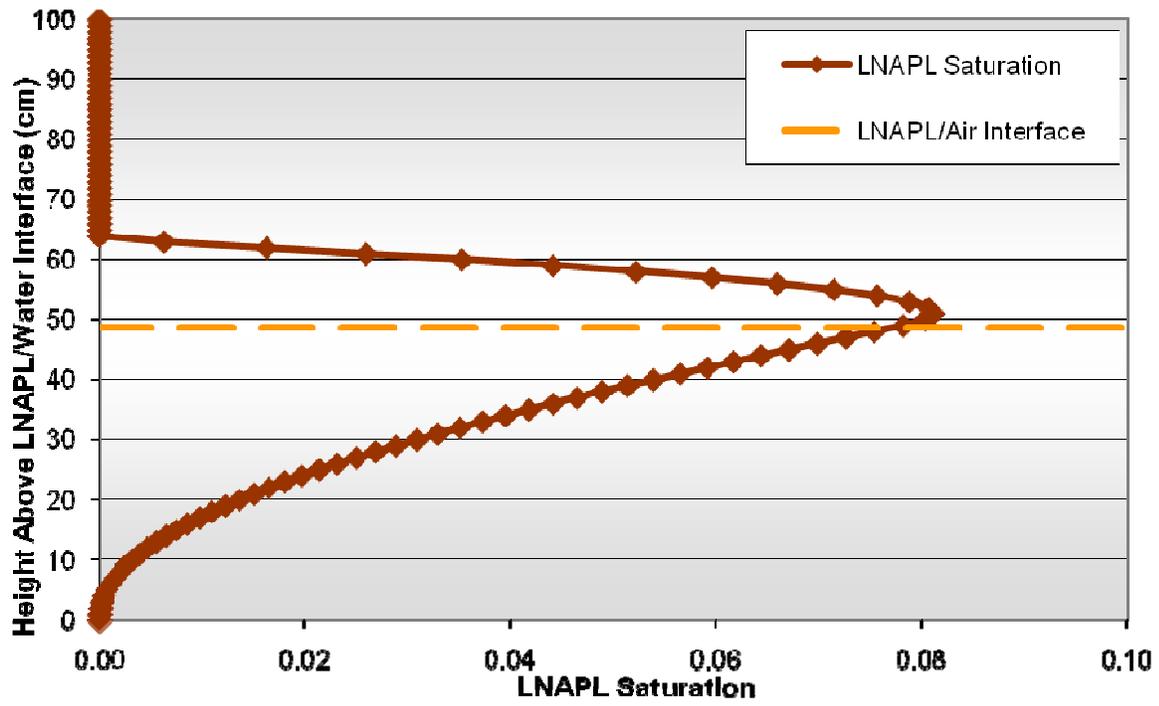
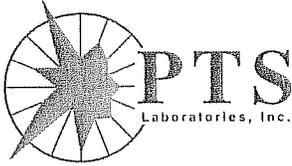


FIGURE J-1
LNAPL MOBILITY ASSESSMENT
SOIL BORING LOCATIONS
Honeywell 34th Street Facility
Phoenix, Arizona

FIGURE J-2
Theoretical LNAPL Saturation vs. height above Inapl/water interface
Location BV-33N, 75.1 feet Below Ground Surface



**Attachment J1 - Laboratory Reports and Soil
Core Photographs**



8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

December 3, 2009

Robert Frank
CH2M Hill
2625 South Plaza Drive, Suite 300
Tempe, AZ 85282

Re: PTS File No: 39873
Physical Properties Data
Honeywell, Sky Harbor, AZ; 396460.PC.57.05.15

Dear Mr. Frank:

Please find enclosed report of Core Photography from analysis conducted on cores received from your Honeywell, Sky Harbor, AZ; 396460.PC.57.05.15 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. Electronic versions of the core images and physical properties report have previously been sent to your attention via internet. The cores remain in frozen storage and will be held indefinitely. Please note that core storage will be billed quarterly beginning September 1, 2010.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give me a call at (562) 347-2504.

Sincerely,
PTS Laboratories

Rachel Spitz
Project Manager

Encl.

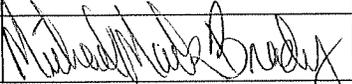


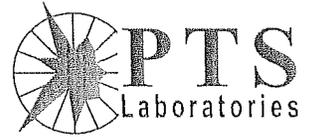
PTS File No: 39873

DC- 2 Data Package Inventory Checklist

Lab Name: PTS Laboratories, Inc.	DAS Number: N/A	SDG Number: 39873
City: Santa Fe Springs	State: CA	Zip Code: 90670
Order Number: 396460.PC.57.05.15		Parameter: Mobility

Inventory Item	Page Numbers		Check	
	From	To	Lab	EPA
Inventory Sheet	NA	NA	✓	
SDG Narrative	1	28	✓	
SDG Cover Sheet/Traffic Report	29	29	✓	
QC Data				
Sample Data	30	34	✓	
Standard Data				
Blank Data				
Raw Data				
Preparation Logs				
Clean-up Logs				
Analysis Logs				
Internal Chain of Custody Logs				
Shipping / Receiving Documents	35	39	✓	
Telephone / e-mail Logs	40	50	✓	
Other Records				

Organization	Lab Inventory	Region 3 Auditor	EPA Verifier
Print Name	Michael Mark Brady, P.G.		
Title	District Manager		
Date	December 3, 2009		
Signature			



PTS File No: 39873

SAMPLE DATA SUMMARY PACKAGE COVER PAGE

Date of Report: December 3, 2009
Laboratory Name & Code: PTS Laboratories, Inc.
EPA Region ___ Agreement No: N/A
DAS Order No: N/A

EPA Region ___ Sample Numbers:	<u>Sample No.</u>	<u>TAG No.</u>	<u>Laboratory ID</u>
	1	N/A	BV-29N-001
	2	N/A	BV-29N-002
	3	N/A	BV-29N-003
	4	N/A	BV-29N-004
	5	N/A	BV-29N-005
	6	N/A	BV-29N-006
	7	N/A	BV-29N-007
	8	N/A	BV-29N-008
	9	N/A	BV-29N-009
	10	N/A	BV-29N-010
	11	N/A	BV-29N-011



PTS File No: 39873

SAMPLE DATA

39873

37380-09112

8100 Secure Way Santa Fe Springs, CA 90670 (562) 347-2500		37380-09112 AESI Ref: 40127.66469 COC# 37380	
CH2M HILL Client Contact: (name, co., address) 2625 South Plaza Drive, Suite 300 Tempe, AZ 85282		Lab Proj # (SDG): Lab ID: PIS Site ID: SAMPARSON	
EDD To: Jennifer Peterson jennifer.peterson@ch2m.com Sampler: Lars Peterson PO # 396460.PC.57.05.15 Analysis Turnaround Time (TAT): 10 Consultant		Phase: Sampling Program Air/Water Drainage Capillary (API RP 40/ASTM D6836/RPA 9100) Water/Product Relative Permeability (JBN) Free Product Mobility (Modified ASTM D425) Pore Fluid Saturation (API RP 40)	
Laboratory Contact Report Tier Level Full Report TAT: 10		Site Name: Sky Harbor AZ Location of Site: PHOENIX, AZ Preservative: 0 Digital Core Photography (ASTM D5079) - hold pending review of photography Field Filtered Sample ?	
Hard Copy To: Jennifer Peterson, CH2M HILL Invoice To: Honeywell/Copy J Peterson		Copyright AESI, Version 10.0 (11-25-09) Unauthorized use strictly prohibited.	
Sample Identification			
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID
1	BV-29N 75.3	75.5	BV-29N-001
2	BV-29N 75.5	76.0	BV-29N-002
3	BV-29N 77.2	77.7	BV-29N-003
4	BV-29N 79.0	79.5	BV-29N-004
5	BV-29N 81.0	81.3	BV-29N-005
6	BV-29N 83.0	83.3	BV-29N-006
7	BV-29N 83.3	83.8	BV-29N-007
8	BV-29N 85.0	85.5	BV-29N-008
9	BV-29N 87.0	87.5	BV-29N-009
10	BV-29N 89.0	89.4	BV-29N-010
11	BV-29N 89.4	89.9	BV-29N-011
12			
Sample Date: 11/20/09 0127 Sample Time: 0128 Sample Matrix: SOIL Sample Type: SOIL Sample Purpose: REG Sample # of Cont.: 1 Composite/Grab: 1 Units: G N X		Sampling Method (code) Lab Sample Numbers	
Relinquished by: Lars Peterson Date/Time: 11/21/09 0915 Company: CH2M		Condition: Coolers Temp. 15.26 Date/Time: 11/13/09 Company: PIS	
Relinquished by: Lars Peterson Date/Time: 11/21/09 0915 Company: CH2M		Condition: Coolers Temp. 15.26 Date/Time: 11/13/09 Company: PIS	
Preservatives: (Other, Specify): 0 (none); 1 (4 Deg C); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4, pH<2, 4 Deg C); 8 (HCl, pH<2, 4 Deg C); 9 (HCl, 4 Deg C); 10 (HNO3, pH<2, 4 Deg C); 11 (NaOH, pH>12, 4 Deg C); 12 (H2SO4, Ascorbic Acid); 13 (Zn Acetate); 14 (MeOH, 4 Deg C); 15 (NaHSO4, 4 Deg C); 16 (NaOH, pH<12, 4 Deg C); sp (Special Instructions)			

* HOLD SAMPLES PENDING REVIEW OF DIGITAL CORE PHOTOGRAPHY

39873

CUSTODY SEAL QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DATE 11/12/09
SIGNATURE Les Peterson

CUSTODY SEAL QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DATE 11/12/09
SIGNATURE Les Peterson

PTS Laboratories

Project Name: Honeywell, Sky Harbor, AZ
 Project Number: 396460.PC.57.05.15

PTS File No: 39873
 Client: CH2M Hill

TEST PROGRAM

CORE ID	Depth ft.	Core Recovery ft.	Slab and Core Photo	Pore Fluid Saturation Package	A/W Dmg. Capillarity Pkg.	Free Product Mobility	Water/LNAPL Relative Permeability	Notes
		Plugs:		Hor. 1.5"	Hor. 1"	Hor. 1.5"	Vert. 1.5"	Keep core frozen
Rcvd. 11/13/09								
BV-29N-001	75.3-75.5	0.25	1					
BV-29N-002	75.5-76.0	0.45	0					
BV-29N-003	77.2-77.7	0.50	1					
BV-29N-004	79.0-79.5	0.25	1					
BV-29N-005	81.0-81.3	0.30	1					
BV-29N-006	83.0-83.3	1.50	1					
BV-29N-007	83.3-83.8	0.50	0					
BV-29N-008	85.0-85.5	0.50	1					
BV-29N-009	87.0-87.5	0.50	1					
BV-29N-010	89.0-89.4	0.35	1					
BV-29N-011	89.4-89.9	0.50	0					
TOTALS:	11 cores	5.60	8.0	0	0	0	0	8.0

Laboratory Test Program Notes

PTS File No: 39873
Client: CH2M Hill

CORE PHOTOGRAPHY

PROJECT NAME: Honeywell, Sky Harbor, AZ
PROJECT NO: 396460.PC.57.05.15

Please see attached binder for print copies of core photographs and compact disc for electronic versions.



PTS File No: 39873

SHIPPING / RECEIVING DOCUMENTS



PTS File No: 39873

Region III DC-1 SAMPLE LOG-IN SHEET

LOG-IN DATE: 11/13/2009
 LAB NAME: PTS Laboratories
 RECEIVED BY: J. Perez

DAS NO: N/A
 SDG NO: 39873

SIGNATURE:

CHECK THE APPROPRIATE RESPONSE:

	PRESENT	ABSENT	INTACT	BROKEN
CUSTODY SEAL(S)	X		X	
CHAIN OF CUSTODY (COC) RECORD	X			
TRAFFIC REPORT OR PACKING LIST		X		
AIRBILL / STICKER	X			
SAMPLE TAGS	X			
SAMPLE TAG NUMBERS ON CHAIN OF CUSTODY	X			
DATE RECEIVED BY LAB:	11/13/2009			
TIME RECEIVED:	1636			
DOES INFORMATION AGREE ON C O C, AND TAGS	Y			
AIRBILL NUMBER 870542892126	X			

SAMPLE TRANSFER		
FRACTION	DATE	BY

REVIEWED BY:

DATE: November 13, 2009

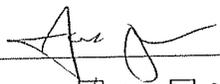
LOGBOOK NO.: 2009

LOGBOOK PAGE NO.: 49

COOLER RECEIPT FORM

Date Received: 11/13/09 PTS File Number: 39873 Client: CH2M Hill
 Project Name: Sky Harbor A2 Project No: 396460.PC.57.05.15

PRELIMINARY EXAMINATION PHASE:

Date cooler was opened: 11/13/09 By (print): Joel Perez Sign: 

Did cooler arrive with a shipping ticket (airbill, etc.)? Fedex Yes No NA

If YES, enter carrier name and air bill number here: 8705 4289 2126 Attach airbill

Did samples arrive in a Client Cooler PTS Cooler a Box Other describe: white igloo # 019

1. Were custody seals on outside of cooler or box? Yes No NA

2. Were custody seals unbroken and intact at the date and time of arrival? Attach seals. Yes No NA

How many & where: 1 seal on cooler lid ^{2 seals on lid (see)}, seal date: 11/12/09, seal name: Lars Peterson

3. Were custody papers sealed in a plastic bag and taped inside to the cooler lid? Yes No NA

4. Were custody papers filled out properly (ink, signed, etc.)? Document discrepancies on back. Yes No NA

5. Did you sign custody papers in the appropriate place? If COC is not attached to this cooler, revise Yes No NA

6. Was project identifiable from custody papers? and initial form when COC(s) are located. Yes No NA

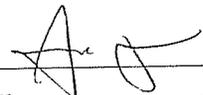
If YES, enter project name and number at the top of this form. COC # (if present) 37380-091112

7. If required, was enough ice used? Type of ice: Dry Wet Blue Yes No NA

8. What was the cooler temperature upon receipt? -12°F °F/°C Is Core Frozen? Yes No NA

9. Have designated person initial here to acknowledge receipt of cooler: MWB Date: 11/13/09

LOG-IN PHASE:

Date samples were logged in: 11-13-09 By (print): Joel Perez Sign: 

1. Type of Packing in cooler or box: Bubble Wrap Foam None Other Describe: Fedex Boxes

2. Did all cores/samples arrive intact and were labels in good condition? Yes No NA

3. Were all cores/samples labeled correctly (ID, date, time, etc.)? Yes No NA

4. Do core/sample labels agree with custody papers? Yes No NA

5. Type of cores/samples: Shelby Tube Brass Sleeve size: 2x6" Acetate Sleeve size: _____

Bag Bucket Jar size: _____ Bottle size: _____ Other Describe: _____

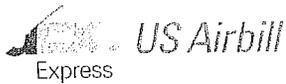
6. Number of cores: 11 Number of bag/grab or jar samples: _____ Number of fluid samples: _____

Description of nonstandard samples: _____

7. Was the Lab Supervisor or Project Manager called & status discussed? Yes No NA

If YES, who was called? Michael Mark Brady By whom (initial)? JB Current or existing job?

Sample storage location pending analysis (freezer, refrigerator, or bin number): Freezer B



FedEx Tracking Number 8705 4289 2126

Form ID No. 0200

From [Redacted] Date 11/2/04

Sender's Name Larry Peterson Phone 480 319-3639

Company CH2M Hill

Address 2625 S. Park Dr. Suite 300

City Tempe State AZ ZIP 85282

Your Internal Billing Reference 596460.PC.57.05.15

To Recipient's Name Sample Receiving Phone 362 947-2500

Company PTS Laboratories HOLD Weekday HOLD Saturday

Address 2100 Second Way

Address [Redacted]

City Scottsdale State AZ ZIP 85254



8705 4289 2126

4a Express Package Service
FedEx Priority Overnight
FedEx Standard Overnight
FedEx First Overnight
FedEx 2Day
FedEx Express Saver

4b Express Freight Service
FedEx 1Day Freight
FedEx 2Day Freight
FedEx 3Day Freight

5 Packaging
FedEx Envelope
FedEx Pak
FedEx Box
FedEx Tube
Other

6 Special Handling and Delivery Signature Options
SATURDAY Delivery
No Signature Required
Direct Signature
Indirect Signature

Does this shipment contain dangerous goods?
No
Yes As per attached Shipper's Declaration
Yes Shipper's Declaration not required
Dry Ice
Cargo Aircraft Only

7 Payment Bill to:
Sender Acct. No. in Section 1 will be billed
Recipient
Third Party
Credit Card
Cash/Check

Total Packages: 1 Total Weight: 5 lbs Total Declared Value: \$554

Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.
Rev. Date 2/03-Pan #158281-01554-2003 FedEx-PRINTED IN U.S.A. SRY

SAMPLE LOG-IN SHEET

CH2M Hill SAMPLE #	SAMPLE TAG #	LAB ASSIGNED #	CUSTODY SEAL #	SAMPLE CONDITION
BV-29N-001	N/A	BV-29N-001	N/A	INTACT
BV-29N-002	N/A	BV-29N-002	N/A	INTACT
BV-29N-003	N/A	BV-29N-003	N/A	INTACT
BV-29N-004	N/A	BV-29N-004	N/A	INTACT
BV-29N-005	N/A	BV-29N-005	N/A	INTACT
BV-29N-006	N/A	BV-29N-006	N/A	INTACT
BV-29N-007	N/A	BV-29N-007	N/A	INTACT
BV-29N-008	N/A	BV-29N-008	N/A	INTACT
BV-29N-009	N/A	BV-29N-009	N/A	INTACT
BV-29N-010	N/A	BV-29N-010	N/A	INTACT
BV-29N-011	N/A	BV-29N-011	N/A	INTACT



Project: Honeywell, Sky Harbor, AZ Boring ID: BV-29N
Project No.: 396460.PC.57.05.15



Each Interval Equals One Tenth of a Foot

77.0

78.0

Project: Honeywell, Sky Harbor, AZ Boring ID: BV-29N
Project No.: 396460.PC.57.05.15

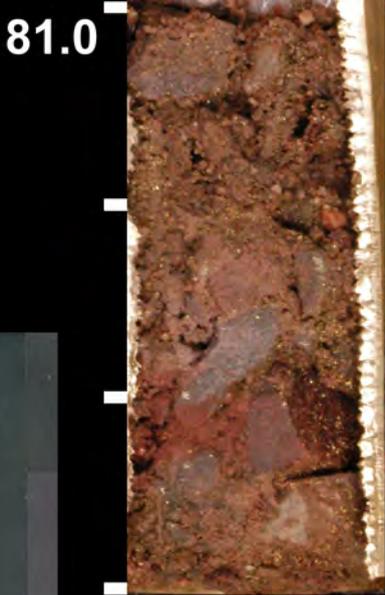


79.0



80.0

Project: Honeywell, Sky Harbor, AZ Boring ID: BV-29N
Project No.: 396460.PC.57.05.15



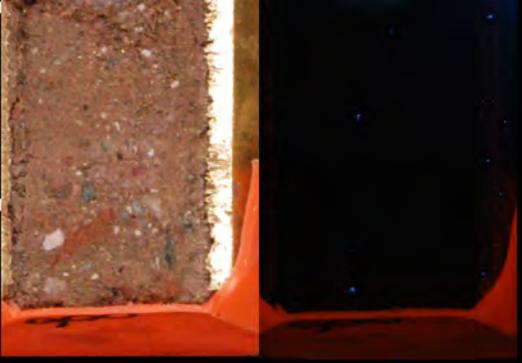
Each Interval Equals One Tenth of a Foot



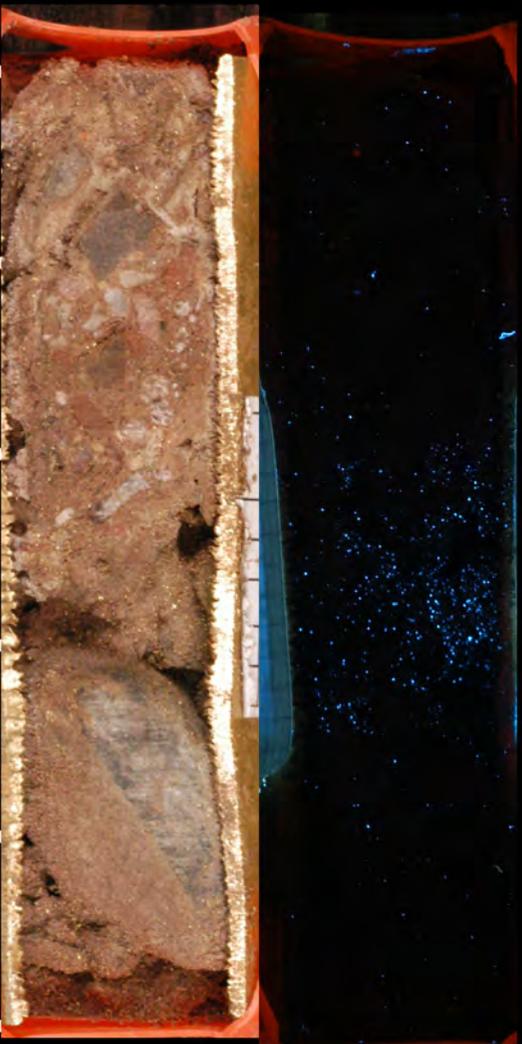
Project: Honeywell, Sky Harbor, AZ Boring ID: BV-29N
Project No.: 396460.PC.57.05.15

81.0

82.0



83.0

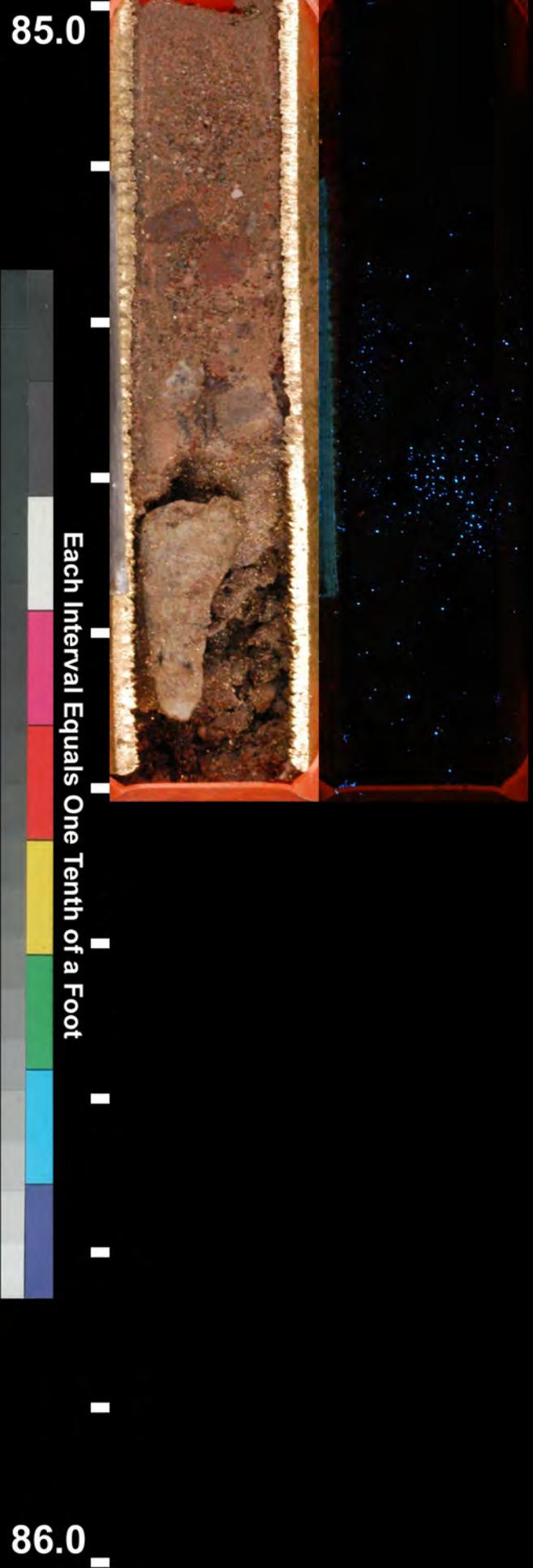


84.0

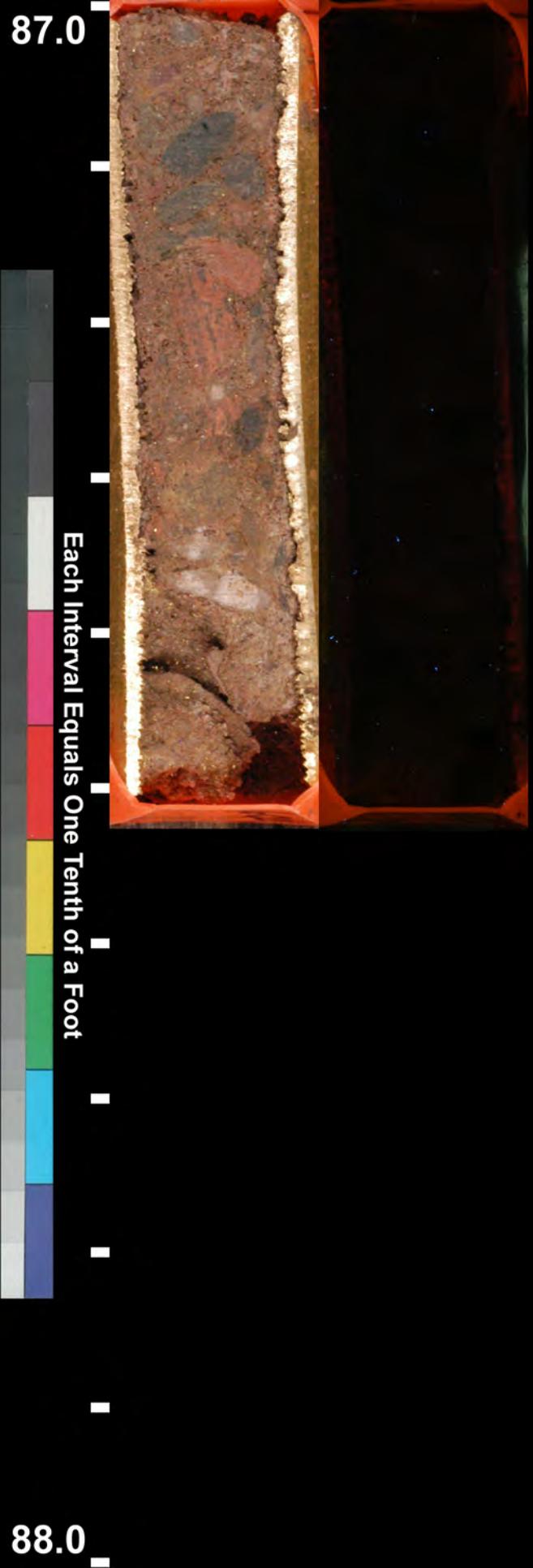
Each Interval Equals One Tenth of a Foot



Project: Honeywell, Sky Harbor, AZ Boring ID: BV-29N
Project No.: 396460.PC.57.05.15



Project: Honeywell, Sky Harbor, AZ Boring ID: BV-29N
Project No.: 396460.PC.57.05.15

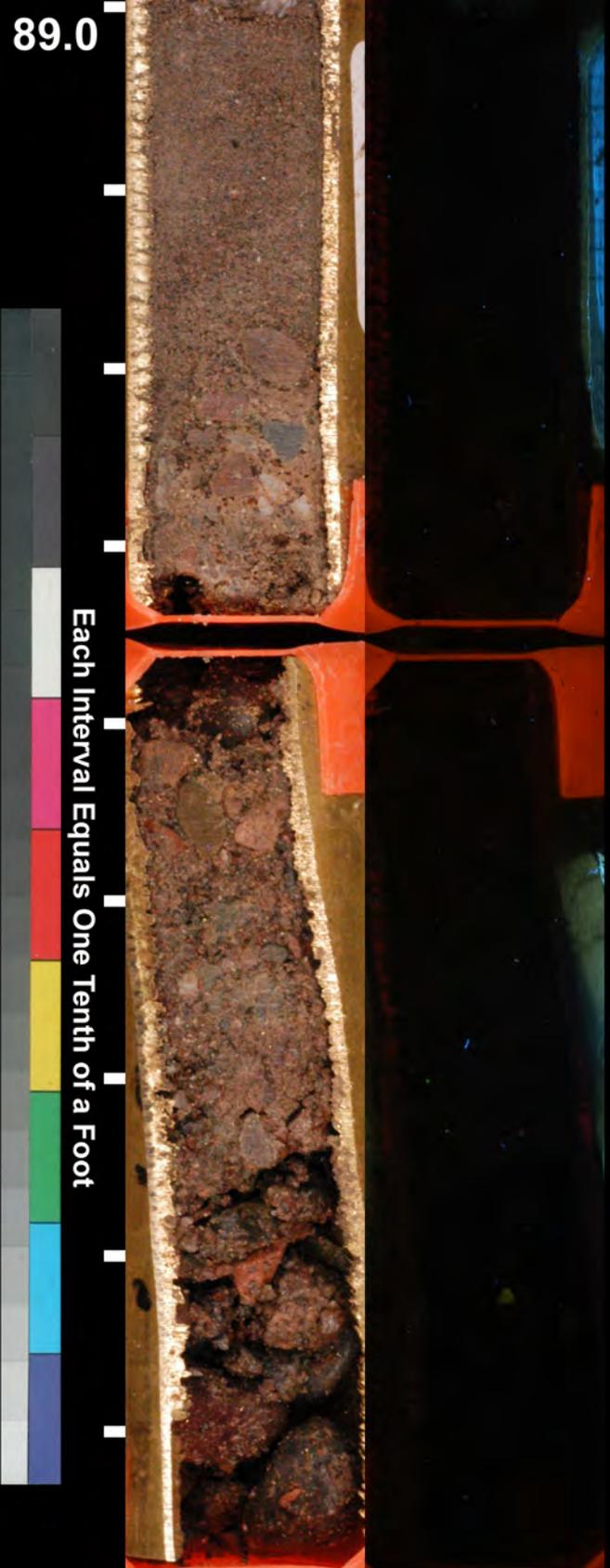


87.0

Each Interval Equals One Tenth of a Foot

88.0

Project: Honeywell, Sky Harbor, AZ Boring ID: BV-29N
Project No.: 396460.PC.57.05.15



Project: Honeywell, Sky Harbor, AZ Boring ID: BV-29N
Project No.: 396460.PC.57.05.15



8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

March 17, 2010

Robert Frank
CH2M Hill
2625 South Plaza Drive, Suite 300
Tempe, AZ 85282

Re: PTS File No: 391054
Physical Properties Data
Honeywell, Sky Harbor, AZ; 396460.PC.57.05.15

Dear Mr. Frank:

Please find enclosed report of Core Photography and Physical Properties data from analysis conducted on cores received from your Honeywell, Sky Harbor, AZ; 396460.PC.57.05.15 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. Electronic versions of the core images and physical properties report have previously been sent to your attention via internet. The cores remain in frozen storage and will be held indefinitely. Please note that core storage will be billed quarterly beginning September 1, 2010.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give me a call at (562) 347-2504.

Sincerely,
PTS Laboratories

Rachel Spitz
Project Manager

Encl.

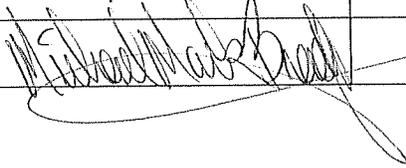


PTS File No: 391054

DC- 2 Data Package Inventory Checklist

Lab Name: PTS Laboratories, Inc.	DAS Number: N/A	SDG Number: 391054
City: Santa Fe Springs	State: CA	Zip Code: 90670
Order Number: 396460.PC.57.05.15		Parameter: Mobility

Inventory Item	Page Numbers		Check	
	From	To	Lab	EPA
Inventory Sheet	NA	NA	✓	
SDG Narrative	1	1	✓	
SDG Cover Sheet/Traffic Report	2	2	✓	
QC Data	3	7	✓	
Sample Data	8	33	✓	
Standard Data				
Blank Data				
Raw Data	34	53	✓	
Preparation Logs				
Clean-up Logs				
Analysis Logs				
Internal Chain of Custody Logs				
Shipping / Receiving Documents	54	58	✓	
Telephone / e-mail Logs	59	67	✓	
Other Records				

Organization	Lab Inventory	Region 3 Auditor	EPA Verifier
Print Name	Michael Mark Brady, P.G.		
Title	District Manager		
Date	April 20, 2010		
Signature			



PTS File No: 391054

SAMPLE DATA SUMMARY PACKAGE NARRATIVE

DAS No: N/A

Number of Samples Received

Twenty-one (21) core samples were received for analyses. Core samples were received in 2" x 6" brass sleeves.

Matrix

Matrix for all cores was soil.

Methods Used for Analysis

Samples were analyzed by the following methods as indicated on the COC.

1. ASTM D5079 and Proprietary: Core Photography and Core Preparation
2. API RP40: Pore Fluid Saturation and physical properties
3. ASTM D6836/API RP40: Air/Water Drainage Capillarity Package
4. JBN: Water/NAPL Relative Permeability

Example Calculations

Calculations are listed in the appropriate methods for ASTM D5079, API RP40, ASTM D6836, and JBN.

Deviations

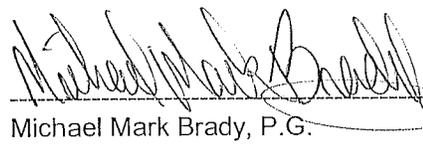
There were no deviations from the ASTM procedures.

Instrument Identification and Operation Conditions

The following instruments were used:

<u>ASTM Method</u>	<u>Instrument(s)</u>	<u>Operating Conditions</u>
ASTM D5079 and Proprietary	Nikon D100	Normal
API RP 40	Dean-Stark Extractor PTS Model 01	Normal
API RP 40	Balance Sartorius Mod. #2910276	Normal
API RP 40	Balance Mettler Toledo Mod. #XS6002S	Normal
API RP 40	Gravity Conv. Oven Mod. 100	Normal
ASTM D6836/API RP 40	Beckman Centrifuge Mod. #J-6B	Normal
ASTM D6836/API RP 40	Flexible Wall Air Permeameter PTS P0106.04	Normal
ASTM D6836/EPA 9100	Flexible Wall Fluid Permeameter PTS P0183.02	Normal
JBN USS Relative Permeability	ISCO Model 314 Metering Pump	Normal

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.



District Manager

April 20, 2010

Michael Mark Brady, P.G.

Title

Date

Page 1 of 67



PTS File No: 391054

SAMPLE DATA SUMMARY PACKAGE COVER PAGE

Date of Report: April 20, 2010
Laboratory Name & Code: PTS Laboratories, Inc.
EPA Region ___ Agreement No: N/A
DAS Order No: N/A

EPA Region ___ Sample Numbers:	<u>Sample No.</u>	<u>TAG No.</u>	<u>Laboratory ID</u>
	1	N/A	BV-30N-001
	2	N/A	BV-30N-002
	3	N/A	BV-30N-003
	4	N/A	BV-30N-004
	5	N/A	BV-30N-005
	6	N/A	BV-30N-006
	7	N/A	BV-30N-007
	8	N/A	BV-30N-008
	9	N/A	BV-30N-009
	10	N/A	BV-30N-010
	11	N/A	BV-30N-011
	12	N/A	BV-30N-012
	13	N/A	BV-30N-013
	14	N/A	BV-31N-001
	15	N/A	BV-31N-002
	16	N/A	BV-31N-003
	17	N/A	BV-31N-004
	18	N/A	BV-31N-005
	19	N/A	BV-31N-006
	20	N/A	BV-31N-007
	21	N/A	BV-31N-008



PTS File No: 391054

QC DATA

BOYLE'S LAW GRAIN VOLUME ANALYSIS CALCULATION SHEET

FILE NO: 391054
 CLIENT: CH2M Hill
 DATE: 2/16/2010

Technician: RS
 Instrument ID: FRANK JONES SN 8501
 Time: 1330

STEP 1 - POROSIMETER CALIBRATION							
RAW DATA ENTRY AREA						CALCULATED	
CALIBRATION RUN #	REFERENCE PRESSURE (Pof)	OPEN CUP PRESSURE (Pf)	REFERENCE W/O BILLETS PRESSURE (Pob)	CUP W/O BILLETS PRESSURE (Pb)	BILLET VOLUME (B)	CONSTANT	R VALUE
Cal-1	100.01	76.31	100.00	52.50	6.467	1.311	10.884
Cal-2	100.02	76.32	100.01	52.50	6.467	1.311	10.876
Cal-3	100.01	76.32	100.01	52.50	6.467	1.310	10.877
Cal-4	100.01	76.32	99.99	52.49	6.467	1.310	10.871
Cal-5	100.01	76.33	100.00	52.50	6.467	1.310	10.874
FINAL 3 CALIBRATIONS - AVG:						1.310	10.874

STEP 2 - GRAIN VOLUME DETERMINATION							
RAW DATA ENTRY AREA					CALCULATED		
RUN #	SAMPLE ID	BILLET VOLUME (B)	REFERENCE PRESSURE (Pos)	OPEN CUP PRESSURE (Ps)	CONSTANT	R VALUE	GRAIN VOLUME
Std-1	Ball 8.580	12.950	100.00	58.42	1.310	10.874	8.585
Std-2	Ball 8.1924	12.950	100.00	57.20	1.310	10.874	8.188
Std-3	C13 Standard	16.140	100.00	58.20	1.310	10.874	11.705
Std-4	I-1 Standard	19.382	100.00	53.73	1.310	10.874	13.393

PERMEABILITY TO AIR - BULK VOLUME BY CALIPER

FILE NO: 391054
 CLIENT: CH2M Hill

SAMPLE NO.	DEPTH, ft	ORIENT. (h or v)	PACKAGE WTS.		RAW DATA ENTRY			MEASURED INJ. PRESSURE				CALCULATED DATA			REPORTED DATA		
			SCREEN gm	TAPE gm	L., cm	DIA. cm	TEMP., °F	AIR VISC., cP	in wt.	UPSTREAM psig	DOWN psig	TIME, sec	VOL, cc	Vb, cm3	L2/ Vb	PKG VOLUME, cc	AIR PERMEABILITY mD
CX-1	N/A	Bulk	0	0	4.04	2.53	75.0	0.0178	7.35	0.27	0.00	119.89	100.00	20.31	0.8036	0.000	653

Date> 4/13/2010
 Time> 13:51
 File C:\PHI220 ver 2_72 with pause\Report\be-3.xlb
 Job ID BE-3
 Analyst Kari Hochstatter
 Remarks

Sample ID	Sample Length cm	Sample Diameter cm	Bulk Volume cc	Dry Weight grams	Test Type	Grain Volume cc	Pore Volume cc	Porosity %BV	Grain Density g/cc	RemBillet Volume cc	Conf Pressure psi	Ref Volume cc	Dead Volume cc	Temp C	Cup	Date	Time
BE-3	3.47	3.79	39.147	78.21	GV	29.503	9.644	24.635	2.651	39.7	0	77.993	11.77	74.4	1.5"	4/13/2010	8:06
BE-3	3.47	3.79	39.147	78.21	GV	29.548	9.599	24.52	2.647	39.7	0	77.993	11.77	74.7	1.5"	4/13/2010	8:08



PTS File No: 391054

SAMPLE DATA

Page 2 of 2
37380_091302

A-394024-391054
12/14/09 MMS

Chain Of Custody / Analysis Request																								
Honeywell																								
Privileged & Confidential																								
EDD To:		Jennifer Peterson jennifer.peterson@ch2m.com		Site Name:		SKY Harbor AZ		Phase:		Sampling Program														
Sampler:		LARS PETERSON		Location of Site:		PHOENIX, AZ		Phase C LNAPL		Mobility														
PO #:		396460.PC.67.05.15		Preservative:		0		0		0														
Analysis Turnaround Time (TAT):		10		Field Filtered Sample ?		0		0		0														
Laboratory Contact:				Composite/Grab				Air/Water Drainage Capillary (API RP 40/ASTM D636/RPA 9100)		Pore Fluid Saturation (API RP 40)														
Report Tier Level:		10		Units				Water/Product Relative Permeability (RPN)		Free Product Mobility (Modified ASTM D425)														
Full Report TAT:		10						Digital Core Photography (ASTM D5079)		Hold pending review of photography														
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Field Filtered Sample ?	Composite/Grab	Water/Product Relative Permeability (RPN)	Air/Water Drainage Capillary (API RP 40/ASTM D636/RPA 9100)	Pore Fluid Saturation (API RP 40)	Digital Core Photography (ASTM D5079)	Hold pending review of photography	Field Filtered Sample ?	Units	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.
1	75.5	76.0	BV-30N-001	12-2-09	0100	SOIL	SOIL	REG	1	X								G	12-2-09	0100	SOIL	SOIL	REG	1
2	78.1	78.5	BV-30N-002	12-2-09	0105	SOIL	SOIL	REG	1	X								G	12-2-09	0105	SOIL	SOIL	REG	1
3	78.5	79.0	BV-30N-003	12-2-09	0106	SOIL	SOIL	REG	1	X								G	12-2-09	0106	SOIL	SOIL	REG	1
4	79.8	79.8	BV-30N-004	12-2-09	0111	SOIL	SOIL	REG	1	X								G	12-2-09	0111	SOIL	SOIL	REG	1
5	79.8	80.3	BV-30N-005	12-2-09	0112	SOIL	SOIL	REG	1	X								G	12-2-09	0112	SOIL	SOIL	REG	1
6	81.8	81.8	BV-30N-006	12-2-09	0121	SOIL	SOIL	REG	1	X								G	12-2-09	0121	SOIL	SOIL	REG	1
7	81.8	82.3	BV-30N-007	12-2-09	0122	SOIL	SOIL	REG	1	X								G	12-2-09	0122	SOIL	SOIL	REG	1
8	84.5	85.0	BV-30N-008	12-2-09	0126	SOIL	SOIL	REG	1	X								G	12-2-09	0126	SOIL	SOIL	REG	1
9	85.2	85.5	BV-30N-009	12-2-09	0133	SOIL	SOIL	REG	1	X								G	12-2-09	0133	SOIL	SOIL	REG	1
10	85.5	86.0	BV-30N-010	12-2-09	0134	SOIL	SOIL	REG	1	X								G	12-2-09	0134	SOIL	SOIL	REG	1
11	87.5	88.0	BV-30N-011	12-2-09	0140	SOIL	SOIL	REG	1	X								G	12-2-09	0140	SOIL	SOIL	REG	1
12	89.0	89.5	BV-30N-012	12-2-09	0147	SOIL	SOIL	REG	1	X								G	12-2-09	0147	SOIL	SOIL	REG	1

Hold samples for further analysis pending review of digital cone photography.

PTS Laboratories	CH2M HILL	Company	CH2M Hill	Received by	Jennifer Peterson	Date/Time	12/3/09 0930
Client Contact: (name, co., address)	CH2M HILL	Company	CH2M Hill	Received by	Lars Peterson	Date/Time	12/3/09 0930
2825 South Plaza Drive, Suite 300	Tempe, AZ 85282	Company	CH2M Hill	Received by	Jennifer Peterson	Date/Time	12/3/09 0930
Preliminary Data To	Jennifer Peterson, CH2M HILL	Company	CH2M Hill	Received by	Jennifer Peterson	Date/Time	12/3/09 0930
Sample Receipt Acknowledgement To	Jennifer Peterson, CH2M HILL	Company	CH2M Hill	Received by	Jennifer Peterson	Date/Time	12/3/09 0930
Hard Copy To	Jennifer Peterson, CH2M HILL	Company	CH2M Hill	Received by	Jennifer Peterson	Date/Time	12/3/09 0930
Invoice To:	Honeywell/Copy J Peterson	Company	CH2M Hill	Received by	Jennifer Peterson	Date/Time	12/3/09 0930

Preservatives: (Other: Specify):
 0 (none); 1 (4 Deg C); 2 (HCl, pH=2); 3 (HNO3, pH=2); 4 (H2SO4, pH=2); 5 (NaOH, pH=12); 6 (NaOH, Zn Acetate); 7 (H2SO4, pH=2, 4 Deg C); 8 (HCl, pH=2, 4 Deg C); 9 (HCl, 4 Deg C); 10 (HNO3, pH=2, 4 Deg C); 11 (NaOH, pH=12, 4 Deg C); 12 (H2SO4, Na2S2O3, 4 Deg C, pH=2); 13 (Zn Acetate); 14 (MeOH, 4 Deg C); 15 (MeOH, 4 Deg C); 16 (NaOH, pH=12, 4 Deg C); sp (special instructions)

* HOLD SAMPLES PENDING REVIEW OF DIGITAL CORE PHOTOGRAPHY

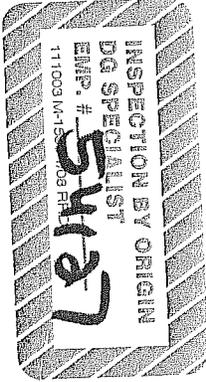
FedEx Account #: 1253-2300-6

Page 2 of 2
 37380-091202
 391054
 RAVE 12/14/09

PTS Laboratories		Honeywell		Chain of Custody / Analysis Request		AESI Ref: 40127-66469	
8100 Sycamore Way San Jose, CA 95129 (952) 377-2500		Privileged & Confidential		Sky Harbor, AZ		COC# 37380	
Sampling Co.: CH2M-HILL		EDD To: Jennifer Peterson jennifer.peterson@ch2m.com		Phase: Sampling Program		Lab Proj # (SDG):	
Client Contact: (name, co., address) CH2M HILL 2625 South Plaza Drive, Suite 300 Tempe, AZ 85282		Sampler: Lars Peterson PO # 396460.PC.07.05.15 Analysis Turnaround Time (TAT): 10 Consultant		Location of Site: PHOENIX, AZ		Lab ID	
Preliminary Data To: Jennifer Peterson, CH2M HILL		Laboratory Contact		Preservative: 0		Site ID SKYHARBOR	
Sample Receipt Acknowledgement To: Jennifer Peterson, CH2M HILL		Report Tier Level		Field Filtered Sample ?		Lab Job # 591024	
Hard Copy To: Jennifer Peterson, CH2M HILL		Full Report TAT: 10		Composite/Grab		Authorized User: Honeywell	
Invoice To: Honeywell/Copy J Peterson				Units		Text & Excel File Drive Excel & Text File Order	
Sample Identification		Sample Matrix		Sample Purpose		Sampling Method (code)	
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Lab Sample Numbers
1 BV-30N	89.5	90.0	BV-30N-0013	12.2.09	01:18	SOIL	REG 1
2 BV-31N			BV-31N-001	12.3.09		SOIL	REG 1
3 BV-31N			BV-31N-002	12.3.09		SOIL	REG 1
4 BV-31N			BV-31N-003	12.3.09		SOIL	REG 1
5 BV-31N			BV-31N-004	12.3.09		SOIL	REG 1
6 BV-31N			BV-31N-005	12.3.09		SOIL	REG 1
7 BV-31N			BV-31N-006	12.3.09		SOIL	REG 1
8 BV-31N			BV-31N-007	12.3.09		SOIL	REG 1
9 BV-31N			BV-31N-008	12.3.09		SOIL	REG 1
10							
11							
12							
Relinquished by: Lars Peterson		Company: CH2M HILL		Received by: Adam By Joel Perez		Company: PTS	
Date/Time: 12/3/09 0930		Date/Time: 12/10/09 11:02		Condition: good		Custody Seals Intact: yes	
Relinquished by:		Company:		Cooler Temp: -40°F		Custody Seals Intact:	
Date/Time:		Date/Time:		Cooler Temp:			
Preservatives: (Other: Specify): 0 (none); 1 (4 Deg C); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4, pH<2); 8 (HCl, pH<2); 9 (HCl, 4 Deg C); 10 (HNO3, pH<2); 11 (NaOH, pH>12); 12 (H2SO4, Na2S2O3, 4 Deg C, pH<2); 13 (Zn Acetate); 14 (MeOH, 4 Deg C); 15 (NaOH, pH>12, 4 Deg C); sp (special instructions)							

391024
12/4/09
JP

391054
MWB 12/14/09



CUSTODY SEAL QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900
DATE 12/3/09
SIGNATURE Lars Peterson

CUSTODY SEAL QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900
DATE 12/3/09
SIGNATURE Lars Peterson

Project Name: Honeywell Sky Harbor AZ
 Project Number: 396460.PC.57.05.15

PTS File No: 391054
 Client: CH2M Hill

TEST PROGRAM

CORE ID	Depth ft.	Core Recovery ft.	Slab and Core Photo	Pore Fluid Saturation Package	A/W Drng. Capillarity Pkg.	Free Product Mobility	Water/LNAPL Relative Permeability	Notes
Rcvd. 12/4/09		Plugs:		Hor. 1.5"	Hor. 1"	Hor. 1.5"	Vert. 1.5"	Keep core frozen
BV-30N-001	75.5-76.0	0.50	1	75.5-76.0				
BV-30N-002	78.1-78.5	0.30	1	78.1-78.5				
BV-30N-003	78.5-79.0	0.40		78.5-79.0				
BV-30N-004	79.3-79.8	0.50	1	79.3-79.8				
BV-30N-005	79.8-80.3	0.50	1	79.8-80.3				
BV-30N-006	81.3-81.8	0.50	1	81.3-81.8				
BV-30N-007	81.8-82.3	0.50	1	81.8-82.3				
BV-30N-008	84.5-85.0	0.50	1	84.5-85.0				
BV-30N-009	85.2-85.5	0.25	1					
BV-30N-010	85.5-86.0	0.45		85.5-86.0				
BV-30N-011	87.5-88.0	0.40	1	87.5-88.0				
BV-30N-012	89.0-89.5	0.50	1	89.0-89.5				
BV-30N-013	89.5-90.0	0.45			89.3-90.0		89.3-90.0	
BV-31N-001	75.8-76.1	0.30	1					
BV-31N-002	76.1-76.6	0.50	1					
BV-31N-003	79.5-80.0	0.50	1					
BV-31N-004	82.2-82.5	0.35	1		82.2-83.0		82.2-83.0	
BV-31N-005	82.5-83.0	0.40						
BV-31N-006	83.7-84.2	0.50	2					
BV-31N-007	86.0-86.5	0.50	1					
BV-31N-008	87.0-87.5	0.50	1					
TOTALS:	21 cores	9.30	18	11	2	0	2	21

Laboratory Test Program Notes

Laboratory locations to be selected by CH2M Hill personnel from core photography.
 Sample locations to be selected by CH2M Hill personnel from core photography.
 Use fluid properties data from PTS File No. 34363, sample ASE-89A, for laboratory supplied oil for Water/NAPL relative permeability testing.
 Viscosity 1.77cSt at 70°F, Density 0.8023g/cc at 70°F, per R. Frank/CH2M Hill 1/4/10.

PTS File No: 391054
Client: CH2M Hill

CORE PHOTOGRAPHY

PROJECT NAME: Honeywell Sky Harbor, AZ
PROJECT NO: 396460.PC.57.05.15

Please see attached binder for print copies of core photographs and compact disc for electronic versions.

PTS File No: 391054
 Client: CH2M Hill

PHYSICAL PROPERTIES DATA - PORE FLUID SATURATIONS

PROJECT NAME: Honeywell Sky Harbor AZ
 PROJECT NO: 396460.PC.57.05.15

SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	METHODS:	DENSITY		POROSITY, %Vb (2)		PORE FLUID SATURATIONS, % Pv (3)	
			API RP 40 / ASTM D2216	BULK, g/cc	GRAIN, g/cc	TOTAL	AIR FILLED	WATER	NAPL
			MOISTURE CONTENT, % weight						
BV-30N-001	75.6	V	4.6	1.88	2.68	29.6	20.7	26.2	3.8
BV-30N-002	78.2	V	5.2	1.86	2.65	29.9	19.9	28.9	4.6
BV-30N-003	78.65	V	6.2	1.90	2.69	29.6	17.7	39.7	0.2
BV-30N-004	79.45	V	10.9	1.99	2.65	25.0	3.1	81.1	6.7
BV-30N-005	79.9	V	4.8	2.25	2.61	13.5	2.4	73.2	9.4
BV-30N-006	81.45	V	9.8	2.10	2.69	22.1	1.3	90.4	3.8
BV-30N-007	81.9	V	7.7	2.11	2.67	20.7	4.2	75.7	4.1
BV-30N-008	84.6	V	7.8	2.14	2.69	20.4	3.6	79.2	3.3
BV-30N-010	85.6	V	6.9	2.00	2.65	24.5	10.7	54.1	2.3
BV-30N-011	87.6	V	8.3	2.07	2.61	20.5	3.2	81.0	3.5
BV-30N-012	89.1	R	8.8	1.95	2.66	26.8	9.7	63.8	ND <0.1

(1) Sample Orientation: H = horizontal; V = vertical

(2) Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids

(3) Water = 0.9996 g/cc, Hydrocarbon = 0.8023 g/cc

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PTS File No: 391054
 Client: CH2M Hill

SAMPLE PROPERTIES - AIR/WATER CAPILLARY PRESSURE

PROJECT NAME: Honeywell Sky Harbor AZ
 PROJECT NO: 396460.PC.57.05.15

SAMPLE ID.	DEPTH, ft.	METHODS: SAMPLE ORIENTATION (1)	API RP 40 /	API RP 40		API RP 40		API RP 40
			ASTM D2216	DENSITY		POROSITY, %V _b (2)		TOTAL PORE FLUID SATURATIONS (3),
			MOISTURE CONTENT, % weight	BULK, g/cc	GRAIN, g/cc	TOTAL	AIR FILLED	% P _v
BV-30N-013	89.85	R	6.4	1.82	2.67	32.1	20.5	36.2
BV-31N-004	82.55	H	8.5	1.93	2.65	27.1	7.9	70.7

(1) Sample Orientation: H = horizontal; V = vertical

(2) Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids

(3) Water = 0.9996 g/cc

V_b = Bulk Volume, cc; P_v = Pore Volume, cc; ND = Not Detected

PTS File No: 391054
 Client: CH2M Hill

PERMEABILITY DATA - AIR/WATER CAPILLARY PRESSURE

PROJECT NAME: Honeywell Sky Harbor AZ
 PROJECT NO: 396460.PC.57.05.15

METHODS: API RP 40; EPA 9100

25 PSI CONFINING STRESS

SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	SPECIFIC PERMEABILITY TO AIR, millidarcy (2)	SPECIFIC PERMEABILITY TO WATER, millidarcy (3)	HYDRAULIC CONDUCTIVITY, cm/s (3)
BV-30N-013	89.85	R	11007	3265	3.29E-03
BV-31N-004	82.55	H	1431	39.8	3.99E-05

(1) Sample Orientation: H = horizontal; V = vertical

(2) No pore fluids in place

(3) Permeability to water and hydraulic conductivity measured at saturated conditions

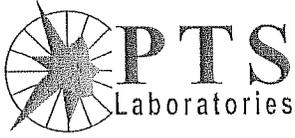
PTS File No: 391054
 Client: CH2M Hill

AIR/WATER CAPILLARY PRESSURE TABULAR DATA

(ASTM D6836; Centrifugal Method: air displacing water)

PROJECT NAME: Honeywell Sky Harbor AZ
 PROJECT NO: 396460.PC.57.05.15

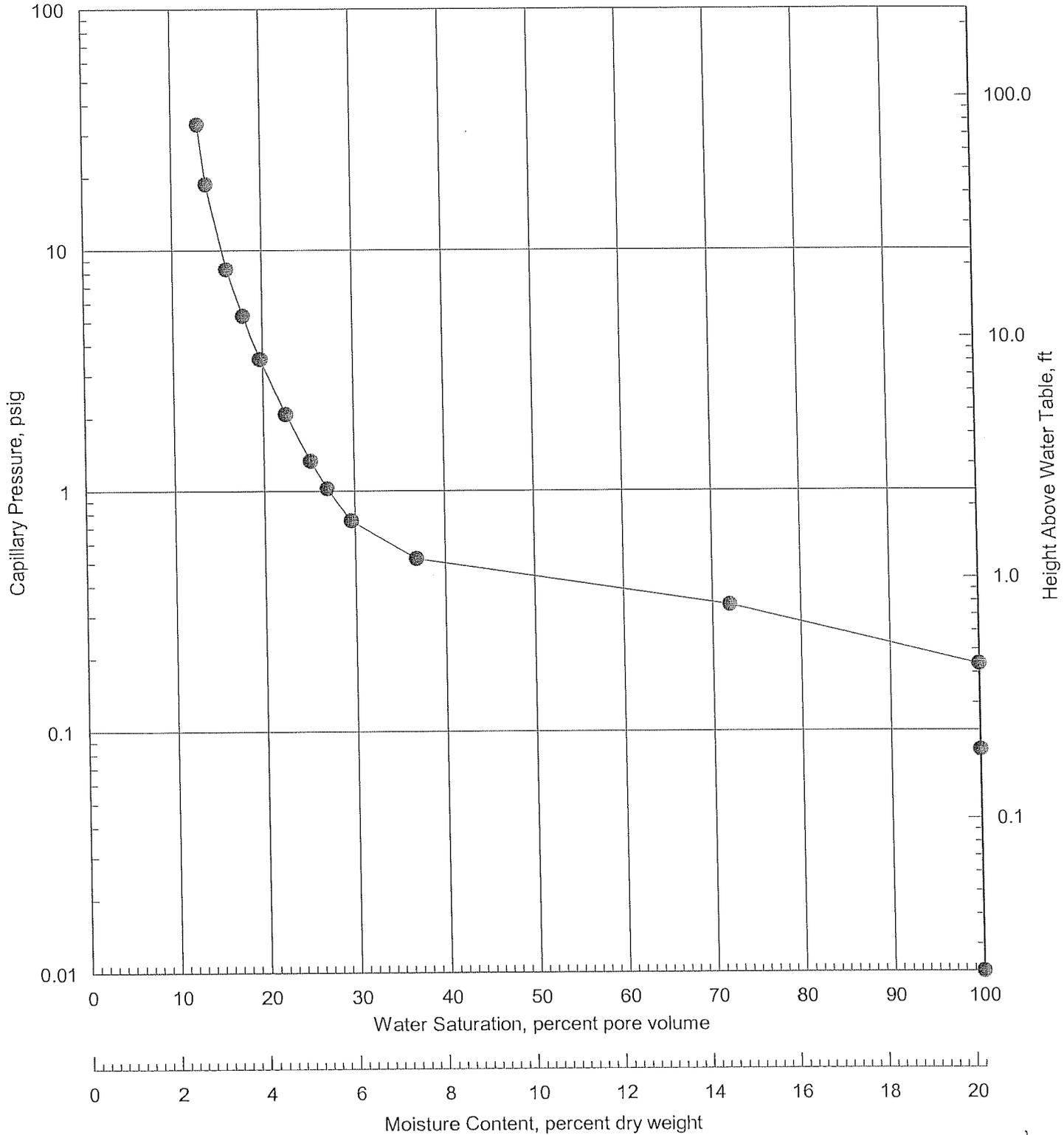
Capillary Pressure		Height Above Water Table, ft	Sample ID	
			BV-30N-013 at 89.85 ft.	
psi	cm water		Saturation, % pore volume	Moisture, % dry weight
0.000	0.00	0.000	100.0	20.2
0.083	5.86	0.193	100.0	20.2
0.188	13.2	0.434	100.0	20.2
0.333	23.4	0.772	72.0	14.6
0.521	36.6	1.21	36.8	7.4
0.750	52.7	1.74	29.6	6.0
1.02	71.8	2.36	26.9	5.4
1.33	93.8	3.09	25.1	5.1
2.08	147	4.82	22.4	4.5
3.52	248	8.15	19.7	4.0
5.33	375	12.3	17.9	3.6
8.33	586	19.3	16.1	3.3
18.8	1319	43.4	13.9	2.8
33.3	2344	77.2	13.0	2.6



CAPILLARY PRESSURE Centrifugal Method Air Displacing Water System - ASTM D6836

Project Name: Honeywell Sky Harbor, AZ
Project No: 396460.PC.57.05.15

Sample ID: BV-30N-013
Depth, ft: 89.85



PTS File No: 391054
 Client: CH2M Hill

AIR/WATER CAPILLARY PRESSURE TABULAR DATA

(ASTM D6836; Centrifugal Method: air displacing water)

PROJECT NAME: Honeywell Sky Harbor AZ
 PROJECT NO: 396460.PC.57.05.15

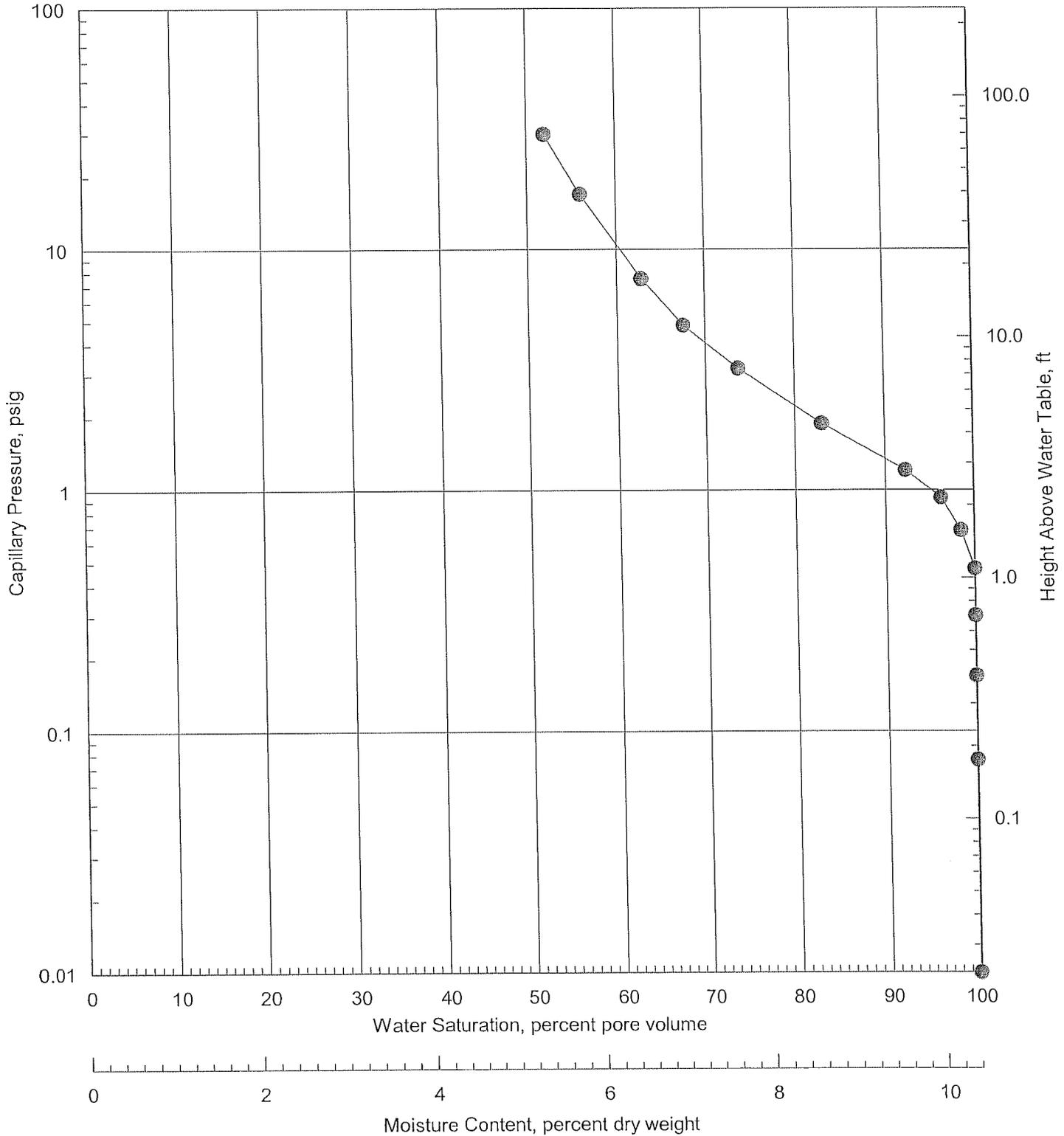
Capillary Pressure		Height Above Water Table, ft	Sample ID	
			BV-31N-004 at 82.55 ft.	
psi	cm water		Saturation, % pore volume	Moisture, % dry weight
0.000	0.00	0.000	100.0	10.4
0.076	5.32	0.175	100.0	10.4
0.170	12.0	0.394	100.0	10.4
0.302	21.3	0.700	100.0	10.4
0.473	33.2	1.09	100.0	10.4
0.681	47.9	1.58	98.5	10.2
0.93	65.1	2.14	96.3	10.0
1.21	85.1	2.80	92.3	9.6
1.89	133	4.38	83.0	8.6
3.20	225	7.39	73.7	7.6
4.84	340	11.2	67.5	7.0
7.56	532	17.5	62.8	6.5
17.0	1196	39.4	56.0	5.8
30.2	2127	70.0	52.0	5.4



CAPILLARY PRESSURE Centrifugal Method Air Displacing Water System - ASTM D6836

Project Name: Honeywell Sky Harbor, AZ
Project No: 396460.PC.57.05.15

Sample ID: BV-31N-004
Depth, ft: 82.55



PTS File No: 391054
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY DATA SUMMARY

Unsteady-State Method - Constant Rate Injection

50 psi Confining Stress

Test Temperature: 72°F

PROJECT NAME:	Honeywell Sky Harbor AZ	Sample ID:	BV-30N-013
PROJECT NO:	396460.PC.57.05.15	Depth, ft:	89.7
Porosity, percent:	35.7	Water Viscosity, cp:	1.025
Pore Volume, cc:	16.24	Oil Viscosity, cp:	1.58
Length, cm:	4.40	Initial Water Saturation, %:	45.9
Area, cm ² :	10.35	Knapl@S _{wi} , md:	6931
Backpressure, psi:	0.0	Residual NAPL Saturation, %:	16.6
Injection Rate, cc/min:	1.89	K _w S _{nr} , md:	2867

Saturation, percent pore volume		Johnson-Bossler-Naumann Method		
		Relative Permeability, percent of Knapl@S _{wi}		Water/NAPL Permeability Ratio
Water	Oil	Water	Oil	
45.9	54.1		100.00	
75.4	24.6	17.32	0.74	23.316
75.4	24.6	18.05	0.74	24.387
75.7	24.3	18.53	0.64	29.021
76.1	23.9	18.85	0.52	36.152
76.6	23.4	19.08	0.42	45.162
77.2	22.8	19.38	0.30	64.700
78.4	21.6	19.99	0.16	122.215
79.5	20.5	20.89	0.09	226.953
80.2	19.8	22.00	0.06	392.778
81.0	19.0	24.11	0.03	787.737
81.6	18.4	27.41	0.02	1462.036
81.9	18.1	30.70	0.01	2104.262
82.1	17.9	34.56	0.01	2704.579
82.2	17.8	37.27	0.01	2988.381
82.2	17.8	36.74	0.01	2992.077

Knapl@S_{wi} = Permeability to NAPL at initial water saturation
 K_wS_{nr} = Permeability to water at residual NAPL saturation

PTS File No: 391054
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY PRODUCTION DATA SUMMARY

Unsteady-State Method - Constant Rate Injection
 50 psi Confining Stress
 Test Temperature: 72°F

PROJECT NAME: Honeywell Sky Harbor AZ
 PROJECT NO: 396460.PC.57.05.15

Sample ID: BV-30N-013
 Depth, ft: 89.7

Porosity, percent: 35.7
 Pore Volume, cc: 16.24
 Length, cm: 4.40
 Area, cm²: 10.35
 Backpressure, psi: 0.0
 Injection Rate, cc/min: 1.89

Water Viscosity, cp: 1.025
 Oil Viscosity, cp: 1.58
 Initial Water Saturation, %: 45.9
 Knapl@S_{wi}, md: 6931
 Residual NAPL Saturation, %: 16.6
 K_wS_{nr}, md: 2867

Time After Breakthrough, minutes	Injection Pressure, psig	Cumulative Water Produced, cc @ 1 atm	Cumulative NAPL Produced, cc	Average Water Saturation, percent P.V.	Water/NAPL Ratio		NAPL Produced, percent P.V.	Cumulative Pore Volumes of Water Injected
					Instantaneous	Cumulative		
2.71	0.157	0.06	4.93	76.2	0.01	0.01	30.38	0.31
3.33	0.153	1.06	4.96	76.4	44.32	0.21	30.52	0.37
4.47	0.149	3.14	5.01	76.7	36.01	0.63	30.87	0.50
6.10	0.146	6.28	5.10	77.3	37.66	1.23	31.38	0.70
8.26	0.143	10.38	5.19	77.8	44.82	2.00	31.95	0.96
10.95	0.140	15.35	5.28	78.4	55.83	2.91	32.50	1.27
13.75	0.137	20.39	5.35	78.8	69.74	3.81	32.94	1.58
21.91	0.131	34.83	5.49	79.7	99.91	6.34	33.83	2.48
39.75	0.120	66.77	5.66	80.7	188.73	11.79	34.87	4.46
56.15	0.112	96.89	5.75	81.3	350.47	16.85	35.40	6.32
84.40	0.101	149.78	5.84	81.8	606.55	25.66	35.94	9.58
139.70	0.088	254.77	5.92	82.3	1216.47	43.01	36.47	16.05
195.11	0.081	360.40	5.97	82.6	2257.77	60.37	36.76	22.56
250.10	0.077	465.16	6.00	82.8	3249.53	77.50	36.96	29.01
358.90	0.073	671.87	6.05	83.1	4176.58	111.02	37.26	41.74
471.50	0.072	885.00	6.10	83.4	4614.84	145.13	37.55	54.87
482.40	0.071	905.59	6.10	83.4	4620.55	148.40	37.57	56.13

PTS File No: 391054
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY PRODUCTION DATA SUMMARY

Unsteady-State Method - Constant Rate Injection
 50 psi Confining Stress
 Test Temperature: 72°F

PROJECT NAME:	Honeywell Sky Harbor AZ	Sample ID:	BV-30N-013
PROJECT NO:	396460.PC.57.05.15	Depth, ft:	89.7
Porosity, percent:	35.7	Water Viscosity, cp:	1.025
Pore Volume, cc:	16.24	Oil Viscosity, cp:	1.58
Length, cm:	4.40	Initial Water Saturation, %:	45.9
Area, cm ² :	10.35	Knapl@S _{wi} , md:	6931
Backpressure, psi:	0.0	Residual NAPL Saturation, %:	16.6
Injection Rate, cc/min:	1.89	K _w S _{nir} , md:	2867

Time After Breakthrough, minutes	Injection Pressure, psig	Cumulative Water Produced, cc @ 1 atm	Cumulative NAPL Produced, cc	Average Water Saturation, percent P.V.	Water/NAPL Ratio		NAPL Produced, percent P.V.	Cumulative Pore Volumes of Water Injected
					Instantaneous	Cumulative		

Knapl@Swi = Permeability to NAPL at initial water saturation
 KwSnr = Permeability to water at residual NAPL saturation

PTS File No: 391054
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY DATA SUMMARY
 Unsteady-State Method - Constant Rate Injection

PROJECT NAME: Honeywell Sky Harbor AZ
 PROJECT NO: 396460.PC.57.05.15

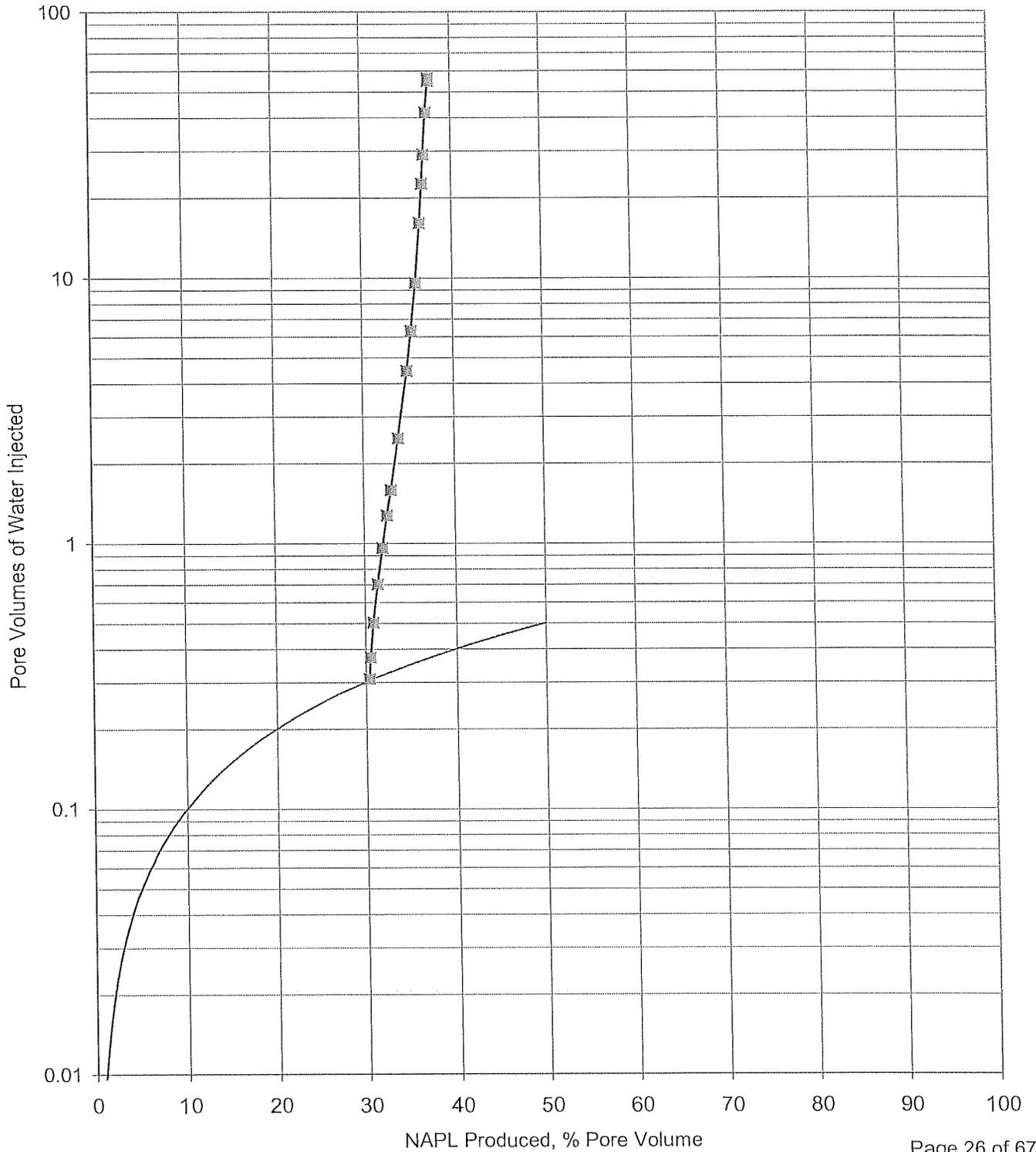
Sample ID	Depth, feet	Hydraulic Conductivity, cm/sec	Porosity, (total) percent	Initial Water Saturation (S_{wi}), percent PV	NAPL Saturation		Endpoint Permeability		Relative Permeability ($K_{wS_{nr}}/K_{napl}@S_{wi}$), percent
					Initial, percent PV	Residual, percent PV	NAPL at Initial Water Saturation ($K_{wS_{nr}}$), md	Water at Residual NAPL Saturation ($K_{wS_{nr}}$), md	
BV-30N-013	89.7	N/A	35.7	45.9	54.1	16.6	6931	2867	41.4

NAPL PRODUCED vs WATER INJECTED
Unsteady-State Method (JBN) - Constant Rate Injection
50 psi Confining Stress
Test Temperature: 72°F

PROJECT NAME: Honeywell Sky Harbor AZ
PROJECT NO: 396460.PC.57.05.15

Sample ID:
Depth, ft:

BV-30N-013
89.7

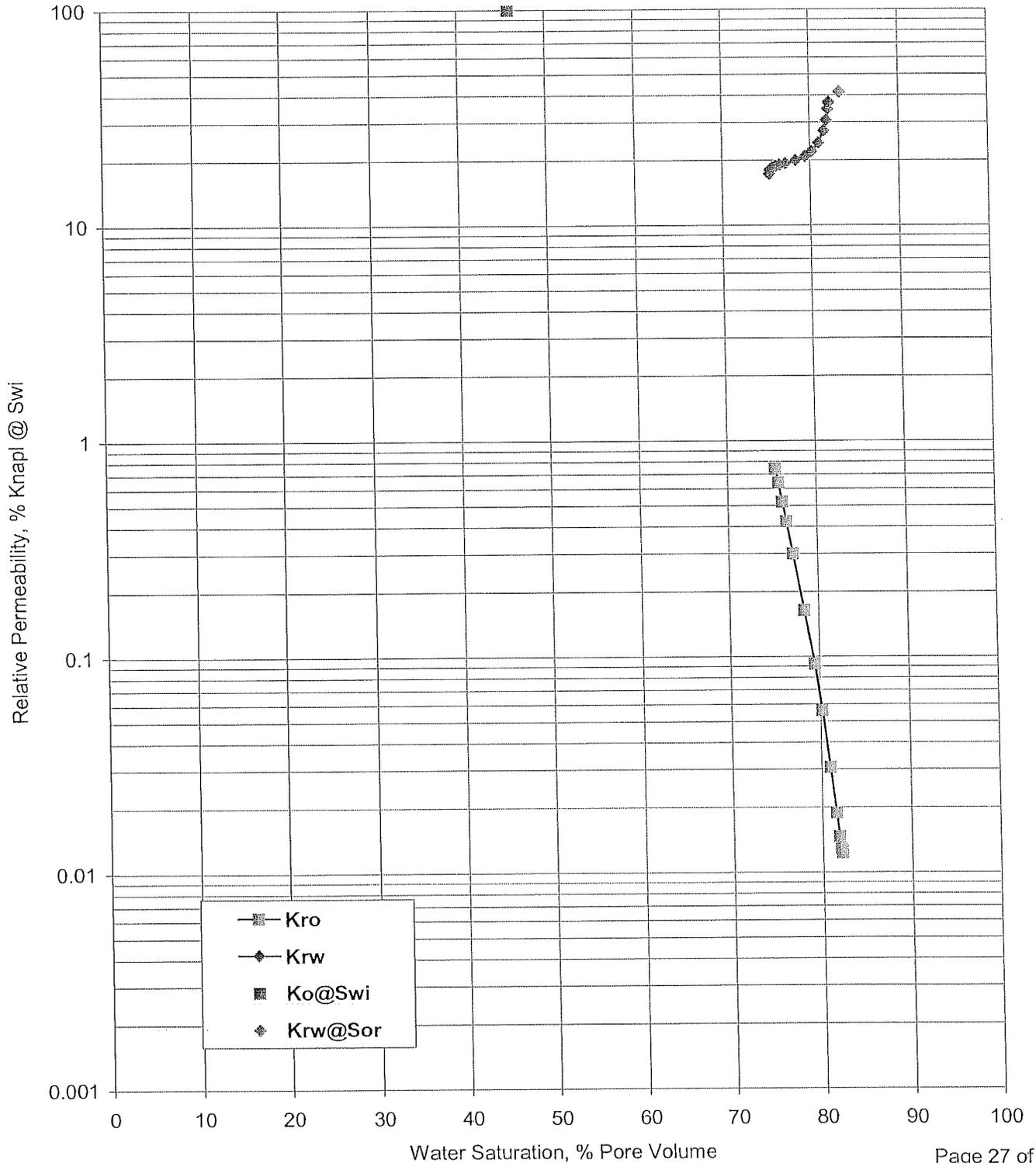


WATER/NAPL RELATIVE PERMEABILITY
Unsteady-State Method (JBN) - Constant Rate Injection
50 psi Confining Stress
Test Temperature: 72°F

PROJECT NAME: Honeywell Sky Harbor AZ
PROJECT NO: 396460.PC.57.05.15

Sample ID:
Depth, ft:

BV-30N-013
89.7



PTS File No: 391054
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY DATA SUMMARY

Unsteady-State Method - Constant Rate Injection

50 psi Confining Stress

Test Temperature: 72°F

PROJECT NAME:	Honeywell Sky Harbor AZ	Sample ID:	BV-31N-004
PROJECT NO:	396460.PC.57.05.15	Depth, ft:	82.4
Porosity, percent:	21.2	Water Viscosity, cp:	1.025
Pore Volume, cc:	8.79	Oil Viscosity, cp:	1.58
Length, cm:	3.70	Initial Water Saturation, %:	50.8
Area, cm ² :	11.21	Knapl@S _{wi} , md:	46.1
Backpressure, psi:	0.0	Residual NAPL Saturation, %:	27.6
Injection Rate, cc/min:	1.48	K _w S _{nr} , md:	3.33

Saturation, percent pore volume		Johnson-Bossler-Naumann Method		
		Relative Permeability, percent of Knapl@S _{wi}		Water/NAPL Permeability Ratio
Water	Oil	Water	Oil	
50.8	49.2		100.00	
69.2	30.8	9.00	0.13	67.311
69.1	30.9	8.20	0.13	61.627
69.0	31.0	8.06	0.14	56.883
69.0	31.0	8.04	0.15	53.821
69.0	31.0	8.05	0.14	56.125
70.4	29.6	8.11	0.07	121.148
72.1	27.9	9.93	0.01	877.293

Note: Sample demonstrated sensitivity to injection water and a decrease in permeability - testing discontinued.

PTS File No: 391054
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY PRODUCTION DATA SUMMARY

Unsteady-State Method - Constant Rate Injection

50 psi Confining Stress
 Test Temperature: 72°F

PROJECT NAME:	Honeywell Sky Harbor AZ	Sample ID:	BV-31N-004
PROJECT NO:	396460.PC.57.05.15	Depth, ft:	82.4
Porosity, percent:	21.2	Water Viscosity, cp:	1.025
Pore Volume, cc:	8.79	Oil Viscosity, cp:	1.58
Length, cm:	3.70	Initial Water Saturation, %:	50.8
Area, cm ² :	11.21	Kn _{apl} @S _{wir} , md:	46.1
Backpressure, psi:	0.0	Residual NAPL Saturation, %:	27.6
Injection Rate, cc/min:	1.48	K _w S _{mr} , md:	3.33

Time After Breakthrough, minutes	Injection Pressure, psig	Cumulative Water Produced, cc @ 1 atm	Cumulative NAPL Produced, cc	Average Water Saturation, percent P.V.	Water/NAPL Ratio		NAPL Produced, percent P.V.	Cumulative Pore Volumes of Water Injected
					Instantaneous	Cumulative		
1.47	27.823	0.01	1.63	69.3	0.01	0.01	18.55	0.19
2.44	31.212	1.13	1.64	69.5	96.42	0.69	18.68	0.32
4.24	32.937	3.55	1.67	69.7	103.95	2.13	18.95	0.59
6.47	33.448	6.61	1.70	70.1	95.17	3.89	19.32	0.95
8.02	33.669	8.77	1.72	70.4	87.84	5.09	19.59	1.19
10.95	34.080	12.94	1.77	71.0	83.11	7.30	20.17	1.67
14.16	34.548	17.68	1.83	71.6	86.67	9.67	20.79	2.22
22.27	35.784	29.99	1.89	72.3	187.08	15.84	21.54	3.63
26.38	37.498	36.03	1.90	72.4	1354.77	18.99	21.59	4.31

Note: Sample demonstrated sensitivity to injection water and a decrease in permeability - testing discontinued.

PTS File No: 391054
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY PRODUCTION DATA SUMMARY

Unsteady-State Method - Constant Rate Injection
 50 psi Confining Stress
 Test Temperature: 72°F

PROJECT NAME:	Honeywell Sky Harbor AZ	Sample ID:	BV-31N-004
PROJECT NO:	396460.PC.57.05.15	Depth, ft:	82.4
Porosity, percent:	21.2	Water Viscosity, cp:	1.025
Pore Volume, cc:	8.79	Oil Viscosity, cp:	1.58
Length, cm:	3.70	Initial Water Saturation, %:	50.8
Area, cm ² :	11.21	Knapl@S _{wi} , md:	46.1
Backpressure, psi:	0.0	Residual NAPL Saturation, %:	27.6
Injection Rate, cc/min:	1.48	K _w S _{nr} , md:	3.33

Time After Breakthrough, minutes	Injection Pressure, psig	Cumulative Water Produced, cc @ 1 atm	Cumulative NAPL Produced, cc	Average Water Saturation, percent P.V.	Water/NAPL Ratio		NAPL Produced, percent P.V.	Cumulative Pore Volumes of Water Injected
					Instantaneous	Cumulative		

Knapl@Swi = Permeability to NAPL at initial water saturation
 KwSnr = Permeability to water at residual NAPL saturation

PTS File No: 391054
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY DATA SUMMARY

Unsteady-State Method - Constant Rate Injection

PROJECT NAME: Honeywell Sky Harbor AZ
 PROJECT NO: 396460.PC.57.05.15

Sample ID	Depth, feet	Hydraulic Conductivity, cm/sec	Porosity, (total) percent	Initial Water Saturation (S _{wi}), percent PV	NAPL Saturation		Endpoint Permeability		Relative Permeability (K _w S _{wr} /K _{napi} @S _{wi}), percent
					Initial, percent PV	Residual, percent PV	NAPL at Initial Water Saturation (K _{napi} @S _{wi}), md	Water at Residual NAPL Saturation (K _w S _{wr}), md	
BV-31N-004	82.4	N/A	21.2	50.8	49.2	27.6	46.1	3.33	7.2

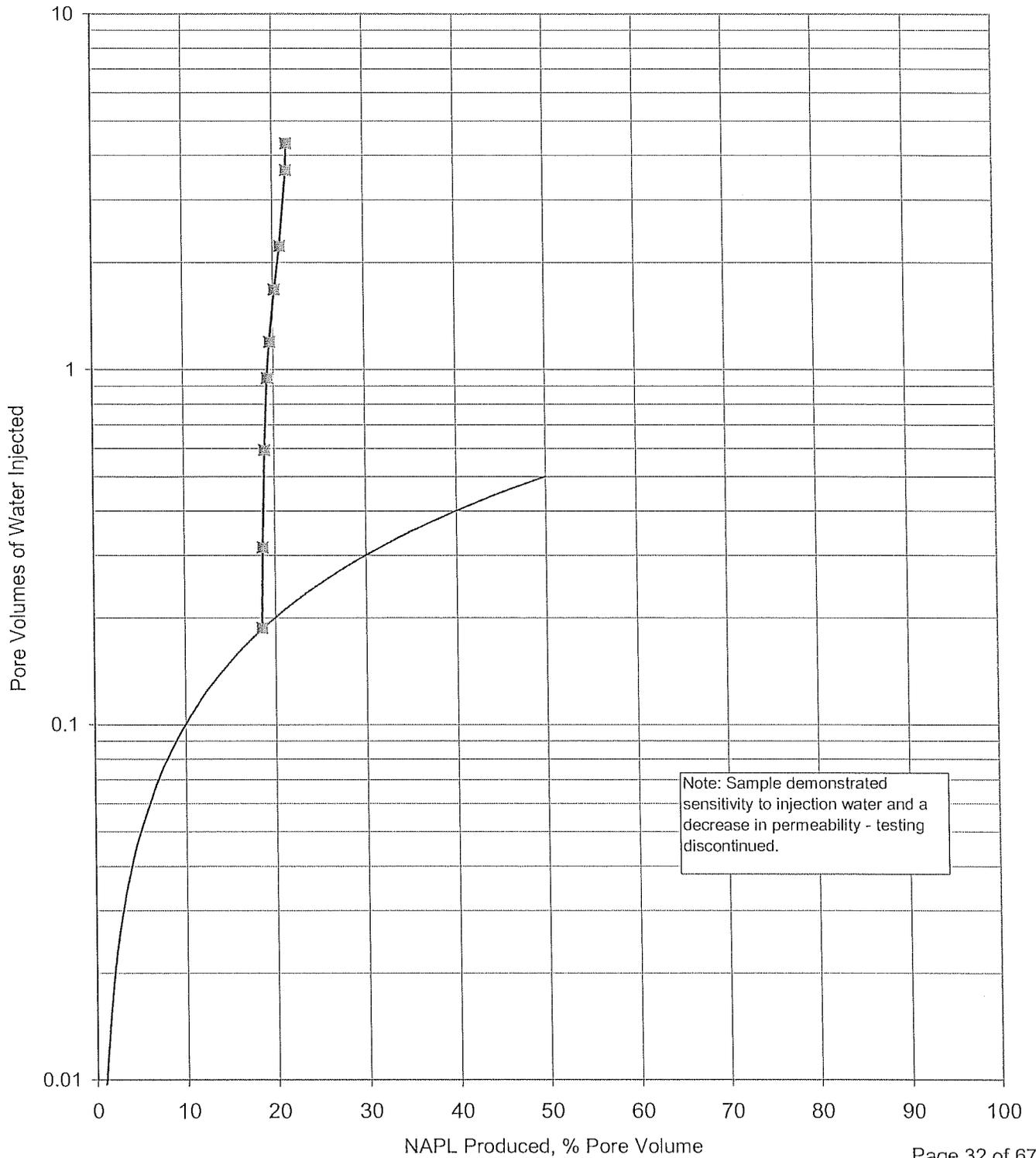
Note: Sample demonstrated sensitivity to injection water and a decrease in permeability - testing discontinued.

NAPL PRODUCED vs WATER INJECTED
Unsteady-State Method (JBN) - Constant Rate Injection
50 psi Confining Stress
Test Temperature: 72°F

PROJECT NAME: Honeywell Sky Harbor AZ
PROJECT NO: 396460.PC.57.05.15

Sample ID:
Depth, ft:

BV-31N-004
82.4

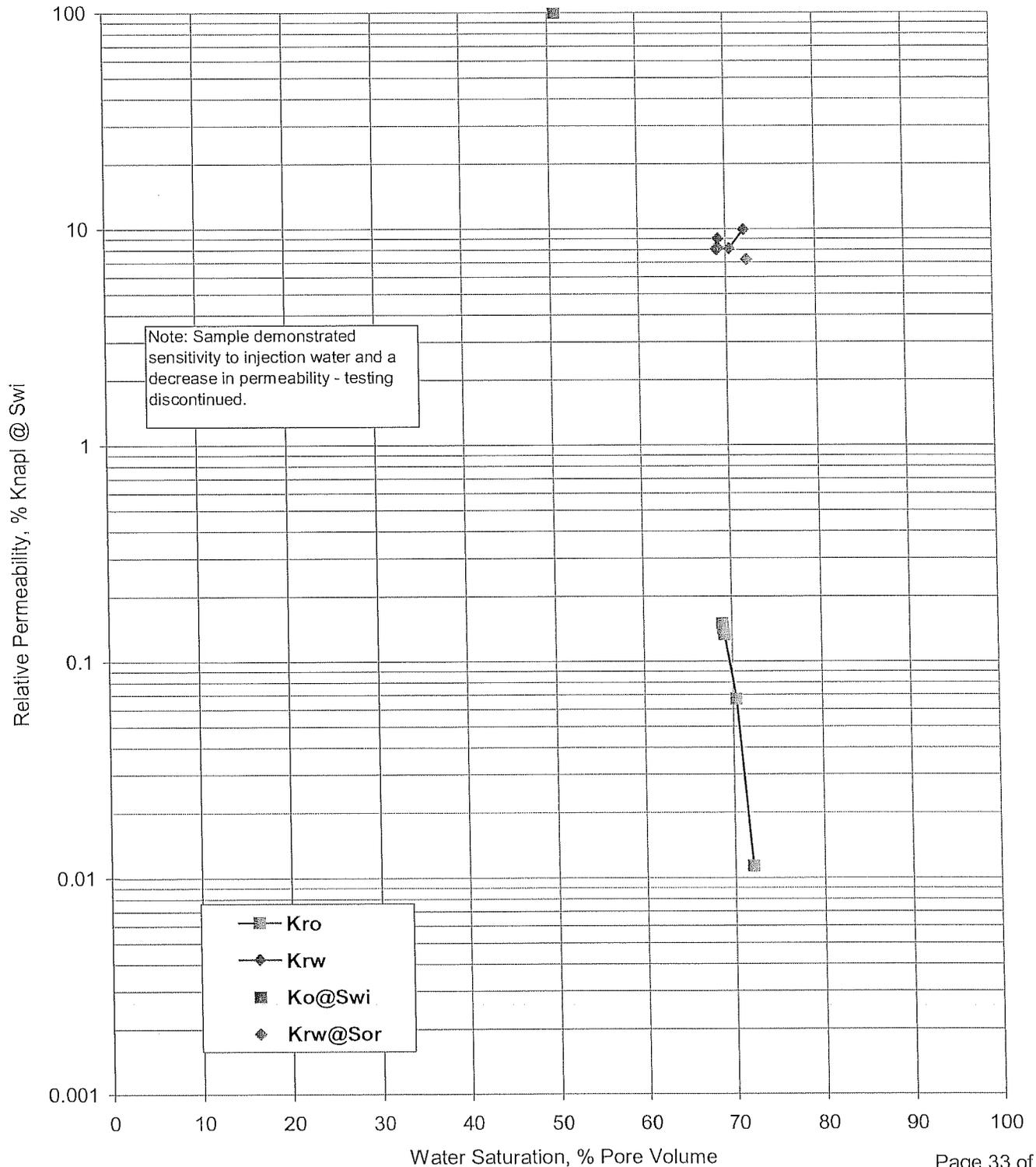


WATER/NAPL RELATIVE PERMEABILITY
Unsteady-State Method (JBN) - Constant Rate Injection
50 psi Confining Stress
Test Temperature: 72°F

PROJECT NAME: Honeywell Sky Harbor AZ
PROJECT NO: 396460.PC.57.05.15

Sample ID:
Depth, ft:

BV-31N-004
82.4





PTS File No: 391054

RAW DATA

PRIMARY DATA SET										ALTERNATE DATA SET															
ARCHIMEDES Vb REPORTED DATA					CALIPER Vb REPORTED DATA					SAMPLE WEIGHTS & PROPERTIES QC															
MOISTURE CONTENT %	DENSITY gm/cc	GRAIN gm/cc	POROSITY, %		FLUID SATURATIONS WTR, % P OIL, % PV	MOISTURE CONTENT %	BULK gm/cc	DENSITY gm/cc	GRAIN gm/cc	POROSITY, %		FLUID SATURATIONS WTR, % P OIL, % PV	WEIGHT DIFF, gms	DATA SET FOR SAMPLE ONLY	DIFF. BETWEEN DATA SETS, %	THIMBLE + SAMPLE DATA SETS	DIFF. BETWEEN DATA SETS, %	CALIPER BULK VOLUME (Vb)	ARCHIMEDES VS CALIPER PORE VOL., cc	CALIPER PORE VOL., cc	ARCHIMEDES VS CALIPER PORE VOL., cc	DIFF. BETWEEN DATA SETS, cc	DIFF. BETWEEN DATA SETS, %	NATIVE DENSITY, gm/cc	OIL, PPM
			Total	Air Filled						Total	Air Filled														
0.00	2.20	2.20	0.00	0.00	#DIV/0!	0.00	#DIV/0!	2.20	#DIV/0!	#DIV/0!	#DIV/0!	3.68	3.69	-0.01	0.00	#DIV/0!	-6.12	-14.38	18.72	-6.12	-48.56	1.97	4840		
0.00	2.20	2.20	0.00	0.00	#DIV/0!	0.00	#DIV/0!	2.20	#DIV/0!	#DIV/0!	#DIV/0!	3.25	3.27	-0.02	0.00	0.00	-4.19	-12.45	14.24	-4.19	-41.67	1.96	5885		
0.00	2.07	2.64	21.30	21.30	#DIV/0!	0.00	#DIV/0!	2.64	#DIV/0!	#DIV/0!	#DIV/0!	5.43	5.43	0.00	0.00	0.00	0.53	1.16	13.07	0.53	3.91	2.02	302		
0.00	2.15	2.63	18.14	18.14	#DIV/0!	0.00	#DIV/0!	2.63	#DIV/0!	#DIV/0!	#DIV/0!	10.46	10.46	0.00	0.00	0.00	0.01	0.03	12.09	0.01	0.12	2.21	6783		
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	6.19	6.18	0.01	0.16	-0.12	-0.21	7.78	-0.12	-1.56	2.36	4512			
4.59	1.88	2.68	29.62	20.72	26.22	3.84	1.65	2.68	38.47	30.69	17.65	12.41	12.41	0.00	0.00	0.00	-0.01	13.30	-0.01	15.80	2.28	3187			
5.20	1.86	2.65	29.88	19.89	28.88	4.56	1.65	2.65	37.64	28.75	20.38	10.03	10.02	0.01	0.10	2.01	3.27	10.69	2.01	15.80	2.31	2514			
6.22	1.90	2.69	29.55	17.74	39.73	0.24	1.92	2.69	28.73	16.78	41.35	9.10	9.10	0.00	0.00	-0.45	-0.93	12.28	-0.45	-3.78	2.14	2783			
10.86	1.99	2.65	25.01	3.05	81.07	6.73	1.99	2.65	24.99	3.02	81.17	6.62	6.62	0.00	0.00	0.24	0.18	9.95	0.18	1.78	2.24	2232			
4.85	2.25	2.61	13.52	2.36	73.20	9.38	2.25	2.61	13.70	2.56	72.07	8.51	8.49	0.02	0.24	-0.01	-22.43	19.77	-9.01	-83.78	2.12	-59			
9.82	2.10	2.69	22.06	1.29	90.37	3.77	2.10	2.69	22.06	1.30	90.33	7.73	7.73	0.00	0.00	-0.22	-0.40	11.35	-0.22	-1.98	2.31	2514			
7.78	2.14	2.69	20.36	3.67	79.15	3.29	2.13	2.69	20.88	3.86	77.62	6.85	6.85	0.00	0.00	0.00	0.37	9.95	0.37	1.78	2.24	2783			
6.85	2.00	2.65	24.52	10.69	54.13	2.27	1.98	2.65	25.21	11.51	52.16	8.51	8.49	0.02	0.24	-0.01	-22.43	19.77	-9.01	-83.78	2.12	-59			
8.33	2.07	2.61	20.54	3.19	81.00	3.50	2.08	2.61	20.25	2.83	82.47	6.87	6.86	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
8.77	1.95	2.66	26.77	9.70	63.83	-0.05	1.59	2.66	40.19	26.24	34.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

BOYLE'S LAW GRAIN VOLUME ANALYSIS CALCULATION SHEET

FILE NO: 391054
 CLIENT: CH2M Hill
 DATE: 2/16/2010

Technician: RS
 Instrument ID: FRANK JONES SN 8501
 Time: 1330

STEP 1 - POROSIMETER CALIBRATION								
RAW DATA ENTRY AREA						CALCULATED		
CALIBRATION RUN #	REFERENCE PRESSURE (Pof)	OPEN CUP PRESSURE (Pf)	REFERENCE W/O BILLETS PRESSURE (Pob)	CUP W/O BILLETS PRESSURE (Pb)	BILLET VOLUME (B)	CONSTANT	R VALUE	
Cal-1	100.01	76.31	100.00	52.50	6.467	1.311	10.884	
Cal-2	100.02	76.32	100.01	52.50	6.467	1.311	10.876	
Cal-3	100.01	76.32	100.01	52.50	6.467	1.310	10.877	
Cal-4	100.01	76.32	99.99	52.49	6.467	1.310	10.871	
Cal-5	100.01	76.33	100.00	52.50	6.467	1.310	10.874	
FINAL 3 CALIBRATIONS - AVG:						1.310	10.874	

STEP 2 - GRAIN VOLUME DETERMINATION								
RAW DATA ENTRY AREA					CALCULATED			
RUN #	SAMPLE ID	BILLET VOLUME (B)	REFERENCE PRESSURE (Pos)	OPEN CUP PRESSURE (Ps)	CONSTANT	R VALUE	GRAIN VOLUME	
Std-1	Ball 8.580	12.950	100.00	58.42	1.310	10.874	8.585	
Std-2	Ball 8.1924	12.950	100.00	57.20	1.310	10.874	8.188	
Std-3	C13 Standard	16.140	100.00	58.20	1.310	10.874	11.705	
Std-4	I-1 Standard	19.382	100.00	53.73	1.310	10.874	13.393	
1	BV-30N-013	19.382	99.99	48.61	1.310	10.874	11.263	
2	BV-31N-004	19.382	99.99	52.07	1.310	10.874	12.749	
3					1.310	10.874	#DIV/0!	
4					1.310	10.874	#DIV/0!	
5					1.310	10.874	#DIV/0!	
6					1.310	10.874	#DIV/0!	
7					1.310	10.874	#DIV/0!	
8					1.310	10.874	#DIV/0!	
9					1.310	10.874	#DIV/0!	
10					1.310	10.874	#DIV/0!	
Std. or DUP.	I-1 Standard	19.382	100.00	53.76	1.310	10.874	13.404	

TIONS)

PRIMARY DATA SET

CALCULATED DATA											CALIPER Vb REPORTED DATA									
OIL		WATER		WEIGHT	BULK VOL., cc			SAMP. PKG.		DRY WT.	GRAIN VOL., CC		PORE	MOISTURE	DENSITY		POROSITY, %		FLUID SATURATIONS	
WT, gm	VOL., cc	VOL., cc	DIFF., gms	CALIPER w/o PKG	ARCH with PKG	ARCH w/o PKG	VOL., cc	WT., gms	gms w/o PKG	with PKG	w/o PKG	VOL., cc	CONTENT %	BULK gni/cc	GRAIN gm/cc	Total	Air Filled	WTR, % P	OIL, % Pv	
0.00	0.00	0.00	0.00	8.580	0.00	0.00	0.00	0.00	0.00	8.585	8.59	-0.01	#DIV/0!	0.00	0.00	-0.06	-0.06	0.00	0.00	
0.00	0.00	0.00	0.00	8.181	0.00	0.00	0.00	0.00	0.00	8.188	8.19	-0.01	#DIV/0!	0.00	0.00	-0.09	-0.09	0.00	0.00	
0.00	0.00	0.00	0.00	15.45	0.00	0.00	0.00	0.00	30.88	11.705	11.70	3.75	0.00	2.00	2.64	24.26	24.26	0.00	0.00	
0.00	0.00	0.00	0.00	16.56	0.00	0.00	0.00	0.00	35.09	13.393	13.39	3.17	0.00	2.12	2.62	19.12	19.12	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
0.00	0.00	1.77	1.77	15.23	0.00	-0.92	0.92	2.32	27.67	11.263	10.35	4.89	6.40	1.82	2.67	32.08	20.46	36.22	0.00	
0.00	0.00	3.11	3.11	16.23	0.00	-0.92	0.92	2.32	31.36	12.749	11.83	4.40	8.51	1.93	2.65	27.10	7.94	70.69	0.00	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
0.00	0.00	0.00	0.00	16.56	0.00	0.00	0.00	0.00	35.09	13.404	13.40	3.15	0.00	2.12	2.62	19.05	19.05	0.00	0.00	
0.00	0.00	0.00	0.00	0.00	0.00	6.93	6.93	0.00	0.00	15.26	6.93	6.93	0.00	0.00	2.20	2.20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
0.00	0.00	0.00	0.00	0.00	0.00	13.99	13.99	0.00	0.00	30.81	13.99	13.99	0.00	0.00	2.20	2.20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
0.00	0.00	0.00	0.00	15.45	14.80	14.80	0.00	0.00	30.89	11.65	11.65	3.14	0.00	2.09	2.65	20.33	20.33	0.00	0.00	
0.00	0.00	0.00	0.00	16.56	16.24	16.24	0.00	0.00	35.04	13.29	13.29	2.95	0.00	2.16	2.64	17.79	17.79	0.00	0.00	

AIR/WATER DRAINAGE CAPILLARY PRESSURE TABULAR DATA

(ASTM D6836, Centrifugal Method: air displacing water)

Job No: 391054

Client: CH2M Hill

Sample ID: BV-30N-013

Depth, ft: 89.85

Rotor Radius, cm: 16.51 Bulk Volume (caliper, w/o pkg), cc: 18.13

Length (Final), cm: 3.56 Pore Volume (calc), cc: 5.54 (wet-dry)

Diameter (Final), cm: 2.61 Pore Vol (Caliper BV - VSG), cc: 7.78

Density1 (d1) (water): 0.9996 Sat'd PV / VSG PV, cc: 1.40

Density 2 (d2) (air): 0.001204 Porosity (calc): 0.306 (BV-PV(calc))

Total Pkg Wt., gm: 2.32 Dry Wt. w/o Pkg, gm: 27.42

Total Package Vol, cc: 0.92 Sat'd Wt w/o Pkg, gm: 32.96

Sat'd Wt, w/ pkg, gm: 35.28 Initial Moisture, %: 20.2

Dry Wt w/ Pkg, gm: 29.74 Volume Water Prod, cc: 4.82

Zero Start Point, ml: 0.50 Volume Water Ext, cc: 5.54

Water Extracted, ml: 5.54 Total Water, cc: 10.36

Final Run Wet Wt, gm: 30.55 Calc Sat'd wt (w/o pkg), gm: 32.90

Bulk Volume (caliper), cc: 15.23 Wt of water at Sw=1 @ RT, gm: 5.48

Grain Volume, cc: 10.35 Ineas Sat'd wt - Calc Sat'd Wt, gm: 0.06

Rotor Speed rpm	Specific Retention rpm =		2473		Vol Out, Data Sheet	PLOT DATA	
	Pressure, psi	Sample Wt, gm	Vol Out, gm	Vol Out, cc		Water Saturation, % Vp	Moisture Content %
0	0.000	32.96	0.00	0.00	0.50	100.0	20.2
100	0.083	32.96	0.00	0.00	0.50	100.0	20.2
150	0.188	32.96	0.00	0.00	0.50	100.0	20.2
200	0.333	31.41	1.55	1.55	2.05	72.0	14.6
250	0.521	29.46	3.50	3.50	4.00	36.8	7.4
300	0.750	29.06	3.90	3.90	4.40	29.6	6.0
350	1.021	28.91	4.05	4.05	4.55	26.9	5.4
400	1.334	28.81	4.15	4.15	4.65	25.1	5.1
500	2.084	28.66	4.30	4.30	4.80	22.4	4.5
650	3.521	28.51	4.45	4.45	4.95	19.7	4.0
800	5.334	28.41	4.55	4.55	5.05	17.9	3.6
1000	8.335	28.31	4.65	4.65	5.15	16.1	3.3
1500	18.753	28.19	4.77	4.77	5.27	13.9	2.8
2000	33.339	28.14	4.82	4.82	5.32	13.0	2.6

AIR/WATER DRAINAGE CAPILLARY PRESSURE TABULAR DATA

(ASTM D6836; Centrifugal Method: air displacing water)

Job No: 391054

Client: CH2M Hill

Sample ID: BV-31N-004

Depth, ft: 82.55

Rotor Radius, cm: 16.51 bulk Volume (caliper, w/o pkg), cc: 16.54
 Length (Final), cm: 3.19 Pore Volume (calc), cc: 3.23 (wet-dry)
 Diameter (Final), cm: 2.64 Pore Vol (Caliper BV - VSG), cc: 4.71
 Density1 (d1) (water): 0.9996 Sat'd PV / VSG PV, cc: 1.46
 Density 2 (d2) (air): 0.001204 Porosity (calc): 0.195 (BV-PV(calc))
 Total Pkg Wt., gm: 2.32 Dry Wt. w/o Pkg, gm: 31.19
 Total Package Vol, cc: 0.92 Sat'd Wt w/o Pkg, gm: 34.42
 Sat'd Wt, w/ pkg, gm: 36.74 Initial Moisture, %: 10.4
 Dry Wt w/ Pkg, gm: 33.51 Volume Water Prod, cc: 1.55
 Zero Start Point, ml: 0.50 Volume Water Ext, cc: 3.23
 Water Extracted, ml: 3.23 Total Water, cc: 4.78
 Final Run Wet Wt, gm: 35.02 Calc Sat'd wt (w/o pkg), gm: 34.39
 Bulk Volume (caliper), cc: 16.23 Wt of water at Sw=1 @ RT, gm: 3.20
 Grain Volume, cc: 11.83 leas Sat'd wt - Calc Sat'd Wt, gm: 0.03

Rotor Speed rpm	Pressure, psi	Sample Wt, gm	2458		Vol Out, cc	Vol Out, ml Data Sheet	PLOT DATA	
			Vol Out, gm	gm			Water Saturation, % Vp	Moisture Content %
0	0.000	34.42	0.00	0.00	0.00	0.50	100.0	10.4
100	0.076	34.42	0.00	0.00	0.00	0.50	100.0	10.4
150	0.170	34.42	0.00	0.00	0.00	0.50	100.0	10.4
200	0.302	34.42	0.00	0.00	0.00	0.50	100.0	10.4
250	0.473	34.42	0.00	0.00	0.00	0.50	100.0	10.4
300	0.681	34.37	0.05	0.05	0.05	0.55	98.5	10.2
350	0.926	34.30	0.12	0.12	0.12	0.62	96.3	10.0
400	1.210	34.17	0.25	0.25	0.25	0.75	92.3	9.6
500	1.891	33.87	0.55	0.55	0.55	1.05	83.0	8.6
650	3.195	33.57	0.85	0.85	0.85	1.35	73.7	7.6
800	4.840	33.37	1.05	1.05	1.05	1.55	67.5	7.0
1000	7.562	33.22	1.20	1.20	1.20	1.70	62.8	6.5
1500	17.015	33.00	1.42	1.42	1.42	1.92	56.0	5.8
2000	30.250	32.87	1.55	1.55	1.55	2.05	52.0	5.4

PERMEABILITY TO AIR - BULK VOLUME BY CALIPER

FILE NO: 391054
 CLIENT: CH2M Hill

SAMPLE NO.	DEPTH, ft	ORIENT. (h or v)	PACKAGE WTS.		RAW DATA ENTRY				CALCULATED DATA				REPORTED DATA			
			SCREEN gm	TAPE gm	L., cm	DIA. cm	TEMP., °F	AIR VISC., cP	MEASURED INJ. PRESSURE		VOL, cc	Vb, cm ³	LZ/ Vb	PKG VOLUME, cc	AIR PERMEABILITY md	
									UPSTREAM in. wtr	DOWN psig						
BV-30N-013	89.85	R	0.25	2.07	3.58	2.46	75.0	0.0178	0.44	0.02	118.72	100.00	16.10	0.7960	0.915	11004
BV-30N-013	89.85	R	0.25	2.07	3.58	2.46	75.0	0.0178	0.42	0.02	124.30	100.00	16.10	0.7960	0.915	11011
BV-31N-004	82.55	H	0.25	2.07	3.17	2.56	75.0	0.0178	2.80	0.10	117.27	100.00	15.40	0.6525	0.915	1431
BV-31N-004	82.55	H	0.25	2.07	3.17	2.56	75.0	0.0178	2.80	0.10	117.20	100.00	15.40	0.6525	0.915	1432
															Avg:	1431

PERMEABILITY TO WATER RAW DATA SHEET (CALIPER PROPERTIES)

HC, cm/s = QL/Aht
 Q = vol, L = length, A=area, t = time, h = head

SAMPLE NO.	DEPTH, ft	ORIENT., (h or v)	PACKAGE WTS.			RAW DATA ENTRY			CALCULATED DATA				REPORTED DATA		QUALITY CONTROL DATA			
			SCREEN gm	TAPE gm	WTS. gm	LENGTH cm	DIAMETER cm	TEMP., °F	WATER Visc. cP	NET INJECTION PRESSURE psig	TIME, sec	VOL., ml	Vb, cm ³	AREA, cm ²	L2/ Vb	PKG VOLUME cc	WATER PERMEABILITY mD	WATER CONDUCTIVITY cm/sec
BV-30N-013	89.85	R	0.25	2.07	2.60	76.0	0.9150	0.10	180.34	5.90	18.52	5.31	0.7234	0.915	3214.691	3.24E-03	1.96	1.9
BV-30N-013	89.85	R	0.25	2.07	2.60	76.0	0.9150	0.10	180.34	5.90	18.52	5.31	0.7234	0.915	3315.150	3.34E-03	1.96	1.8
BV-31N-004	82.55	H	0.25	2.07	2.62	76.0	0.9150	5.01	180.26	4.20	16.61	5.39	0.6360	0.915	3264.920	3.29E-03	1.40	108.4
BV-31N-004	82.55	H	0.25	2.07	2.62	76.0	0.9150	5.01	180.28	4.20	16.61	5.39	0.6360	0.915	39.776	3.99E-05	1.40	108.4
															39.774	3.99E-05		

PERMEABILITY TO WATER RAW DATA SHEET (CALIPER PROPERTIES)

PERMEABILITY TO WATER RAW DATA SHEET (CALIPER PROPERTIES)															
RAW DATA ENTRY															
FILE NO:	CLIENT:	DEPTH, ft	ORIENT., (h or v)	SCREEN	PACKAGE WTS. TAPE	LENGTH	DIAMETER	TEMP., °F	NET INJECTION PRESSURE	TIME, sec	VOL., ml	Vb, cm3	Lz, Vb	PKG VOLUME	
															500 psi Transducer Calibration, psi
SAMPLE NO.	DEPTH, ft	ORIENT., (h or v)	SCREEN	PACKAGE WTS. TAPE	LENGTH	DIAMETER	TEMP., °F	NET INJECTION PRESSURE	TIME, sec	VOL., ml	Vb, cm3	Lz, Vb	PKG VOLUME	PERMEABILITY	
Kw (eff)	82.40	H	0.57	3.07	3.70	3.84	72.0	11,000	180.15	6.30	41.47	0.3301	1.382	#DIV/0!	
Initial flush with 10psi Back Pressure: 2% KCl water	82.40	H	0.57	3.07	3.70	3.84	72.0	11,000	180.15	6.30	41.47	0.3301	1.382	#DIV/0!	
Without Back Pressure: 2% KCL Synthetic Brine	82.40	H	0.57	3.07	3.70	3.84	72.0	11,000	180.15	6.30	41.47	0.3301	1.382	15.8	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	72.0	11,000	180.15	6.30	41.47	0.3301	1.382	15.8	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	72.0	11,000	180.12	6.30	41.47	0.3301	1.382	15.8	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	72.0	11,000	180.09	6.30	41.47	0.3301	1.382	15.8	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	72.0	11,000	180.09	6.30	41.47	0.3301	1.382	15.8	
Koswi Measurements															
Koswi - Kerosene	82.40	H	0.57	3.07	3.70	3.84	74.0	5,500	180.12	6.10	41.47	0.3301	1.382	46.1	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	74.0	5,500	180.09	6.10	41.47	0.3301	1.382	46.1	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	74.0	5,500	180.08	6.10	41.47	0.3301	1.382	46.1	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	74.0	5,500	180.08	6.10	41.47	0.3301	1.382	46.1	
Kwsro Measurements															
Kwsro: 2% KCL Synthetic Brine	82.40	H	0.57	3.07	3.70	3.84	75.0	37,250	180.18	4.70	41.47	0.3301	1.382	3.33	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	75.0	37,450	180.08	4.70	41.47	0.3301	1.382	3.31	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	75.0	36,950	180.15	4.70	41.47	0.3301	1.382	3.35	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	75.0	37,350	180.16	4.70	41.47	0.3301	1.382	3.32	
BV-31N-004	82.40	H	0.57	3.07	3.70	3.84	75.0	37,350	180.16	4.70	41.47	0.3301	1.382	3.33	
QUALITY CONTROL DATA															
FLOW RATE, cc/min.	CONDUCTIVITY, cm/sec	PERMEABILITY, mD	CONDUCTIVITY, cm/sec	PERMEABILITY, mD	CONDUCTIVITY, cm/sec	PERMEABILITY, mD	CONDUCTIVITY, cm/sec	PERMEABILITY, mD	CONDUCTIVITY, cm/sec	PERMEABILITY, mD	CONDUCTIVITY, cm/sec	PERMEABILITY, mD	CONDUCTIVITY, cm/sec	PERMEABILITY, mD	CONDUCTIVITY, cm/sec
2.10	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05
2.10	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05
2.10	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05	15.8	1.25E-05
2.03	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05
2.03	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05
2.03	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05	46.1	2.42E-05
1.57	2.75E-06	3.33	2.75E-06	3.33	2.75E-06	3.33	2.75E-06	3.33	2.75E-06	3.33	2.75E-06	3.33	2.75E-06	3.33	2.75E-06
1.57	2.75E-06	3.31	2.75E-06	3.31	2.75E-06	3.31	2.75E-06	3.31	2.75E-06	3.31	2.75E-06	3.31	2.75E-06	3.31	2.75E-06
1.57	2.75E-06	3.35	2.75E-06	3.35	2.75E-06	3.35	2.75E-06	3.35	2.75E-06	3.35	2.75E-06	3.35	2.75E-06	3.35	2.75E-06
1.57	2.75E-06	3.32	2.75E-06	3.32	2.75E-06	3.32	2.75E-06	3.32	2.75E-06	3.32	2.75E-06	3.32	2.75E-06	3.32	2.75E-06
#DIV/0!	#DIV/0!	AVG:	#DIV/0!	AVG:	#DIV/0!	AVG:	#DIV/0!	AVG:	#DIV/0!	AVG:	#DIV/0!	AVG:	#DIV/0!	AVG:	#DIV/0!

4/13/2010
 8:57
 C:\PHI220 ver 2_72 with pause\Report\391054.xls
 391054
 Kari Hochstatter

Date>
 Time>
 File
 Job ID
 Analyst
 Remarks

Sample ID	Sample Length cm	Sample Diameter cm	Bulk Volume cc	Dry Weight grams	Test Type	Grain Volume cc	Pore Volume cc	Porosity %BV	Grain Density g/cc	RemBillet Volume cc	Conf Pressure psi	Ref Volume cc	Dead Volume cc	Temp C	Cup	Date	Time	AVERAGE Grain Volume cc
BV-30N-013 at 89.7	4.4	3.7	47.309	82.48	GV	31	16.309	34.473	2.661	54.14	0	77.993	11.77	73.2	1.5"	4/13/2010	8:47	31.068
BV-30N-013 at 89.7	4.4	3.7	47.309	82.48	GV	31.136	16.173	34.186	2.649	54.14	0	77.993	11.77	73.6	1.5"	4/13/2010	8:49	34.06
BV-31N-004 at 82.4	3.7	3.84	42.85	91.61	GV	34.02	8.831	20.608	2.693	43.265	0	77.993	11.77	73.9	1.5"	4/13/2010	8:53	
BV-31N-004 at 82.4	3.7	3.84	42.85	91.61	GV	34.1	8.751	20.421	2.687	43.265	0	77.993	11.77	74.5	1.5"	4/13/2010	8:55	



PTS File No: 391054

SHIPPING / RECEIVING DOCUMENTS



PTS File No: 391054

Region III DC-1 SAMPLE LOG-IN SHEET

LOG-IN DATE: 12/4/2009
 LAB NAME: PTS Laboratories
 RECEIVED BY: J. Perez

DAS NO: N/A
 SDG NO: 391054

SIGNATURE:

CHECK THE APPROPRIATE RESPONSE:

	PRESENT	ABSENT	INTACT	BROKEN
CUSTODY SEAL(S)	X		X	
CHAIN OF CUSTODY (COC) RECORD	X			
TRAFFIC REPORT OR PACKING LIST		X		
AIRBILL / STICKER	X			
SAMPLE TAGS	X			
SAMPLE TAG NUMBERS ON CHAIN OF CUSTODY	X			
DATE RECEIVED BY LAB:	12/4/2009			
TIME RECEIVED:	1102			
DOES INFORMATION AGREE ON C O C, AND TAGS	Y			
AIRBILL NUMBER 870542950497	X			

SAMPLE TRANSFER		
FRACTION	DATE	BY

REVIEWED BY: DATE: December 4, 2009
 LOGBOOK NO.: 2009 LOGBOOK PAGE NO.: 58

COOLER RECEIPT FORM

391054 MMB 12/14/09

Date Received: 12/4/09 PTS File Number: 391024 Client: CH2M Hill

Project Name: Honeywell Sky Harbor Project No: 396460.PC.57.05.15

PRELIMINARY EXAMINATION PHASE:

Date cooler was opened: 12/4/09 By (print): Joel Perez Sign: [Signature]

Did cooler arrive with a shipping ticket (airbill, etc.)? Fedex Yes [X] No [] NA []

If YES, enter carrier name and air bill number here: 8705 4295 0497 Attach airbill [X]

Did samples arrive in a Client Cooler [] PTS Cooler [X] a Box [] Other [] describe: 2 Jerry White 191005 #s 146 and 131

1. Were custody seals on outside of cooler or box? Yes [X] No [] NA []

2. Were custody seals unbroken and intact at the date and time of arrival? Attach seals. Yes [X] No [] NA []

How many & where: 2 seals on lid of cooler (3), seal date: 12/3/09, seal name: Lars Peterson

3. Were custody papers sealed in a plastic bag and taped inside to the cooler lid? Yes [X] No [] NA []

4. Were custody papers filled out properly (ink, signed, etc.)? Document discrepancies on back. Yes [X] No [] NA []

5. Did you sign custody papers in the appropriate place? If COC is not attached to this cooler, revise Yes [X] No [] NA []

6. Was project identifiable from custody papers? and initial form when COC(s) are located. Yes [X] No [] NA []

If YES, enter project name and number at the top of this form. COC # (if present) 37380-091202

7. If required, was enough ice used? Type of ice: Dry [X] Wet [] Blue [] Yes [X] No [] NA []

8. What was the cooler temperature upon receipt? -40°F (°C) Is Core Frozen? Yes [X] No [] NA []

9. Have designated person initial here to acknowledge receipt of cooler MMB Date: 12/4/09

LOG-IN PHASE:

Date samples were logged in: 12/4/09 By (print): Joel Perez Sign: [Signature]

1. Type of Packing in cooler or box: Bubble Wrap [X] Foam [] None [] Other [] Describe:

2. Did all cores/samples arrive intact and were labels in good condition? Yes [X] No [] NA []

3. Were all cores/samples labeled correctly (ID, date, time, etc.)? Yes [X] No [] NA []

4. Do core/sample labels agree with custody papers? Yes [X] No [] NA []

5. Type of cores/samples: Shelby Tube [] Brass Sleeve [X] size: 2x6" Acetate Sleeve [] size:

Bag [] Bucket [] Jar [] size: Bottle [] size: Other [] Describe:

6. Number of cores: 21 Number of bag/grab or jar samples: Number of fluid samples:

Description of nonstandard samples:

7. Was the Lab Supervisor or Project Manager called & status discussed? Yes [X] No [] NA []

If YES, who was called? Michael Mark Brady By whom (initial)? JB Current or existing job? [X]

Sample storage location pending analysis (freezer, refrigerator, or bin number): Freezer "B"



391024 → 12/4/09 JP
391054 MW3 12/14/09
8705 4295 0497

COULEX 4 131

Form ID No. 0200

From [Redacted]
Date 12/3/09

Sender's Name Latis Precision Phone 480 314 3838

Company CH2M Hill

Address 2625 S. Phoenix Dr Suite 300

City Tempe State AZ ZIP 85282

Your Internal Billing Reference 396460 PC-57-05.15

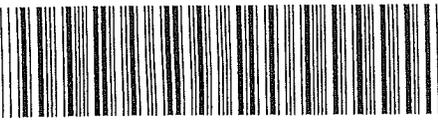
To Recipient's Name Sample Receiving Phone 962 347-8505

Company P73 Laboratories

Address 2100 Service Way

Address [Redacted]

City South Pe Springs State CA ZIP 90670



8705 4295 0497

4a Express Package Service * To most locations. Packages up to 150 lbs.

- FedEx Priority Overnight (checked)
FedEx Standard Overnight
FedEx First Overnight
FedEx 2Day
FedEx Express Saver

4b Express Freight Service ** To most locations. Packages over 150 lbs.

- FedEx 1Day Freight
FedEx 2Day Freight
FedEx 3Day Freight

5 Packaging * Declared value limit \$500.

- FedEx Envelope*
FedEx Pak*
FedEx Box
FedEx Tube
Other (checked)

6 Special Handling and Delivery Signature Options

- SATURDAY Delivery
No Signature Required
Direct Signature
Indirect Signature

Does this shipment contain dangerous goods?
No (checked)
Yes As per attached Shipper's Declaration
Yes Shipper's Declaration not required
Dry Ice
Cargo Aircraft Only

7 Payment Bill to:

- Sender (checked)
Recipient
Third Party
Credit Card
Cash/Check

Total Packages 2 Total Weight 7.5 lbs. Total Declared Value \$ 00

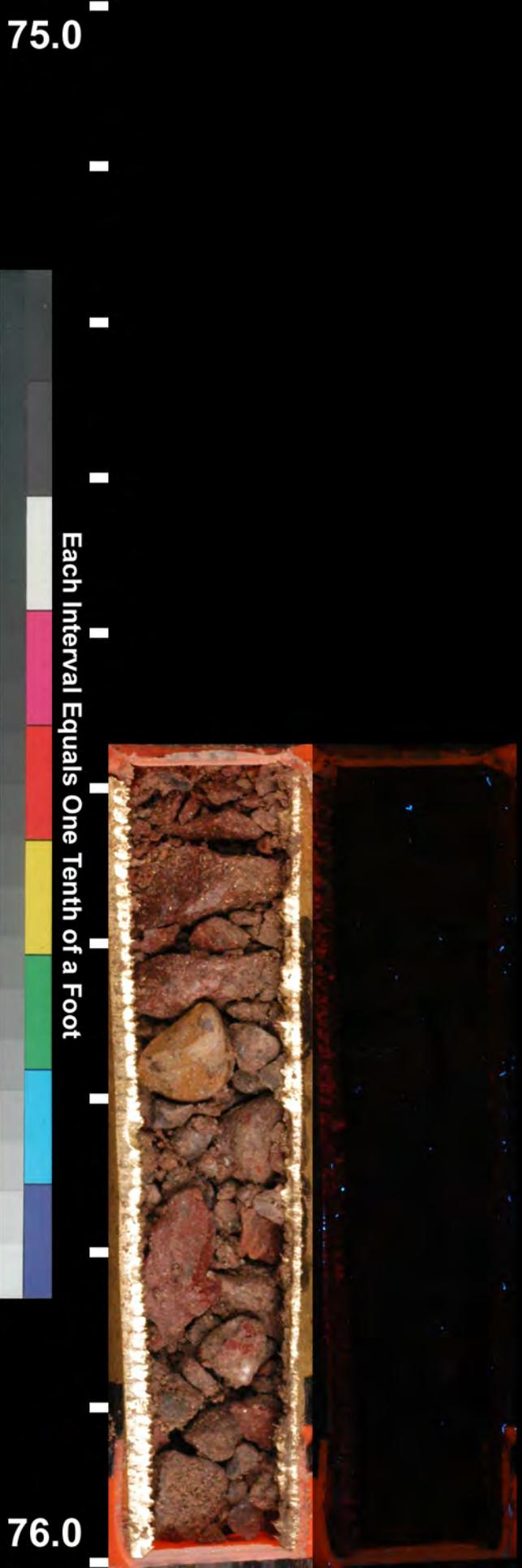
Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details. 554

Rev. Date 2/00-Part #150281 ©1994-2006 FedEx PRINTED IN U.S.A. 581

Handwritten note: 391024, COULEX 4 146, 12/4/09, JP

SAMPLE LOG-IN SHEET

CH2M Hill SAMPLE #	SAMPLE TAG #	LAB ASSIGNED #	CUSTODY SEAL #	SAMPLE CONDITION
BV-30N-001	N/A	BV-30N-001	N/A	INTACT
BV-30N-002	N/A	BV-30N-002	N/A	INTACT
BV-30N-003	N/A	BV-30N-003	N/A	INTACT
BV-30N-004	N/A	BV-30N-004	N/A	INTACT
BV-30N-005	N/A	BV-30N-005	N/A	INTACT
BV-30N-006	N/A	BV-30N-006	N/A	INTACT
BV-30N-007	N/A	BV-30N-007	N/A	INTACT
BV-30N-008	N/A	BV-30N-008	N/A	INTACT
BV-30N-009	N/A	BV-30N-009	N/A	INTACT
BV-30N-010	N/A	BV-30N-010	N/A	INTACT
BV-30N-011	N/A	BV-30N-011	N/A	INTACT
BV-30N-012	N/A	BV-30N-012	N/A	INTACT
BV-30N-013	N/A	BV-30N-013	N/A	INTACT
BV-31N-001	N/A	BV-31N-001	N/A	INTACT
BV-31N-002	N/A	BV-31N-002	N/A	INTACT
BV-31N-003	N/A	BV-31N-003	N/A	INTACT
BV-31N-004	N/A	BV-31N-004	N/A	INTACT
BV-31N-005	N/A	BV-31N-005	N/A	INTACT
BV-31N-006	N/A	BV-31N-006	N/A	INTACT
BV-31N-007	N/A	BV-31N-007	N/A	INTACT
BV-31N-008	N/A	BV-31N-008	N/A	INTACT



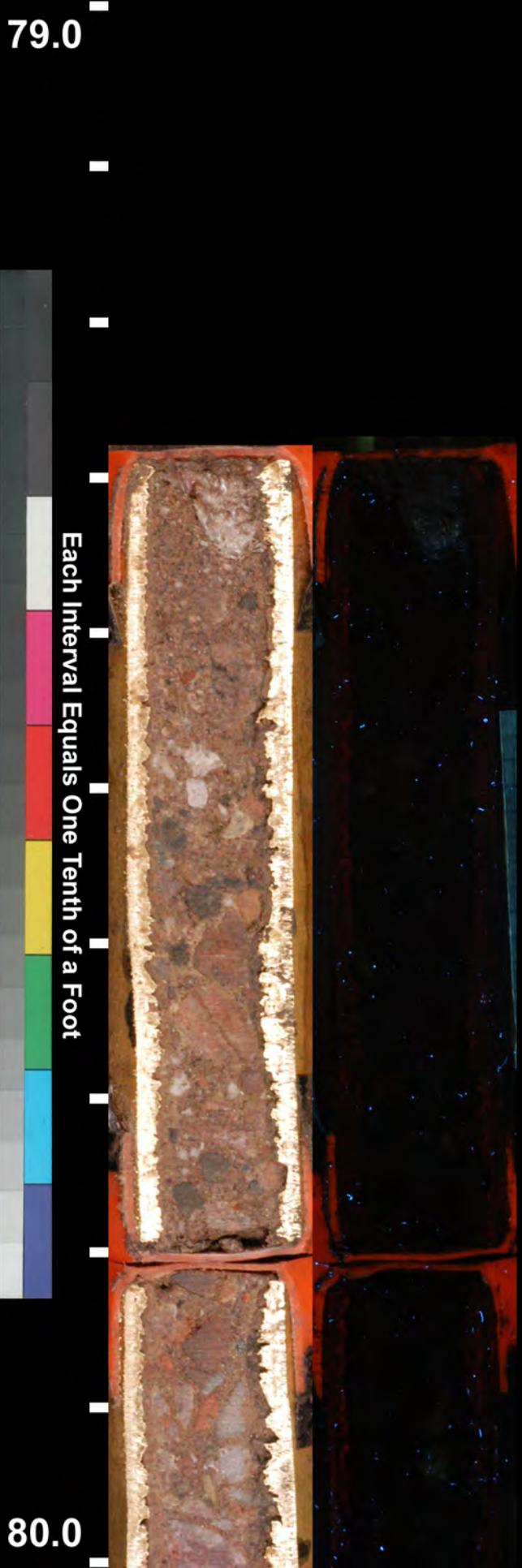
Project: Honeywell Sky Harbor, AZ Boring ID: BV-30N
Project No.: 396460.PC.57.05.15



Project: Honeywell Sky Harbor, AZ Boring ID: BV-30N
Project No.: 396460.PC.57.05.15

78.0

79.0



Project: Honeywell Sky Harbor, AZ Boring ID: BV-30N
Project No.: 396460.PC.57.05.15

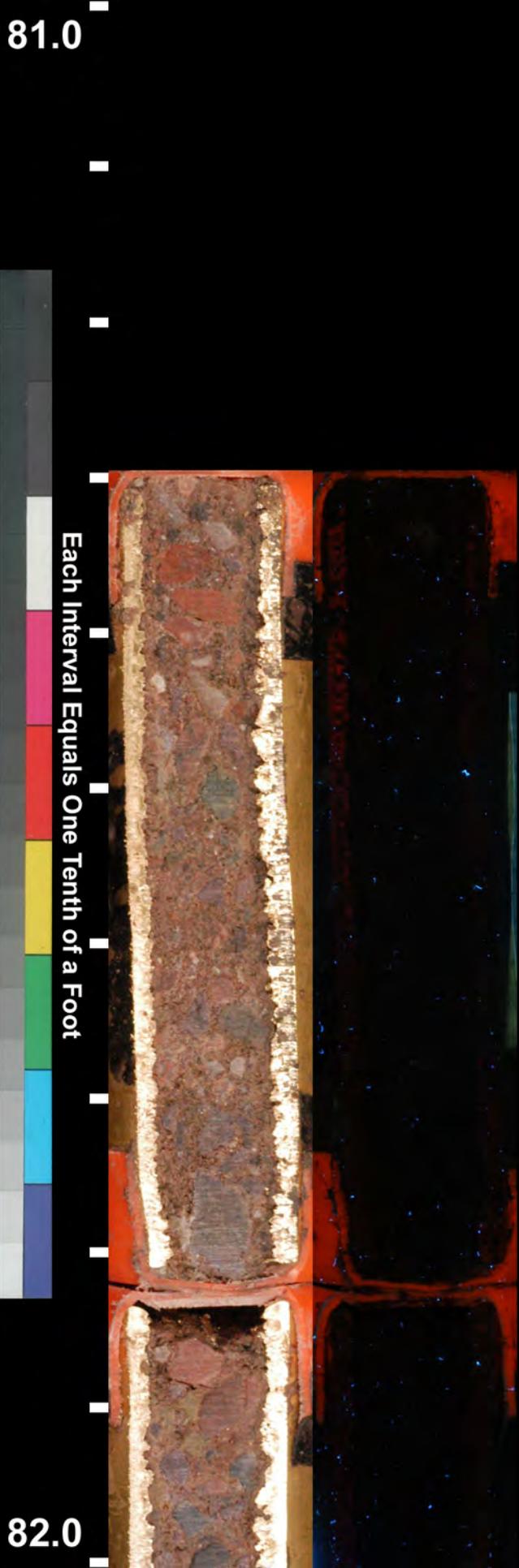


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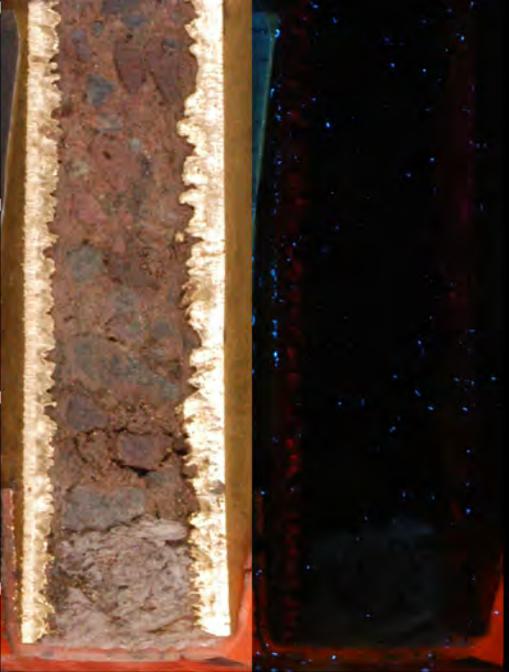


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Project: Honeywell Sky Harbor, AZ Boring ID: BV-30N
Project No.: 396460.PC.57.05.15



Project: Honeywell Sky Harbor, AZ Boring ID: BV-30N
Project No.: 396460.PC.57.05.15

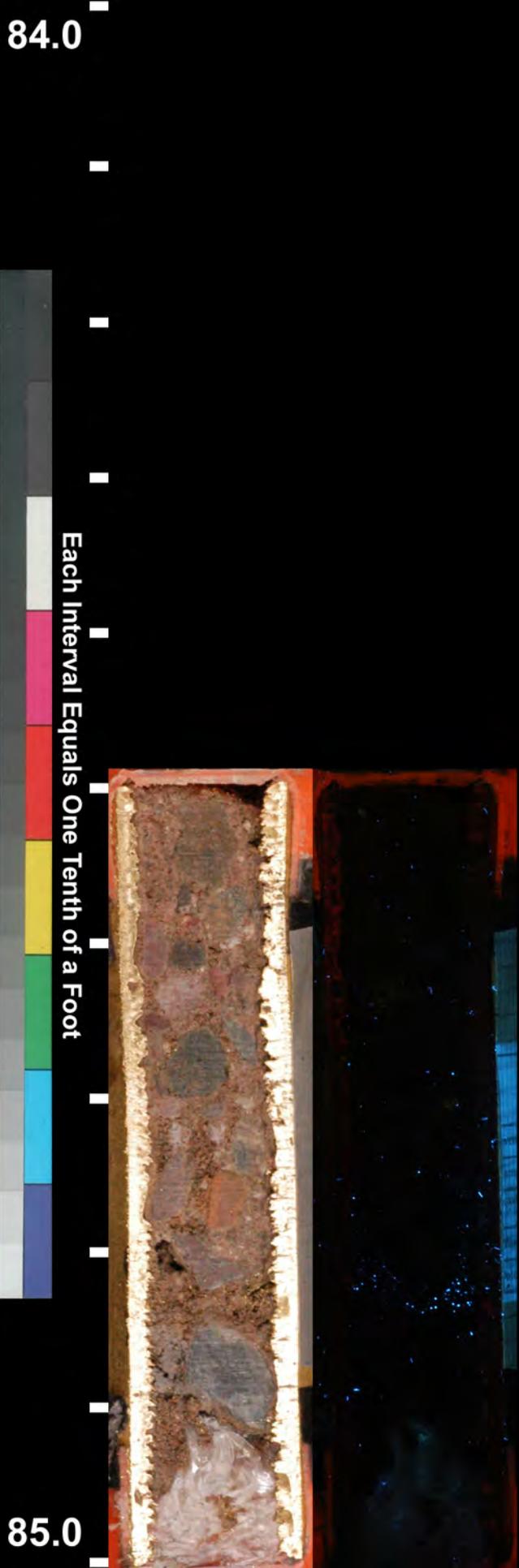


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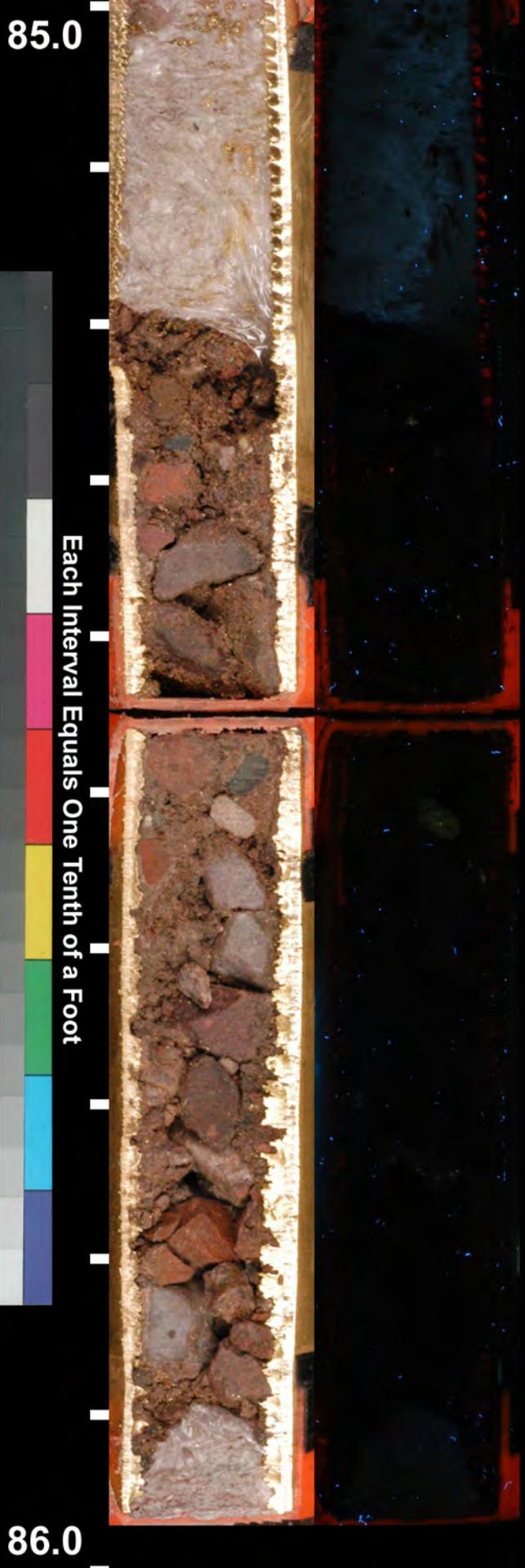


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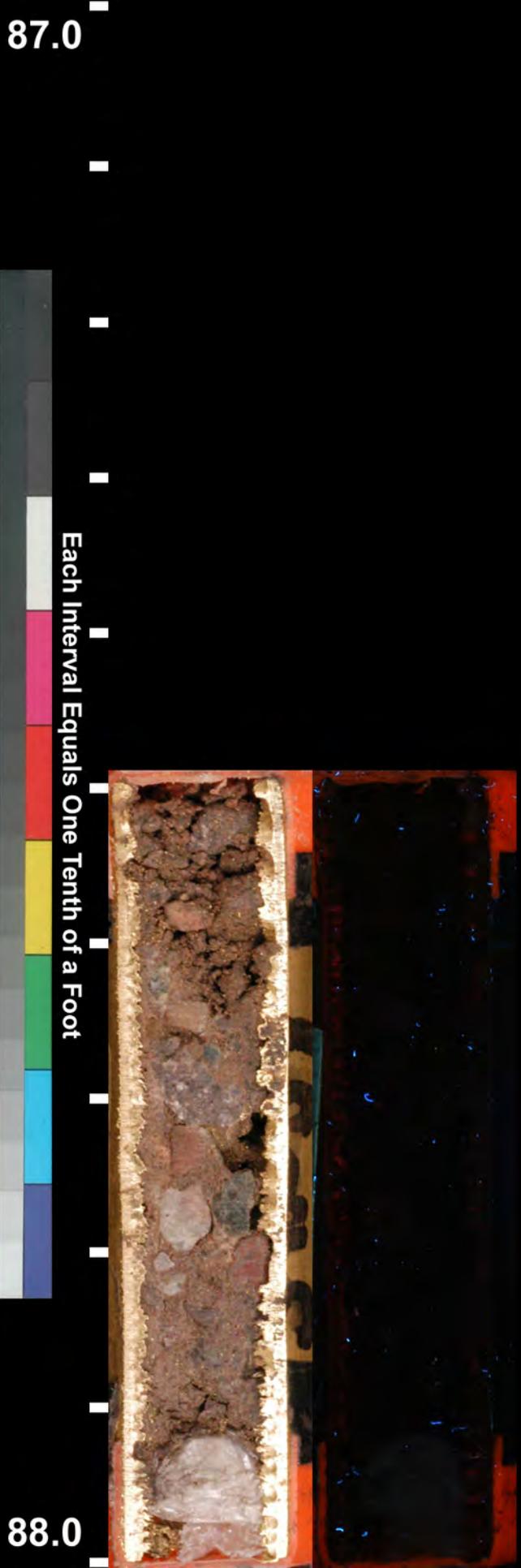
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Project No.: 396460.PC.57.05.15



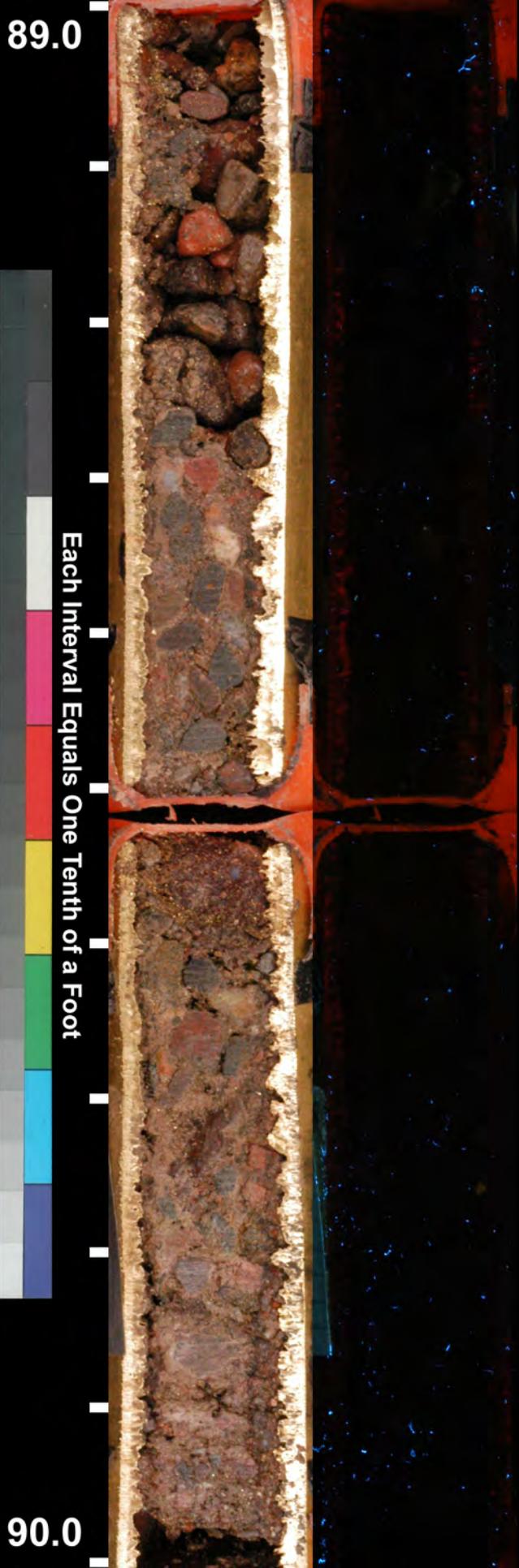
Project: Honeywell Sky Harbor, AZ Boring ID: BV-30N
Project No.: 396460.PC.57.05.15



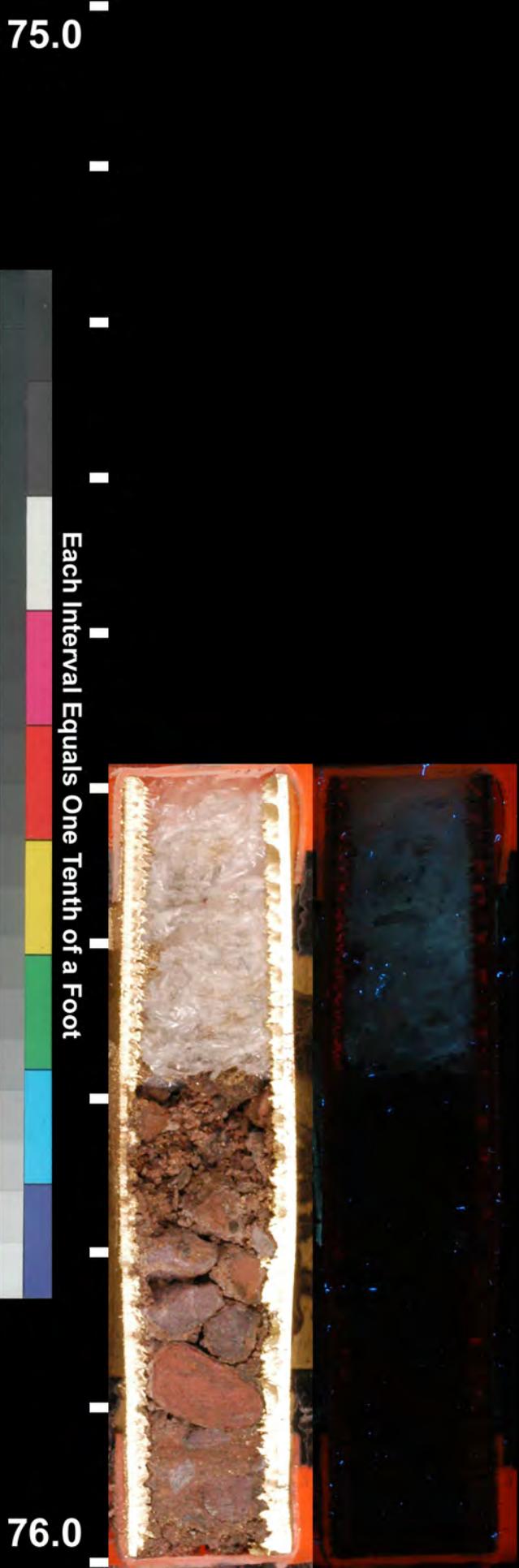
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Project No.: 396460.PC.57.05.15



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Project No.: 396460.PC.57.05.15



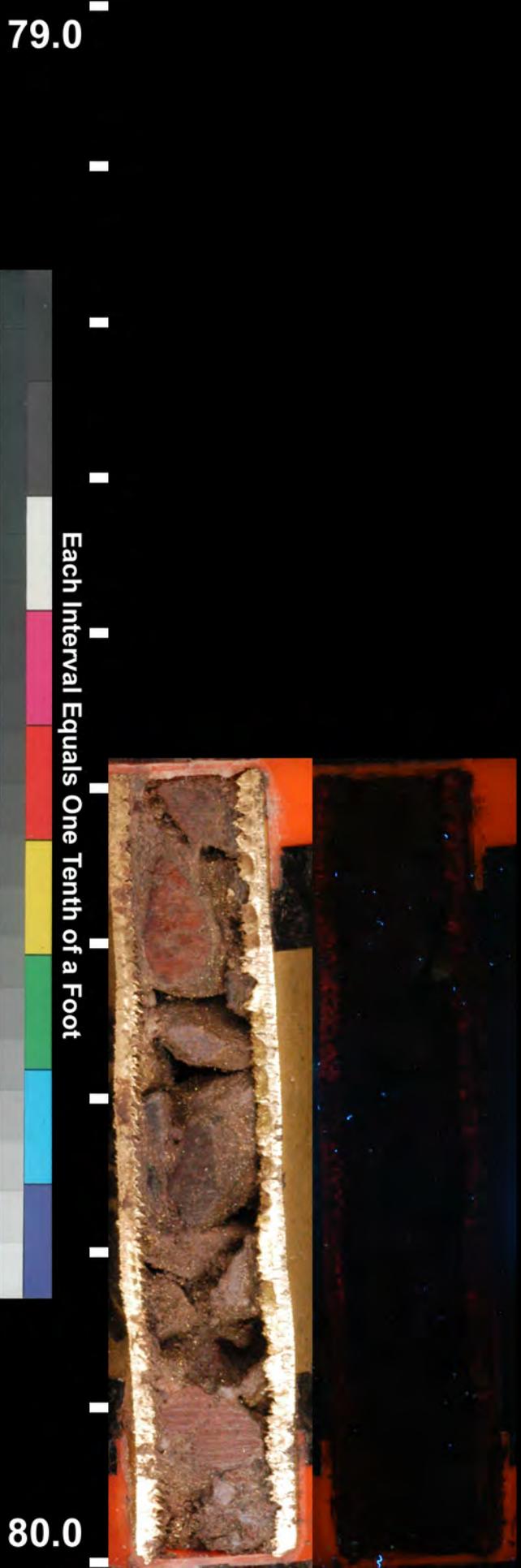
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Project No.: 396460.PC.57.05.15



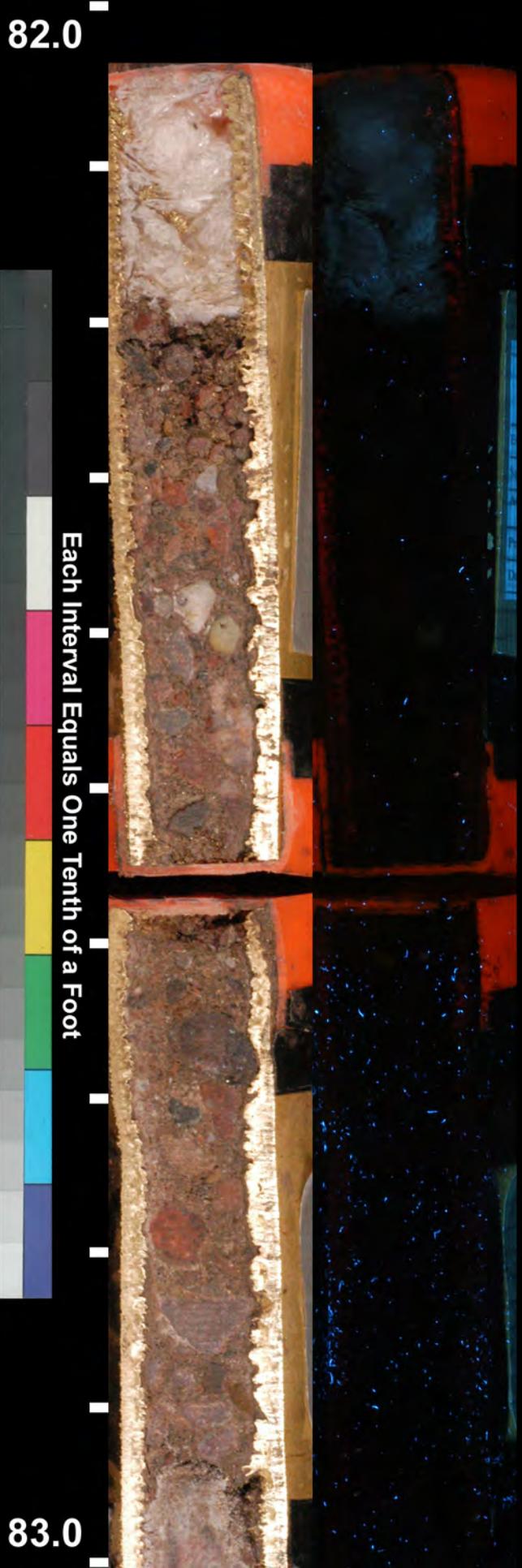
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Project No.: 396460.PC.57.05.15



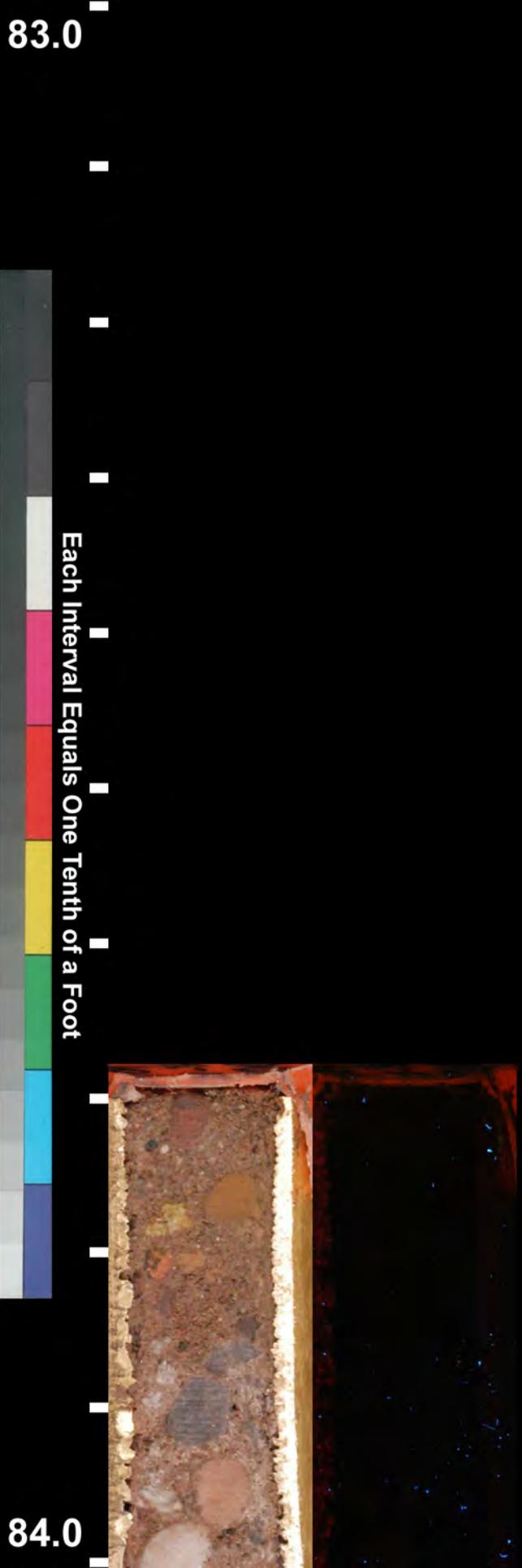
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Project No.: 396460.PC.57.05.15



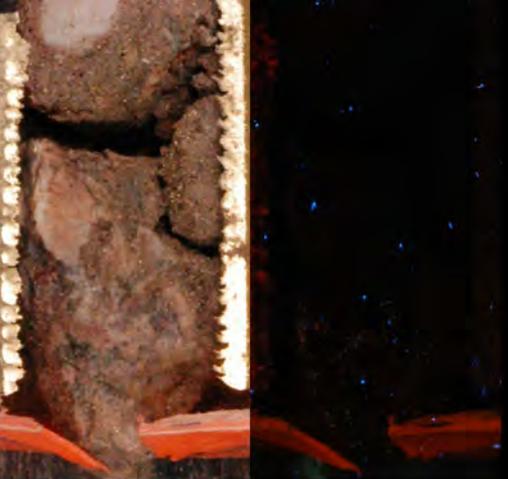
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Project No.: 396460.PC.57.05.15



Each Interval Equals One Tenth of a Foot

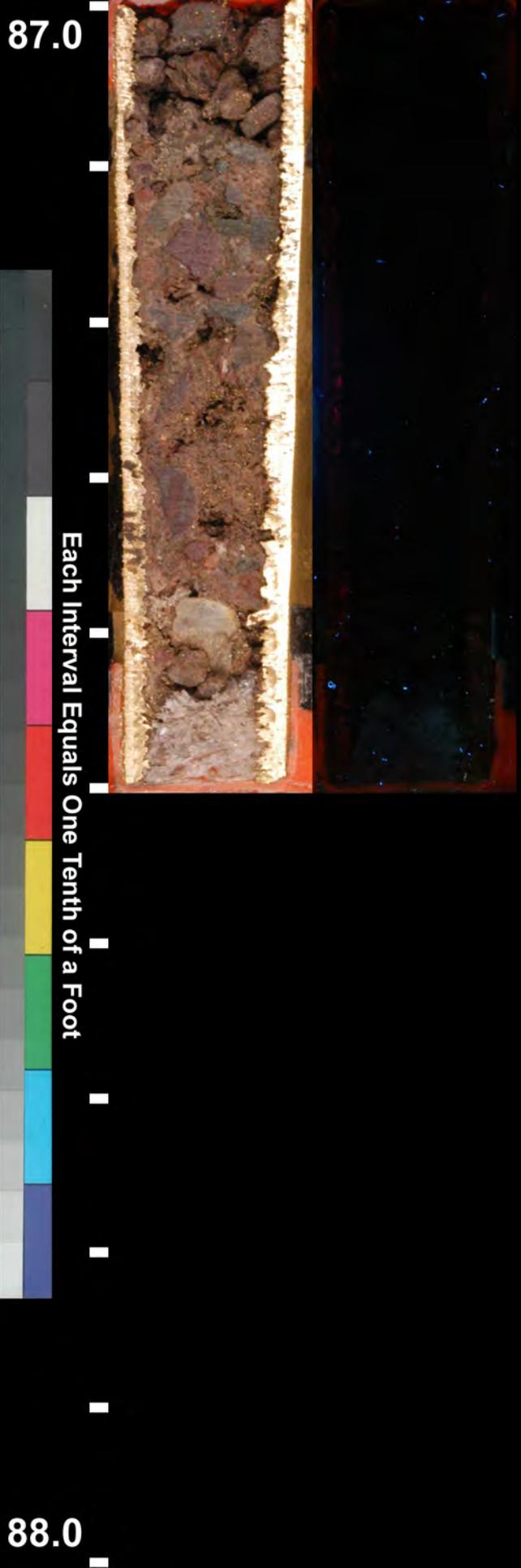


Project: Honeywell Sky Harbor, AZ Boring ID: BV-31N
Project No.: 396460.PC.57.05.15

85.0



Project: Honeywell Sky Harbor, AZ Boring ID: BV-31N
Project No.: 396460.PC.57.05.15



Project: Honeywell Sky Harbor, AZ Boring ID: BV-31N
Project No.: 396460.PC.57.05.15



8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

April 20, 2010

Robert Frank
CH2M Hill
2625 South Plaza Drive, Suite 300
Tempe, AZ 85282

Re: PTS File No: 391024
Physical Properties Data
Honeywell, Sky Harbor, AZ; 396460.PC.57.05.15

Dear Mr. Frank:

Please find enclosed report of Core Photography and Physical Properties data from analysis conducted on cores received from your Honeywell, Sky Harbor, AZ; 396460.PC.57.05.15 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. Electronic versions of the core images and physical properties report have previously been sent to your attention via internet. The cores remain in frozen storage and will be held indefinitely. Please note that core storage will be billed quarterly beginning September 1, 2010.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give me a call at (562) 347-2504.

Sincerely,
PTS Laboratories

Rachel Spitz
Project Manager

Encl.

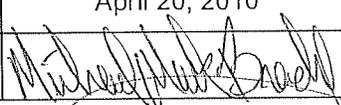


PTS File No: 391024

DC- 2 Data Package Inventory Checklist

Lab Name: PTS Laboratories, Inc.	DAS Number: N/A	SDG Number: 391024
City: Santa Fe Springs	State: CA	Zip Code: 90670
Order Number: 396460.PC.57.05.15	Parameter: Mobility	

Inventory Item	Page Numbers		Check	
	From	To	Lab	EPA
Inventory Sheet	NA	NA	✓	
SDG Narrative	1	1	✓	
SDG Cover Sheet/Traffic Report	2	2	✓	
QC Data	3	7	✓	
Sample Data	8	23	✓	
Standard Data				
Blank Data				
Raw Data	24	38	✓	
Preparation Logs				
Clean-up Logs				
Analysis Logs				
Internal Chain of Custody Logs				
Shipping / Receiving Documents	39	43	✓	
Telephone / e-mail Logs	44	59	✓	
Other Records				

Organization	Lab Inventory	Region 3 Auditor	EPA Verifier
Print Name	Michael Mark Brady, P.G.		
Title	District Manager		
Date	April 20, 2010		
Signature			



PTS File No: 391024

SAMPLE DATA SUMMARY PACKAGE NARRATIVE

DAS No: N/A

Number of Samples Received

Ten (10) core samples were received for analyses. Core samples were received in 2" x 6" brass sleeves.

Matrix

Matrix for all cores was soil.

Methods Used for Analysis

Samples were analyzed by the following methods as indicated on the COC.

- 1. ASTM D5079 and Proprietary: Core Photography and Core Preparation
- 2. API RP40: Pore Fluid Saturation and physical properties
- 3. ASTM D6836: Air/Water Capillary Pressure
- 4. JBN: Water/NAPL Relative Permeability

Example Calculations

Calculations are listed in the appropriate methods for ASTM D5079, API RP40, ASTM D6836, and JBN.

Deviations

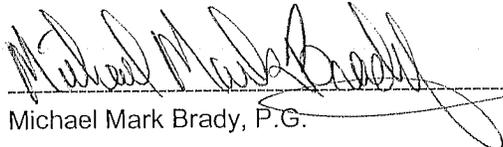
There were no deviations from the ASTM procedures.

Instrument Identification and Operation Conditions

The following instruments were used:

<u>ASTM Method</u>	<u>Instrument(s)</u>	<u>Operating Conditions</u>
ASTM D5079 and Proprietary	Nikon D100	Normal
API RP 40	Dean-Stark Extractor PTS Model 01	Normal
API RP 40	Balance Sartorius Mod. #2910276	Normal
API RP 40	Balance Mettler Toledo Mod. #XS6002S	Normal
API RP 40	Gravity Conv. Oven Mod. 100	Normal
ASTM D6836/API RP 40	Beckman Centrifuge Mod. #J-6B	Normal
ASTM D6836/API RP 40	Flexible Wall Air Permeameter PTS P0106.04	Normal
ASTM D6836/EPA 9100	Flexible Wall Fluid Permeameter PTS P0183.02	Normal
JBN USS Relative Permeability	ISCO Model 314 Metering Pump	Normal

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

 District Manager April 20, 2010

Michael Mark Brady, P.G. Title Date



PTS File No: 391024

SAMPLE DATA SUMMARY PACKAGE COVER PAGE

Date of Report: April 20, 2010
Laboratory Name & Code: PTS Laboratories, Inc.
EPA Region ___ Agreement No: N/A
DAS Order No: N/A

EPA Region ___ Sample Numbers:	<u>Sample No.</u>	<u>TAG No.</u>	<u>Laboratory ID</u>
	1	N/A	BV-33N-001
	2	N/A	BV-33N-002
	3	N/A	BV-33N-003
	4	N/A	BV-33N-004
	5	N/A	BV-33N-005
	6	N/A	BV-33N-006
	7	N/A	BV-33N-007
	8	N/A	BV-33N-008
	9	N/A	BV-33N-009
	10	N/A	BV-33N-010



PTS File No: 391024

QC DATA

BOYLE'S LAW GRAIN VOLUME ANALYSIS CALCULATION SHEET

FILE NO: 391024
 CLIENT: CH2M Hill
 DATE: 2/11/2010

Technician: RS
 Instrument ID: FRANK JONES SN 8501
 Time: 1530

STEP 1 - POROSIMETER CALIBRATION							
RAW DATA ENTRY AREA						CALCULATED	
CALIBRATION RUN #	REFERENCE PRESSURE (Pof)	OPEN CUP PRESSURE (Pf)	REFERENCE W/O BILLETS PRESSURE (Pob)	CUP W/O BILLETS PRESSURE (Pb)	BILLET VOLUME (B)	CONSTANT	R VALUE
Cal-1	100.00	76.28	99.99	52.49	6.467	1.311	10.888
Cal-2	99.99	76.31	99.99	52.49	6.467	1.310	10.876
Cal-3	100.00	76.32	100.00	52.49	6.467	1.310	10.872
Cal-4	100.00	76.31	100.00	52.50	6.467	1.310	10.881
Cal-5	100.00	76.31	100.00	52.49	6.467	1.310	10.875
FINAL 3 CALIBRATIONS - AVG:						1.310	10.876

STEP 2 - GRAIN VOLUME DETERMINATION							
RAW DATA ENTRY AREA					CALCULATED		
RUN #	SAMPLE ID	BILLET VOLUME (B)	REFERENCE PRESSURE (Pos)	OPEN CUP PRESSURE (Ps)	CONSTANT	R VALUE	GRAIN VOLUME
Std-1	Ball 8.580	12.950	100.00	58.42	1.310	10.876	8.585
Std-2	Ball 8.1924	12.950	100.00	57.18	1.310	10.876	8.181
Std-3	C13 Standard	16.141	100.00	58.19	1.310	10.876	11.702
Std-4	I-1 Standard	19.382	100.00	53.72	1.310	10.876	13.388

PERMEABILITY TO AIR - BULK VOLUME BY CALIPER

LE NO: 391024
 LIENT: CH2M Hill

SAMPLE NO.	DEPTH, ft	ORIENT. (h or v)	PACKAGE WTS.			L., cm	DIA. cm	TEMP., °F	AIR VISC., cP		MEASURED INJ. PRESSURE		TIME, sec	VOL, cc	CALCULATED DATA		REPORTED DATA	
			SCREEN gm	TAPE gm	L., cm				UPSTREAM psig	DOWN psig	Vb, cm ³	Lz/Vb			PKG VOLUME, cc	AIR PERMEABILITY md		
QC-CX-1	N/A	Bulk	0	0	4.04	2.53	72.0	0.0177	7.60	0.27	0.00	120.68	100.00	20.31	0.8036	0.000	624	

Date> 4/13/2010
 Time> 13:51
 File C:\PHI220 ver 2_72 with pause\Report\be-3.xls
 Job ID BE-3
 Analyst Kari Hochstatter
 Remarks

Sample ID	Sample Length cm	Sample Diameter cm	Bulk Volume cc	Dry Weight grams	Test Type	Grain Volume cc	Pore Volume cc	Porosity %BV	Grain Density g/cc	RemBillet Volume cc	Conf Pressure psi	Ref Volume cc	Dead Volume cc	Temp C	Cup	Date	Time
BE-3	3.47	3.79	39.147	78.21	GV	29.503	9.644	24.635	2.651	39.7	0	77.993	11.77	74.4	1.5"	4/13/2010	8:06
BE-3	3.47	3.79	39.147	78.21	GV	29.548	9.599	24.52	2.647	39.7	0	77.993	11.77	74.7	1.5"	4/13/2010	8:08



PTS File No: 391024

SAMPLE DATA

37380-091201

391024

Chain Of Custody / Analysis Request

Honeywell
Privileged & Confidential
 Jennifer Peterson
 jennifer.peterson@ch2m.com

EDD To: **CH2MHILL**
 Sampler: **Lewis Peterson**
 PO # **396160.PC.57.05.15**
 Analysis Turnaround Time (TAT): **10**
 Consultant

Laboratory Contact
 Report Tier Level
 Full Report TAT: **10**

Site Name: **Sky Harbor AZ**
 Location of Site: **PHOENIX, AZ**
 Preservative: **0**
 Field Filtered Sample? **?**
 Composite/Grab **?**
 Units **?**

Water/Product Relative Permeability (RPM) **0**
 Air/Water Drainage Capillary (API RP 40/ASTM D8836/RPA 9100) **0**
 Free Product Mobility (Modified ASTM D425) **0**
 Pore Fluid Saturation (API RP 40) **0**

Phase: Sampling Program **PTS**
 Phase C LNAPL Mobility **SIX HARBOR**

Lab Proj # (SDG): **40127.66489**
 Lab ID: **37380**
 Site ID: **PTS**
 Lab Job #: **SIX HARBOR**
 Authorized User: **Honeywell**

Location ID	Sample Identification		Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Field Core Photography (ASTM D5079) - hold pending review of photography	Digital Core Photography (ASTM D5079) - hold pending review of photography	Water/Product Relative Permeability (RPM)	Air/Water Drainage Capillary (API RP 40/ASTM D8836/RPA 9100)	Free Product Mobility (Modified ASTM D425)	Pore Fluid Saturation (API RP 40)	Sampling Method (code)	Lab Sample Numbers
	Start Depth (ft)	End Depth (ft)															
1	BV-33N	75.0	75.4	12/01/09	0108	Soil	Soil	REG	1	X	X						
2	BV-33N	77.0	77.5	12/01/09	0114	Soil	Soil	REG	1	X	X						
3	BV-33N	79.7	80.0	12/01/09	0127	Soil	Soil	REG	1	X	X						
4	BV-33N	80.0	80.5	12/01/09	0128	Soil	Soil	REG	1	X	X						
5	BV-33N	81.6	82.0	12/01/09	0136	Soil	Soil	REG	1	X	X						
6	BV-33N	82.0	82.5	12/01/09	0137	Soil	Soil	REG	1	X	X						
7	BV-33N	83.7	84.0	12/01/09	0144	Soil	Soil	REG	1	X	X						
8	BV-33N	84.0	84.5	12/01/09	0145	Soil	Soil	REG	1	X	X						
9	BV-33N	85.2	85.5	12/01/09	0149	Soil	Soil	REG	1	X	X						
10	BV-33N	89.0	89.5	12/01/09	0200	Soil	Soil	REG	1	X	X						
11																	
12																	

Relinquished by: **CH2M HILL** Company: **PTS/Ch2M Hill** Condition: **good** Custody Seals Intact: **YES**

Date/Time: **12/1/09 0915** Date/Time: **12/1/09 14:39** Cooler Temp.: **-40°F**

Received by: **Lewis Peterson** Company: **PTS/Ch2M Hill** Condition: **good** Custody Seals Intact: **YES**

Preservatives: (Other, Specify):
 0 (none); 1 (4 Deg C); 2 (HCl, pH<2); 3 (HNO3, pH<2); 4 (H2SO4, pH<2); 5 (NaOH, pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4, pH<2, 4 Deg C); 8 (HCl, pH<2, 4 Deg C); 9 (HCl, 4 Deg C); 10 (HNO3, pH<2, 4 Deg C); 11 (NaOH, pH>12, 4 Deg. Ascorbic Acid); 12 (H2SO4, 10% Acetate); 13 (Zn Acetate); 14 (MeOH, 4 Deg C); 15 (NaHSO4, 4 Deg C); 16 (NaOH, pH>12, 4 Deg C); sp (Special Instructions)

391024

12/2/09

Jp

CUSTODY SEAL QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DATE 12/1/09
SIGNATURE Lars Peterson

CUSTODY SEAL QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DATE 12/1/09
SIGNATURE Lars Peterson

Project Name: Honeywell Sky Harbor, AZ
 Project Number: 396460.PC.57.05.15

PTS File No: 391024
 Client: CH2M Hill

TEST PROGRAM

CORE ID	Depth ft.	Core Recovery ft.	Slab and Core Photo	Pore Fluid Saturation Package	A/W Dmg. Capillarity Pkg.	Free Product Mobility	Water/LNAPL Relative Permeability	Notes
		Plugs:		Hor. 1.5"	Hor. 1"	Hor. 1.5"	Vert. 1.5"	Keep core frozen
Rev'd. 12/2/09								
BV-33N-001	75.0-75.5	0.50	1		75.0-75.5		75.0-75.5	
BV-33N-002	77.0-77.5	0.50	1	77.0-77.5				
BV-33N-003	79.7-80.0	0.30	1	79.7-80.0				
BV-33N-004	80.0-80.5	0.50	1	80.0-80.5				
BV-33N-005	81.6-82.0	0.45	1	81.6-82.0				
BV-33N-006	82.0-82.5	0.50	1	82.0-82.5				
BV-33N-007	83.7-84.0	0.30	1	83.7-84.0				
BV-33N-008	84.0-84.5	0.45	1	84.0-84.5				
BV-33N-009	85.2-85.5	0.30	1	85.2-85.5				
BV-33N-010	89.0-89.5	0.40	1	89.0-89.5				
TOTALS:	10 cores	4.20	10	9	1	0	1	10

Laboratory Test Program Notes

Sample locations to be selected by CH2M Hill personnel from core photography.
 Use fluid properties data from PTS File No. 34363, sample ASE-89A, for laboratory supplied oil for Water/NAPL relative permeability testing.
 Viscosity 1.77cSt at 70°F, Density 0.8023g/cc at 70°F, per R. Frank/CH2M Hill 1/4/10.

PTS File No: 391024
Client: CH2M Hill

CORE PHOTOGRAPHY

PROJECT NAME: Honeywell Sky Harbor, AZ
PROJECT NO: 396460.PC.57.05.15

Please see attached binder for print copies of core photographs and compact disc for electronic versions.

PTS File No: 391024
 Client: CH2M Hill

PHYSICAL PROPERTIES DATA - PORE FLUID SATURATIONS

PROJECT NAME: Honeywell Sky Harbor, AZ
 PROJECT NO: 396460.PC.57.05.15

SAMPLE ID.	DEPTH, ft.	METHODS: SAMPLE ORIENTATION (1)	API RP 40 /	API RP 40		API RP 40		API RP 40	
			ASTM D2216	DENSITY		POROSITY, %Vb (2)		PORE FLUID SATURATIONS, % Pv (3)	
			MOISTURE CONTENT, % weight	BULK, g/cc	GRAIN, g/cc	TOTAL	AIR FILLED	WATER	NAPL
BV-33N-002	77.2	H	6.3	1.94	2.72	28.7	16.1	43.7	ND <0.1
BV-33N-003	79.85	H	8.7	2.12	2.66	20.4	1.6	83.8	8.6
BV-33N-004	80.3	H	5.3	2.27	2.67	14.8	2.4	74.3	9.3
BV-33N-005	81.85	H	10.9	2.02	2.64	23.5	1.3	93.5	0.8
BV-33N-006	82.35	H	8.2	2.10	2.64	20.4	3.1	83.3	1.6
BV-33N-007	83.8	H	10.7	1.98	2.66	25.3	3.8	77.6	7.5
BV-33N-008	84.1	H	7.7	2.08	2.70	23.0	6.6	64.5	6.8
BV-33N-009	85.4	H	7.5	1.82	2.63	30.8	17.1	42.9	1.7
BV-33N-010	89.15	H	8.7	2.00	2.67	25.2	7.2	61.7	9.8

(1) Sample Orientation: H = horizontal; V = vertical

(2) Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids

(3) Water = 0.9996 g/cc, Hydrocarbon = 0.8023 g/cc

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PTS File No: 391024
 Client: CH2M Hill

SAMPLE PROPERTIES - AIR/WATER CAPILLARY PRESSURE

PROJECT NAME: Honeywell Sky Harbor, AZ
 PROJECT NO: 396460.PC.57.05.15

SAMPLE ID.	DEPTH, ft.	METHODS: SAMPLE ORIENTATION (1)	API RP 40 /	API RP 40		API RP 40		API RP 40
			ASTM D2216	DENSITY		POROSITY, %Vb (2)		TOTAL PORE FLUID SATURATIONS (3), % Pv
			MOISTURE CONTENT, % weight	BULK, g/cc	GRAIN, g/cc	TOTAL	AIR FILLED	
BV-33N-001	75.1	H	6.7	1.68	2.65	36.8	25.6	30.5

(1) Sample Orientation: H = horizontal; V = vertical

(2) Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids

(3) Water = 0.9996 g/cc

Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PTS File No: 391024
 Client: CH2M Hill

PERMEABILITY DATA - AIR/WATER CAPILLARY PRESSURE

PROJECT NAME: Honeywell Sky Harbor, AZ
 PROJECT NO: 396460.PC.57.05.15

METHODS:

API RP 40; EPA 9100

25 PSI CONFINING STRESS

SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENTATION (1)	METHODS:		
			SPECIFIC PERMEABILITY TO AIR, millidarcy (2)	SPECIFIC PERMEABILITY TO WATER, millidarcy (3)	HYDRAULIC CONDUCTIVITY, cm/s (3)
BV-33N-001	75.1	H	6450	1383	1.39E-03

(1) Sample Orientation: H = horizontal; V = vertical

(2) No pore fluids in place

(3) Permeability to water and hydraulic conductivity measured at saturated conditions

PTS File No: 391024
 Client: CH2M Hill

AIR/WATER CAPILLARY PRESSURE TABULAR DATA

(ASTM D6836; Centrifugal Method: air displacing water)

PROJECT NAME: Honeywell Sky Harbor, AZ
 PROJECT NO: 396460.PC.57.05.15

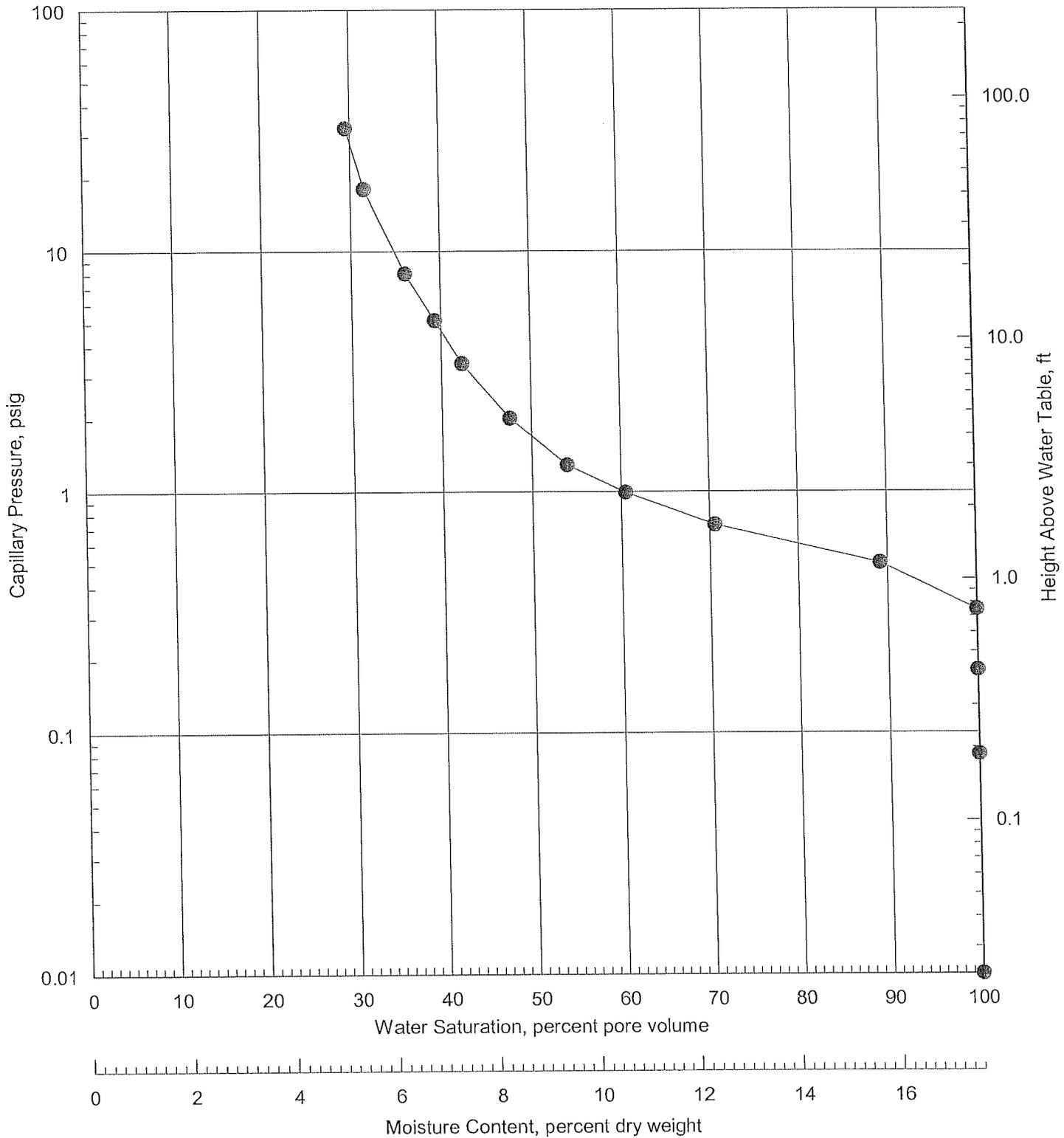
Capillary Pressure		Height Above Water Table, ft	Sample ID	
			BV-33N-001 at 75.1 ft.	
psi	cm water		Saturation, % pore volume	Moisture, % dry weight
0.000	0.00	0.000	100.0	17.6
0.081	5.67	0.187	100.0	17.6
0.181	12.8	0.420	100.0	17.6
0.323	22.7	0.747	100.0	17.6
0.504	35.4	1.17	89.2	15.7
0.726	51.0	1.68	70.6	12.4
0.99	69.5	2.29	60.5	10.6
1.29	90.7	2.99	54.0	9.5
2.02	142	4.67	47.6	8.4
3.41	240	7.89	42.3	7.4
5.16	363	11.9	39.3	6.9
8.07	567	18.7	36.0	6.3
18.1	1276	42.0	31.5	5.5
32.3	2268	74.7	29.5	5.2



CAPILLARY PRESSURE Centrifugal Method Air Displacing Water System - ASTM D6836

Project Name: Honeywell Sky Harbor, AZ
Project No: 396460.PC.57.05.15

Sample ID: BV-33N-001
Depth, ft: 75.1



PTS File No: 391024
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY DATA SUMMARY

Unsteady-State Method - Constant Rate Injection

50 psi Confining Stress

Test Temperature: 71°F

PROJECT NAME:	Honeywell Sky Harbor, AZ	Sample ID:	BV-33N-001
PROJECT NO:	396460.PC.57.05.15	Depth, ft:	75.2
Porosity, percent:	31.9	Water Viscosity, cp:	1.041
Pore Volume, cc:	12.83	Oil Viscosity, cp:	1.60
Length, cm:	3.64	Initial Water Saturation, %:	69.7
Area, cm ² :	11.05	Knapl@S _{wi} , md:	5808
Backpressure, psi:	0.0	Residual NAPL Saturation, %:	18.5
Injection Rate, cc/min:	1.97	K _w S _{nr} , md:	1363

Saturation, percent pore volume		Johnson-Bossler-Naumann Method		
		Relative Permeability, percent of Knapl@S _{wi}		Water/NAPL Permeability Ratio
Water	Oil	Water	Oil	
69.7	30.3		100.00	
73.1	26.9	14.31	0.58	24.649
73.2	26.8	14.42	0.47	30.746
73.1	26.9	14.41	0.54	26.864
73.5	26.5	14.53	0.39	37.479
74.0	26.0	14.63	0.27	53.560
74.5	25.5	14.70	0.20	74.292
75.0	25.0	14.77	0.13	114.415
75.8	24.2	14.85	0.07	211.845
76.4	23.6	14.91	0.04	351.851
76.8	23.2	14.97	0.03	516.243
77.3	22.7	15.10	0.02	772.458
77.8	22.2	15.36	0.01	1081.349
78.2	21.8	15.73	0.01	1373.196
78.6	21.4	16.43	0.01	1805.314
79.1	20.9	17.72	0.01	2431.218
79.5	20.5	19.18	0.01	3098.594
79.8	20.2	20.52	0.01	3806.985

Knapl@S_{wi} = Permeability to NAPL at initial water saturation
 K_wS_{nr} = Permeability to water at residual NAPL saturation

PTS File No: 391024
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY PRODUCTION DATA SUMMARY

Unsteady-State Method - Constant Rate Injection
 50 psi Confining Stress
 Test Temperature: 71°F

PROJECT NAME: Honeywell Sky Harbor, AZ
 PROJECT NO: 396460.PC.57.05.15

Sample ID: BV-33N-001
 Depth, ft: 75.2
 Water Viscosity, cp: 1.041
 Oil Viscosity, cp: 1.60
 Initial Water Saturation, %: 69.7
 Knapl@S_{wi}, md: 5808
 Residual NAPL Saturation, %: 18.5
 K_wS_{rr}, md: 1363

Porosity, percent: 31.9
 Pore Volume, cc: 12.83
 Length, cm: 3.64
 Area, cm²: 11.05
 Backpressure, psi: 0.0
 Injection Rate, cc/min: 1.97

Time After Breakthrough, minutes	Injection Pressure, psig	Cumulative Water Produced, cc @ 1 atm	Cumulative NAPL Produced, cc	Average Water Saturation, percent P.V.	Water/NAPL Ratio		NAPL Produced, percent P.V.	Cumulative Pore Volumes of Water Injected
					Instantaneous	Cumulative		
0.33	0.194	0.00	0.47	73.3	0.00	0.00	3.66	0.04
0.90	0.193	0.88	0.48	73.4	87.74	1.83	3.74	0.11
1.47	0.193	2.02	0.51	73.6	37.97	3.95	3.97	0.20
2.64	0.192	4.35	0.56	74.0	47.36	7.78	4.36	0.38
4.18	0.191	7.43	0.63	74.6	41.38	11.72	4.94	0.63
6.23	0.191	11.52	0.70	75.2	57.73	16.35	5.49	0.95
8.84	0.190	16.73	0.77	75.7	82.50	21.79	5.98	1.36
11.50	0.189	22.03	0.81	76.0	114.43	27.06	6.34	1.78
18.65	0.187	36.25	0.89	76.6	176.23	40.52	6.97	2.89
33.73	0.183	66.14	0.99	77.4	326.30	67.06	7.69	5.23
49.55	0.180	97.38	1.04	77.8	541.96	93.28	8.14	7.67
76.60	0.174	150.58	1.11	78.3	795.17	135.55	8.66	11.82
129.99	0.165	255.25	1.20	79.0	1189.81	212.91	9.34	19.99
183.30	0.156	359.80	1.26	79.5	1665.60	285.19	9.83	28.14
236.50	0.149	464.50	1.31	79.9	2115.13	354.28	10.22	36.30
342.20	0.138	673.74	1.39	80.5	2780.72	485.98	10.80	52.61
446.55	0.130	880.91	1.44	80.9	3744.80	611.03	11.24	68.76
551.30	0.126	1087.03	1.48	81.2	4772.75	732.07	11.57	84.83
659.60	0.124	1294.46	1.52	81.5	5863.89	851.48	11.85	101.00

PTS File No: 391024
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY PRODUCTION DATA SUMMARY

Unsteady-State Method - Constant Rate Injection
 50 psi Confining Stress
 Test Temperature: 71°F

PROJECT NAME: Honeywell Sky Harbor, AZ
 PROJECT NO: 396460.PC.57.05.15
 Porosity, percent: 31.9
 Pore Volume, cc: 12.83
 Length, cm: 3.64
 Area, cm²: 11.05
 Backpressure, psi: 0.0
 Injection Rate, cc/min: 1.97

Sample ID: BV-33N-001
 Depth, ft: 75.2
 Water Viscosity, cp: 1.041
 Oil Viscosity, cp: 1.60
 Initial Water Saturation, %: 69.7
 Knapl@Swi: 5808
 Residual NAPL Saturation, %: 18.5
 KwSnr: 1363

Time After Breakthrough, minutes	Injection Pressure, psig	Cumulative Water Produced, cc @ 1 atm	Cumulative NAPL Produced, cc	Average Water Saturation, percent P.V.	Water/NAPL Ratio		NAPL Produced, percent P.V.	Cumulative Pore Volumes of Water Injected
					Instantaneous	Cumulative		

Knapl@Swi = Permeability to NAPL at initial water saturation
 KwSnr = Permeability to water at residual NAPL saturation

PTS File No: 391024
 Client: CH2M Hill

WATER/NAPL RELATIVE PERMEABILITY DATA SUMMARY

Unsteady-State Method - Constant Rate Injection

PROJECT NAME: Honeywell Sky Harbor, AZ
 PROJECT NO: 396460.PC.57.05.15

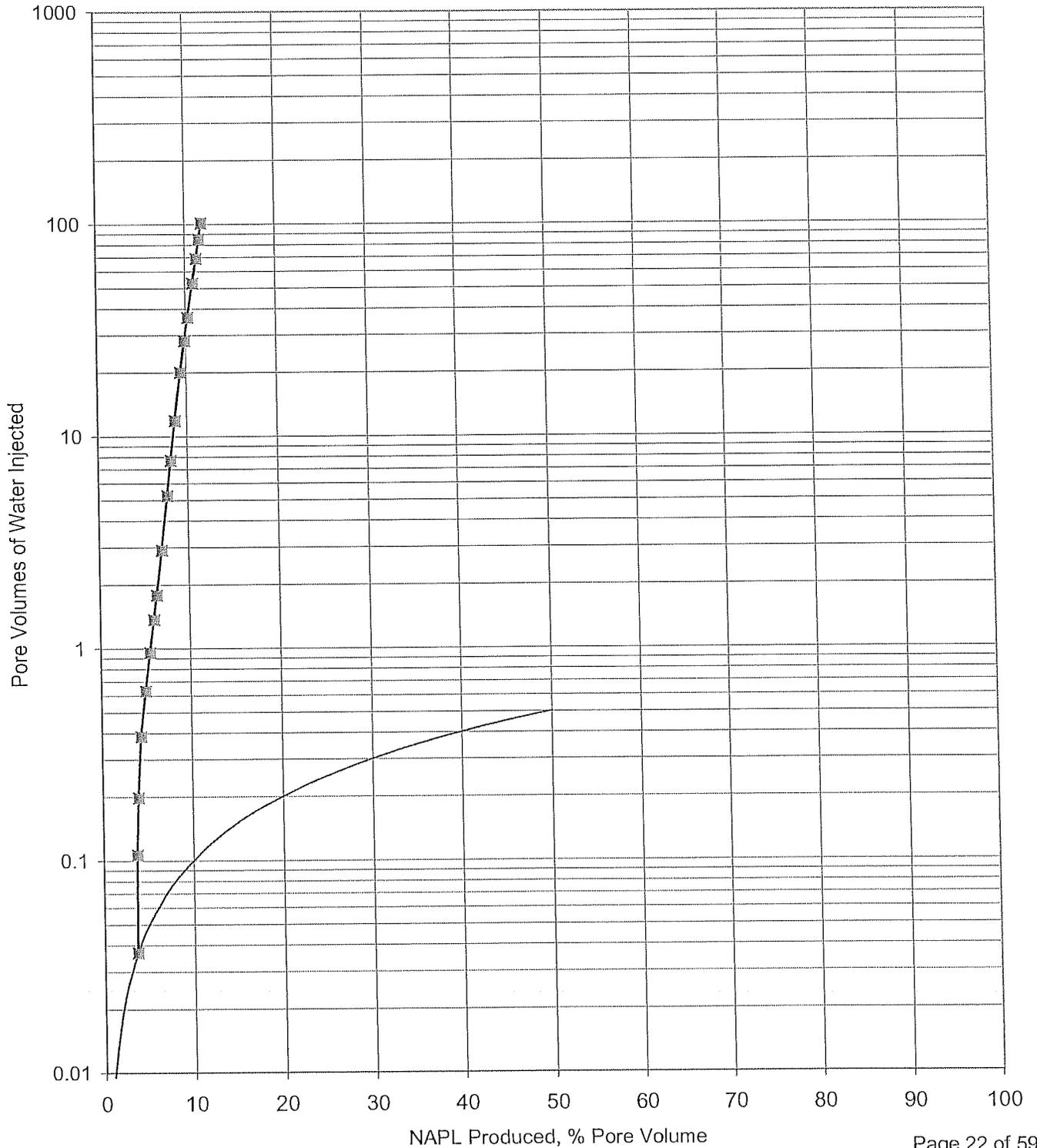
Sample ID	Depth, feet	Hydraulic Conductivity, cm/sec	Porosity, (total) percent	Initial Water Saturation (S_{wi}), percent PV	NAPL Saturation		Endpoint Permeability		Relative Permeability ($K_{wr}S_{nr}/K_{napl}@S_{wi}$), percent
					Initial, percent PV	Residual, percent PV	NAPL at Initial Water Saturation ($K_{napl}@S_{wi}$), md	Water at Residual NAPL Saturation ($K_{wr}S_{nr}$), md	
BV-33N-001	75.2	N/A	31.9	69.7	30.3	18.5	5808	1363	23.5

NAPL PRODUCED vs WATER INJECTED
Unsteady-State Method (JBN) - Constant Rate Injection
50 psi Confining Stress
Test Temperature: 71°F

PROJECT NAME: Honeywell Sky Harbor, AZ
PROJECT NO: 396460.PC.57.05.15

Sample ID:
Depth, ft:

BV-33N-001
75.2

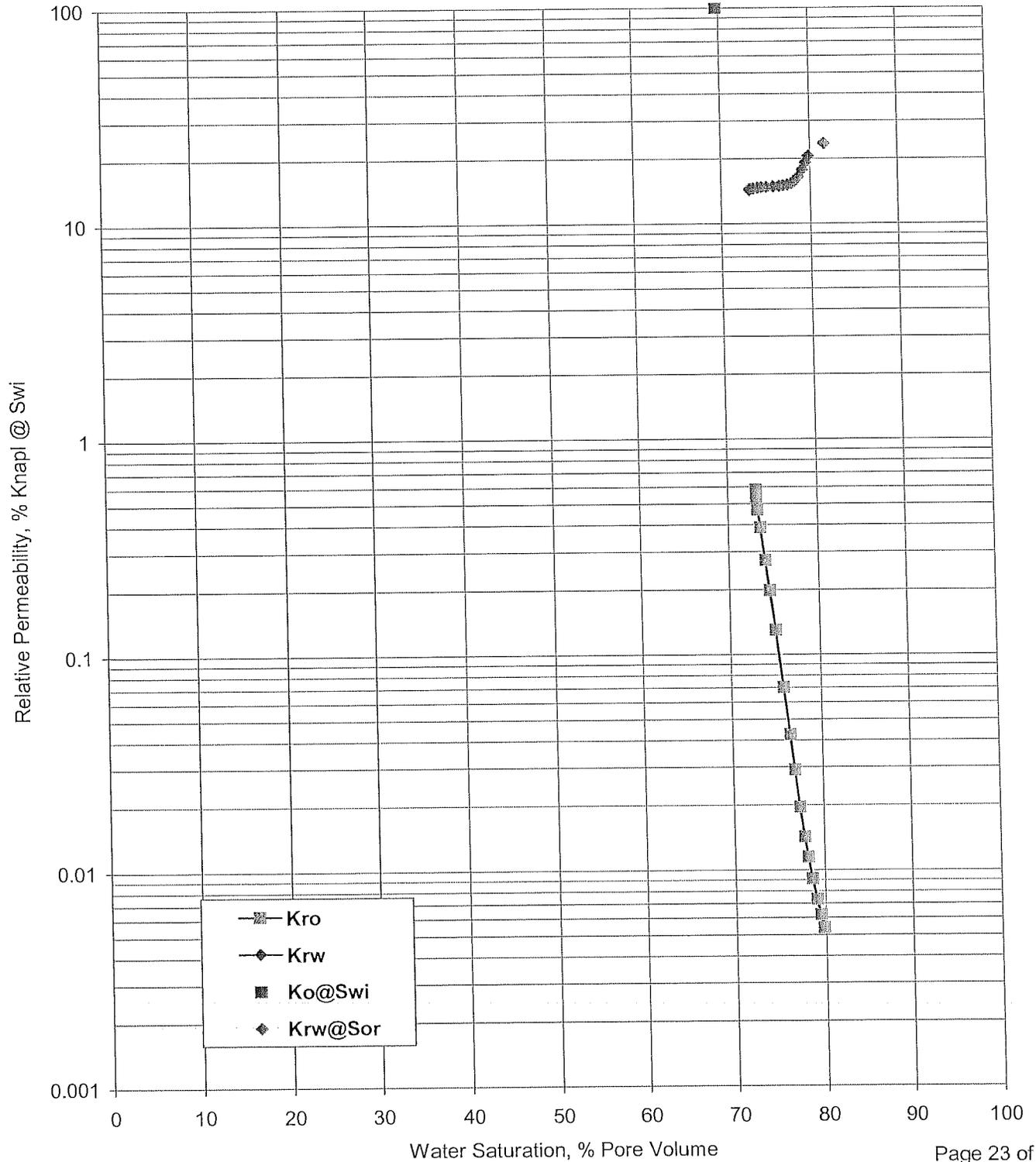


WATER/NAPL RELATIVE PERMEABILITY
Unsteady-State Method (JBN) - Constant Rate Injection
50 psi Confining Stress
Test Temperature: 71°F

PROJECT NAME: Honeywell Sky Harbor, AZ
PROJECT NO: 396460.PC.57.05.15

Sample ID:
Depth, ft:

BV-33N-001
75.2





PTS File No: 391024

RAW DATA

RCA vs GEOTECH CALCULATIONS COMPARISON (ARCHIMEDES DATA SET ONLY)

Sample ID (reported)	Depth, ft (reported)	Porosity		Native Bulk Density		Dry Bulk Density		moisture		Weights		Volumes, cuft		Water Saturation		Specific Gravity	
		percent (reported)	percent (calculated)	g/cc (reported)	lb/cuft (reported)	g/cc (reported)	lb/cuft (reported)	Content (reported)	Water (calculated)	Solids (calculated)	Water (calculated)	total (bulk) (reported)	Void (calculated)	Water % (reported)	% (calculated)	SpGr = Ws/Vs (1-Vv)*62.4	(density) (reported)
EQUATIONS: $n = Vv/Vt$ $n = 1 - (BD/GD)$ $BD(n) = \frac{BD(n) \cdot 62.43}{Wt(n)/Vt}$ $BD(d) = \frac{BD(d) \cdot 62.43}{Wt(d)/Vt}$ $BD(dry) = \frac{BD(dry) \cdot 62.43}{Ws/Vt}$ $Mc = \frac{Ww \cdot Wt(d)}{Ww + Wt(d)}$ $Ww = \frac{BD(n) - Ws}{BD(n) - Ws}$ $Vv = n$ $Vv = \frac{Ww}{Ww + 62.4}$ $Sw(c) = \frac{Sw(c) \cdot Vv}{Vv + Vv}$ $Sw(r) = \frac{Sw(r) \cdot Vv}{Vv + Vv}$ $GD = \frac{Ws}{Vs}$																	
0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
BV-33N-002	77.2	28.66%	28.66%	2.06	128.88	1.94	121.21	0.063	121.21	7.67	0.287	0.12	42.90%	43.71	2.72	2.72	2.66
BV-33N-003	79.85	20.40%	20.40%	2.30	143.84	2.12	132.33	0.087	132.33	11.51	0.204	0.18	90.44%	83.77	2.66	2.66	2.67
BV-33N-004	80.3	14.80%	14.80%	2.39	149.46	2.27	141.98	0.053	141.98	7.49	0.148	0.12	81.05%	74.28	2.67	2.67	2.64
BV-33N-005	81.85	23.46%	23.46%	2.24	140.05	2.02	126.34	0.109	126.34	13.71	0.235	0.22	93.66%	93.54	2.65	2.65	2.64
BV-33N-006	82.35	20.41%	20.41%	2.28	142.20	2.10	131.38	0.082	131.38	10.82	0.204	0.17	84.96%	83.27	2.66	2.66	2.66
BV-33N-007	83.8	25.32%	25.32%	2.20	137.07	1.98	123.87	0.107	123.87	13.20	0.253	0.21	83.66%	77.59	2.66	2.66	2.63
BV-33N-008	84.1	30.83%	30.83%	2.24	139.66	2.08	129.63	0.075	129.63	10.02	0.230	0.16	69.72%	64.48	2.70	2.70	2.63
BV-33N-009	85.4	30.83%	30.83%	1.96	122.17	1.82	113.66	0.087	113.66	8.50	0.252	0.14	44.20%	42.93	2.63	2.63	2.67
BV-33N-010	89.15	25.16%	25.16%	2.17	135.75	2.00	124.85	0.087	124.85	10.90	0.252	0.17	69.43%	61.66	2.67	2.67	2.67
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BOYLE'S LAW GRAIN VOLUME ANALYSIS CALCULATION SHEET

FILE NO: 391024
 CLIENT: CH2M Hill
 DATE: 2/11/2010

Technician: RS
 Instrument ID: FRANK JONES SN 8501
 Time: 1530

STEP 1 - POROSIMETER CALIBRATION							
RAW DATA ENTRY AREA						CALCULATED	
CALIBRATION RUN #	REFERENCE PRESSURE (Pof)	OPEN CUP PRESSURE (Pf)	REFERENCE W/O BILLETS PRESSURE (Pob)	CUP W/O BILLETS PRESSURE (Pb)	BILLET VOLUME (B)	CONSTANT	R VALUE
Cal-1	100.00	76.28	99.99	52.49	6.467	1.311	10.888
Cal-2	99.99	76.31	99.99	52.49	6.467	1.310	10.876
Cal-3	100.00	76.32	100.00	52.49	6.467	1.310	10.872
Cal-4	100.00	76.31	100.00	52.50	6.467	1.310	10.881
Cal-5	100.00	76.31	100.00	52.49	6.467	1.310	10.875
FINAL 3 CALIBRATIONS - AVG:						1.310	10.876

STEP 2 - GRAIN VOLUME DETERMINATION							
RAW DATA ENTRY AREA					CALCULATED		
RUN #	SAMPLE ID	BILLET VOLUME (B)	REFERENCE PRESSURE (Pos)	OPEN CUP PRESSURE (Ps)	CONSTANT	R VALUE	GRAIN VOLUME
Std-1	Ball 8.580	12.950	100.00	58.42	1.310	10.876	8.585
Std-2	Ball 8.1924	12.950	100.00	57.18	1.310	10.876	8.181
Std-3	C13 Standard	16.141	100.00	58.19	1.310	10.876	11.702
Std-4	I-1 Standard	19.382	100.00	53.72	1.310	10.876	13.388
1	BV-33N-001	19.382	99.99	50.34	1.310	10.876	12.031
2					1.310	10.876	#DIV/0!
3					1.310	10.876	#DIV/0!
4					1.310	10.876	#DIV/0!
5					1.310	10.876	#DIV/0!
6					1.310	10.876	#DIV/0!
7					1.310	10.876	#DIV/0!
8					1.310	10.876	#DIV/0!
9					1.310	10.876	#DIV/0!
10					1.310	10.876	#DIV/0!
Std. or DUP.	Standard/DUP				1.310	10.876	#DIV/0!

AIR/WATER DRAINAGE CAPILLARY PRESSURE TABULAR DATA

(ASTM D6836; Centrifugal Method: air displacing water)

Job No: 391024
 Client: CH2M Hill
 Sample ID: BV-33N-001
 Depth, ft: 75.1
 Rotor Radius, cm: 16.51 Bulk Volume (caliper, w/o pkg), cc: 18.19
 Length (Final), cm: 3.43 Pore Volume (calc), cc: 5.11 (wet-dry)
 Diameter (Final), cm: 2.67 Pore Vol (Caliper BV - VSG), cc: 7.18
 Density1 (d1) (water): 0.9996 Sat'd PV / VSG PV, cc: 1.40
 Density 2 (d2) (air): 0.001204 Porosity (calc): 0.281 (BV-PV(calc))
 Total Pkg Wt., gm: 2.54 Dry Wt. w/o Pkg, gm: 29.10
 Total Package Vol, cc: 1.01 Sat'd Wt w/o Pkg, gm: 34.21
 Sat'd Wt, w/ pkg, gm: 36.75 Initial Moisture, %: 17.6
 Dry Wt w/ Pkg, gm: 31.64 Volume Water Prod, cc: 3.60
 Zero Start Point, ml: 0.50 Volume Water Ext, cc: 5.11
 Water Extracted, ml: 5.11 Total Water, cc: 8.71
 Final Run Wet Wt, gm: 33.3 Calc Sat'd wt (w/o pkg), gm: 34.16
 Bulk Volume (caliper), cc: 17.44 Wt of water at Sw=1 @ RT, gm: 5.06
 Grain Volume, cc: 11.02 Meas Sat'd wt - Calc Sat'd Wt, gm: 0.05

Specific Retention rpm = 2468				PLOT DATA			
Rotor Speed rpm	Pressure, psi	Sample Wt, gm	Vol Out, gm	Vol Out, cc	Vol Out, ml Data Sheet	Water Saturation, % Vp	Moisture Content %
0	0.000	34.21	0.00	0.00	0.50	100.0	17.6
100	0.081	34.21	0.00	0.00	0.50	100.0	17.6
150	0.181	34.21	0.00	0.00	0.50	100.0	17.6
200	0.323	34.21	0.00	0.00	0.50	100.0	17.6
250	0.504	33.66	0.55	0.55	1.05	89.2	15.7
300	0.726	32.71	1.50	1.50	2.00	70.6	12.4
350	0.988	32.19	2.02	2.02	2.52	60.5	10.6
400	1.291	31.86	2.35	2.35	2.85	54.0	9.5
500	2.016	31.53	2.68	2.68	3.18	47.6	8.4
650	3.408	31.26	2.95	2.95	3.45	42.3	7.4
800	5.162	31.11	3.10	3.10	3.60	39.3	6.9
1000	8.066	30.94	3.27	3.27	3.77	36.0	6.3
1500	18.148	30.71	3.50	3.50	4.00	31.5	5.5
2000	32.264	30.61	3.60	3.60	4.10	29.5	5.2

PERMEABILITY TO AIR - BULK VOLUME BY CALIPER

FILE NO: 391024
 CLIENT: CH2M Hill

SAMPLE NO.	DEPTH, ft	ORIENT. (h or v)	PACKAGE WTS.		L., cm	DIA. cm	TEMP., °F	AIR VISC., cP	MEASURED INJ. PRESSURE		TIME, sec	VOL. cc	CALCULATED DATA		REPORTED DATA	
			SCREEN gm	TAPE gm					UPSTREAM in wtr	DOWNSTREAM psig			Vb, cm ³	Lz/Vb	PKG VOLUME, cc	AIR PERMEABILITY md
SPECIFIC BV-33N-001 BV-33N-001	75.1	H	0.24	2.3	3.37	2.63	72.0	0.0177	0.61	0.02	0.00	100.00	17.30	0.6566	1.012	6434
	75.1	H	0.24	2.3	3.37	2.63	72.0	0.0177	0.61	0.02	0.00	100.00	17.30	0.6566	1.012	6465
															Avg:	6450

PERMEABILITY TO WATER RAW DATA SHEET (CALIPER PROPERTIES)

HC, cm/s = QL/Aht
 Q = vol, L = length, A=area, t = time, h = head

SAMPLE NO.	DEPTH, ft	ORIENT., (h or v)	PACKAGE WTS.		LENGTH, cm	DIAMETER, cm	RAW DATA ENTRY		NET INJECTION PRESSURE, psig	TIME, sec	VOL., ml	CALCULATED DATA			REPORTED DATA			QUALITY CONTROL DATA	
			SCREEN, gm	TAPE, gm			TEMP., °F	WATER VISC., cP				Vb, cm ³	AREA, cm ²	L2/ Vb	PKG VOLUME, cc	WATER PERMEABILITY, mD	CONDUCTIVITY, cm/sec	FLOW RATE, ccf/min.	WATER GRADIENT, (dimensionless)
BV-33N-001	75.1	H	0.24	2.30	3.46	2.66	76.0	0.9750	0.21	180.20	6.10	18.22	5.56	0.6572	1.012	1404.502	1.41E-03	2.03	4.3
BV-33N-001	75.1	H	0.24	2.30	3.46	2.66	76.0	0.9750	0.22	180.42	6.00	18.22	5.56	0.6572	1.012	1360.629	1.36E-03	2.00	4.4
														Avg:		1382.566	1.39E-03		

RCA vs GEOTECH CALCULATIONS COMPARISON

SAMPLE WEIGHTS & PROPERTIES QC										RCA vs GEOTECH CALCULATIONS COMPARISON																
WEIGHT DIFF. gms	WEIGHT DIFF. gms	DATA SET	DIFF. DATA SETS	SAMPLE ONLY VS THIMBLE + SAMPLE DATA SETS	NATIVE DENSITY g/mcc	OIL PPM	Sample ID (reported)	Depth, ft (reported)	Porosity percent (reported)	Native Bulk Density g/cc (reported)	lb/cuft (reported)	lb/cuft (reported)	lb/cuft (reported)	lb/cuft (reported)	Dry Bulk Density g/cc (reported)	lb/cuft (reported)	lb/cuft (reported)	Moisture Content (reported)	Solids (reported)	Water (reported)	Total (bulk) Void (reported)	Volumes, cuft	Water % (reported)	Water Saturation % (reported)	Specific gravity (density) (reported)	
DATA SET ONLY	DATA SET ONLY	DATA SETS	DIFF. DATA SETS	SAMPLE ONLY VS THIMBLE + SAMPLE DATA SETS	NATIVE DENSITY g/mcc	OIL PPM	Sample ID (reported)	Depth, ft (reported)	Porosity percent (reported)	Native Bulk Density g/cc (reported)	lb/cuft (reported)	lb/cuft (reported)	lb/cuft (reported)	lb/cuft (reported)	Dry Bulk Density g/cc (reported)	lb/cuft (reported)	lb/cuft (reported)	Moisture Content (reported)	Solids (reported)	Water (reported)	Total (bulk) Void (reported)	Volumes, cuft	Water % (reported)	Water Saturation % (reported)	Specific gravity (density) (reported)	
DATA SET ONLY	DATA SET ONLY	DATA SETS	DIFF. DATA SETS	SAMPLE ONLY VS THIMBLE + SAMPLE DATA SETS	NATIVE DENSITY g/mcc	OIL PPM	Sample ID (reported)	Depth, ft (reported)	Porosity percent (reported)	Native Bulk Density g/cc (reported)	lb/cuft (reported)	lb/cuft (reported)	lb/cuft (reported)	lb/cuft (reported)	Dry Bulk Density g/cc (reported)	lb/cuft (reported)	lb/cuft (reported)	Moisture Content (reported)	Solids (reported)	Water (reported)	Total (bulk) Void (reported)	Volumes, cuft	Water % (reported)	Water Saturation % (reported)	Specific gravity (density) (reported)	
0.00	10.40	0.00	0.00	0.48	2.08	26100	0	0	31.90%	2.08	129.71	13.00	1.82	1.82	13.00	0.143	0.143	113.49	16.22	16.22	1	0.315	0.26	81.48%	2.67	
0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	0	0	31.90%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
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Date> 4/13/2010
 Time> 8:22
 File C:\PHI220 ver 2_72 with pause\Report\391024.xlb
 Job ID 391024
 Analyst Kari Hochstatter

Sample ID	Sample Length cm	Sample Diameter cm	Bulk Volume cc	Dry Weight grams	Test Type	Grain Volume cc	Pore Volume cc	Porosity %BV	Grain Density g/cc	RemBillet Volume cc	Conf Pressure psi	Ref Volume cc	Dead Volume cc	Temp C	Cup	Date	Time	AVERAGE Grain Volume cc
BV-33N-001 at 75.20	3.64	3.83	41.936	77.55	GV	29.082	12.854	30.651	2.667	43.265	0	77.993	11.77	74.2	1.5"	4/13/2010	8:16	29.1045
BV-33N-001 at 75.20	3.64	3.83	41.936	77.55	GV	29.127	12.509	30.543	2.662	43.265	0	77.993	11.77	74.4	1.5"	4/13/2010	8:18	29.1045



PTS File No: 391024

SHIPPING / RECEIVING DOCUMENTS



PTS File No: 391024

Region III DC-1 SAMPLE LOG-IN SHEET

LOG-IN DATE: 12/2/2009
 LAB NAME: PTS Laboratories
 RECEIVED BY: J. Perez

DAS NO: N/A
 SDG NO: 391024

SIGNATURE:

CHECK THE APPROPRIATE RESPONSE:

	PRESENT	ABSENT	INTACT	BROKEN
CUSTODY SEAL(S)	X		X	
CHAIN OF CUSTODY (COC) RECORD	X			
TRAFFIC REPORT OR PACKING LIST		X		
AIRBILL / STICKER	X			
SAMPLE TAGS	X			
SAMPLE TAG NUMBERS ON CHAIN OF CUSTODY	X			
DATE RECEIVED BY LAB:	12/2/2009			
TIME RECEIVED:	1439			
DOES INFORMATION AGREE ON C O C, AND TAGS	Y			
AIRBILL NUMBER 869785041687	X			

SAMPLE TRANSFER		
FRACTION	DATE	BY

REVIEWED BY:

DATE: December 2, 2009

LOGBOOK NO.: 2009

LOGBOOK PAGE NO.: 58

COOLER RECEIPT FORM

Date Received: 12-2-09 PTS File Number: 391024 Client: CH2M Hill

Project Name: Honeywell Sky Harbor, AZ Project No: 396460.PC57.05.15

PRELIMINARY EXAMINATION PHASE:

Date cooler was opened: 12-2-09 By (print): Joel Perez Sign: [Signature]

Did cooler arrive with a shipping ticket (airbill, etc.)? FedEx Yes [X] No [] NA []

If YES, enter carrier name and air bill number here: 8697 8504 1687 Attach airbill [X]

Did samples arrive in a Client Cooler [] PTS Cooler [X] a Box [] Other [] describe: medium blue Coleman

1. Were custody seals on outside of cooler or box? Yes [X] No [] NA []

2. Were custody seals unbroken and intact at the date and time of arrival? Attach seals. Yes [X] No [] NA []

How many & where: 2 seals on cooler Lid, seal date: 12/1/09, seal name: Lars Peterson

3. Were custody papers sealed in a plastic bag and taped inside to the cooler lid? Yes [X] No [] NA []

4. Were custody papers filled out properly (ink, signed, etc.)? Document discrepancies on back. Yes [X] No [] NA []

5. Did you sign custody papers in the appropriate place? If COC is not attached to this cooler, revise Yes [X] No [] NA []

6. Was project identifiable from custody papers? and initial form when COC(s) are located. Yes [X] No [] NA []

If YES, enter project name and number at the top of this form. COC # (if present) 37380-091201

7. If required, was enough ice used? Type of ice: Dry [X] Wet [] Blue [] Yes [X] No [] NA []

8. What was the cooler temperature upon receipt? -40°F °F/°C Is Core Frozen? Yes [X] No [] NA []

9. Have designated person initial here to acknowledge receipt of cooler [Signature] Date: 12/2/09

LOG-IN PHASE:

Date samples were logged in: 12-2-09 By (print): Joel Perez Sign: [Signature]

1. Type of Packing in cooler or box: Bubble Wrap [X] Foam [] None [] Other [] Describe: _____

2. Did all cores/samples arrive intact and were labels in good condition? Yes [X] No [] NA []

3. Were all cores/samples labeled correctly (ID, date, time, etc.)? Yes [X] No [] NA []

4. Do core/sample labels agree with custody papers? Yes [X] No [] NA []

5. Type of cores/samples: Shelby Tube [] Brass Sleeve [X] size: 2"x6" Acetate Sleeve [] size: _____

Bag [] Bucket [] Jar [] size: _____ Bottle [] size: _____ Other [] Describe: _____

6. Number of cores: 10 Number of bag/grab or jar samples: _____ Number of fluid samples: _____

Description of nonstandard samples: _____

7. Was the Lab Supervisor or Project Manager called & status discussed? Yes [X] No [] NA []

If YES, who was called? Michael Mark Brady By whom (initial)? JB Current or existing job? [X]

Sample storage location pending analysis (freezer, refrigerator, or bin number): Freezer B

1 From
Date 12/1/09

Sender's Name
Lars Peterson

Company
CHARM Hill

Address
2625 S. Plaza Drive

City
Tempe

State
AZ

ZIP

Phone

480 319-3638

2 Your Internal Billing Reference
396460.PC.57.05.15

3 To
Recipient's Name
Sample Receiving

Company
PTS Laboratories

Address
8100 Steve Way

City
Santa Fe Springs

State
CA

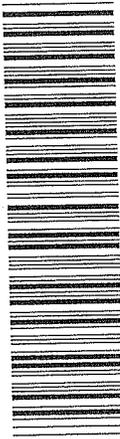
ZIP

Phone

562 347-2500

HOLD Weekday
Print FedEx location address below.
Available ONLY for FedEx Priority Overnight
and FedEx 2Day to select locations.

HOLD Saturday
Print FedEx location address below.
Available ONLY for FedEx Priority Overnight
and FedEx 2Day to select locations.



8697 8504 1687

fedex.com 1.800.GoFedEx 1.800.463.3339

0200

4a Express Package Service * To most locations.
 FedEx Priority Overnight Next business day, Monday through Saturday. Delivery NOT available on Sunday.
 FedEx Standard Overnight Next business afternoon. Saturday Delivery NOT available.
 FedEx Express Saver Second business day. Thursday through Saturday. Delivery NOT available.
 FedEx 2Day Day After Tomorrow. Second business day. Thursday through Saturday. Delivery NOT available.

4b Express Freight Service ** To most locations.
 FedEx 1Day Freight Next business day. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 FedEx 2Day Freight Second business day. Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
 FedEx 3Day Freight Third business day. Saturday Delivery NOT available.

5 Packaging * Declared value limit \$500.
 FedEx Envelope*
 FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Shrink Pak.
 FedEx Box
 FedEx Tube
 Other

6 Special Handling and Delivery Signature Options

SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 2Day Freight.
 No Signature Required Package may be left unattended for delivery. (Signature is required for delivery.)
 Direct Signature Recipient's signature is required for delivery. (See options.)
 Indirect Signature Recipient's signature or recipient's address someone at neighboring address may sign for delivery. For residential deliveries only. See options.

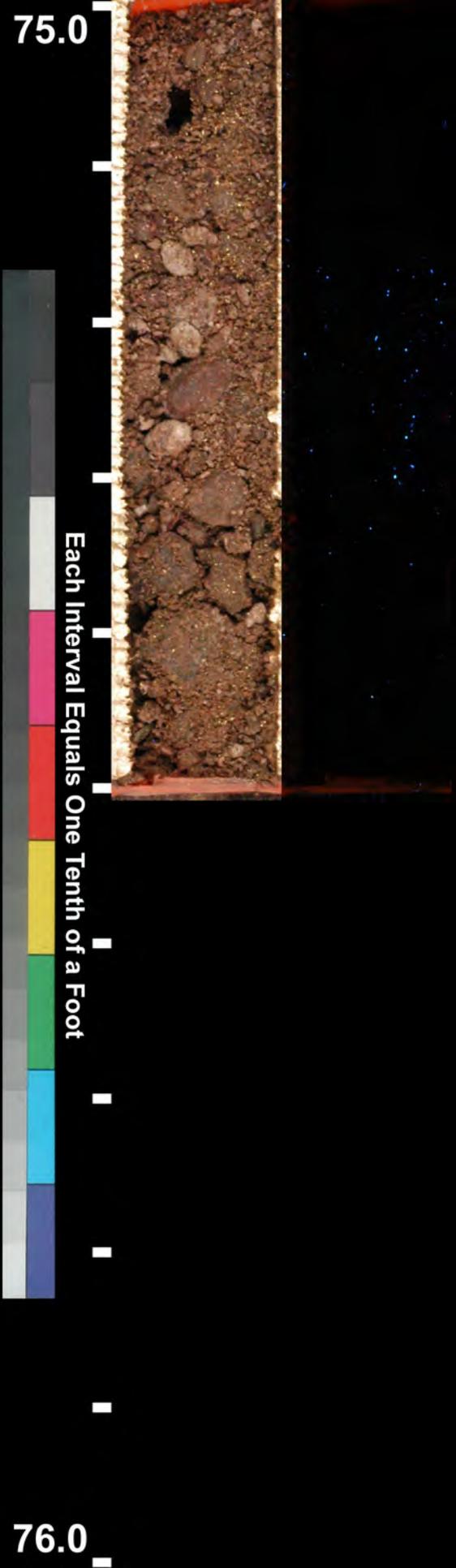
Does this shipment contain dangerous goods?

One box must be checked.
 No
 Yes Shipper's Declaration not required.
 Yes Shipper's Declaration not required.
 Dry Ice (Dry Ice 3, UN 1845)
 Cargo Aircraft Only

7 Payment Bill to:

Sender Account No. or Credit Card No. below.
 Recipient
 Third Party
 Credit Card
 Cash/Check

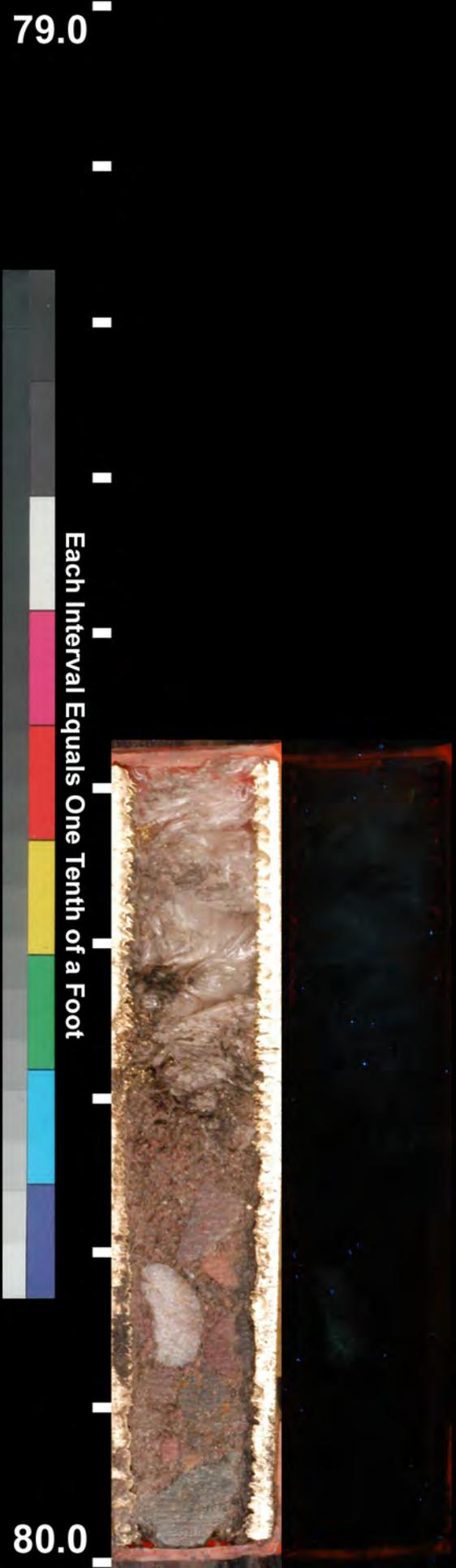
Total Packages 1
 Total Weight 6.9 lbs.
 Total Declared Value \$ 554
 Credit Card Auth.



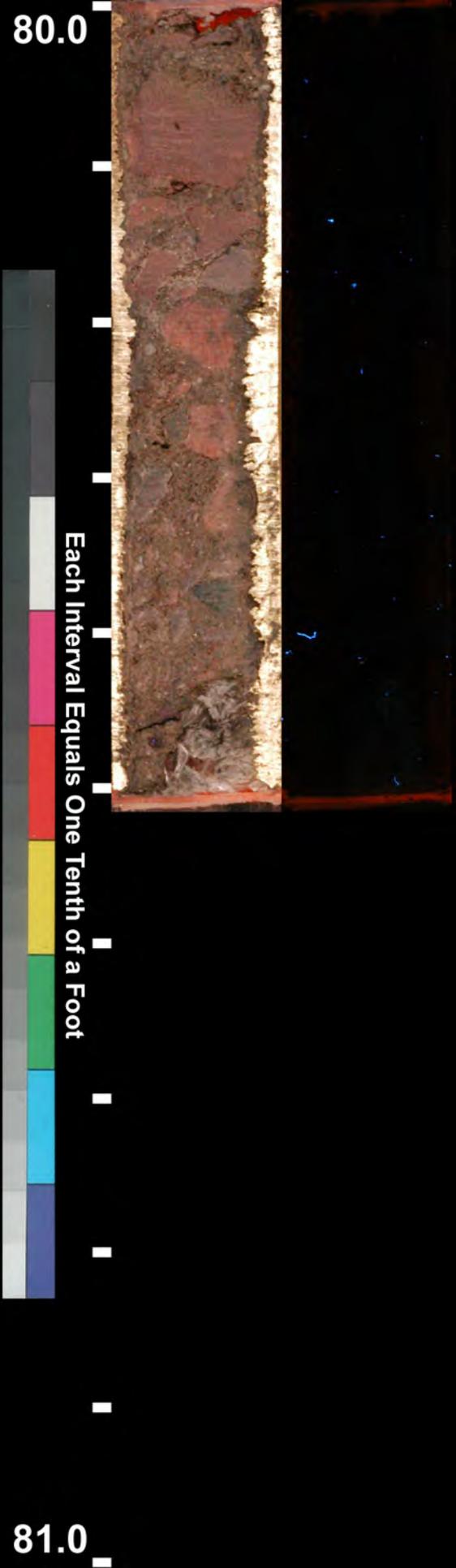
Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15



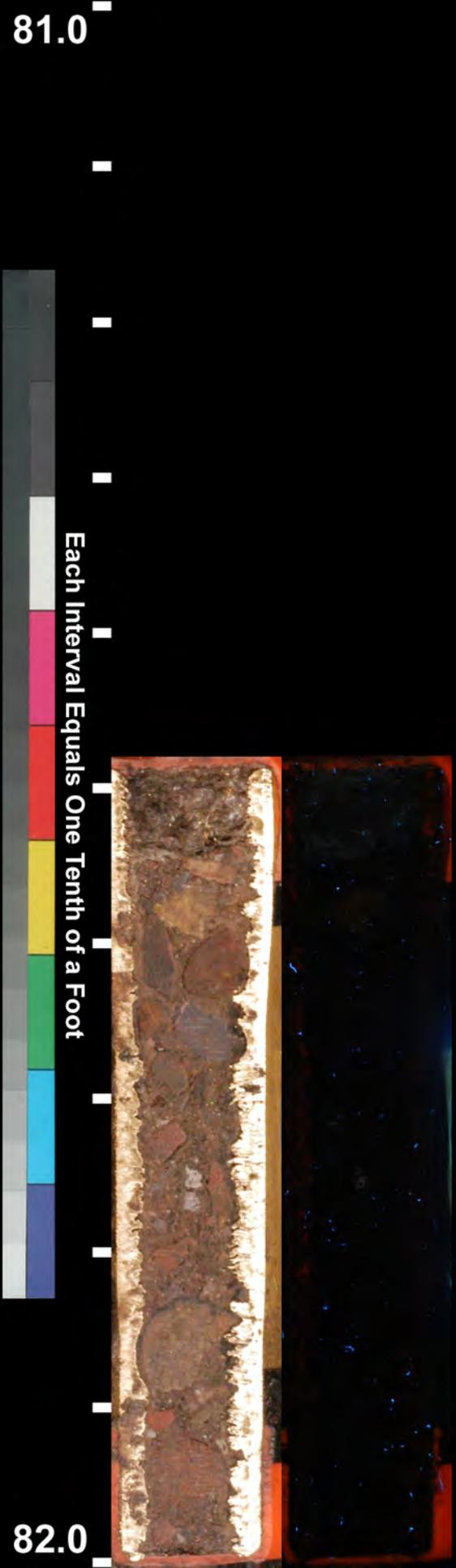
Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15



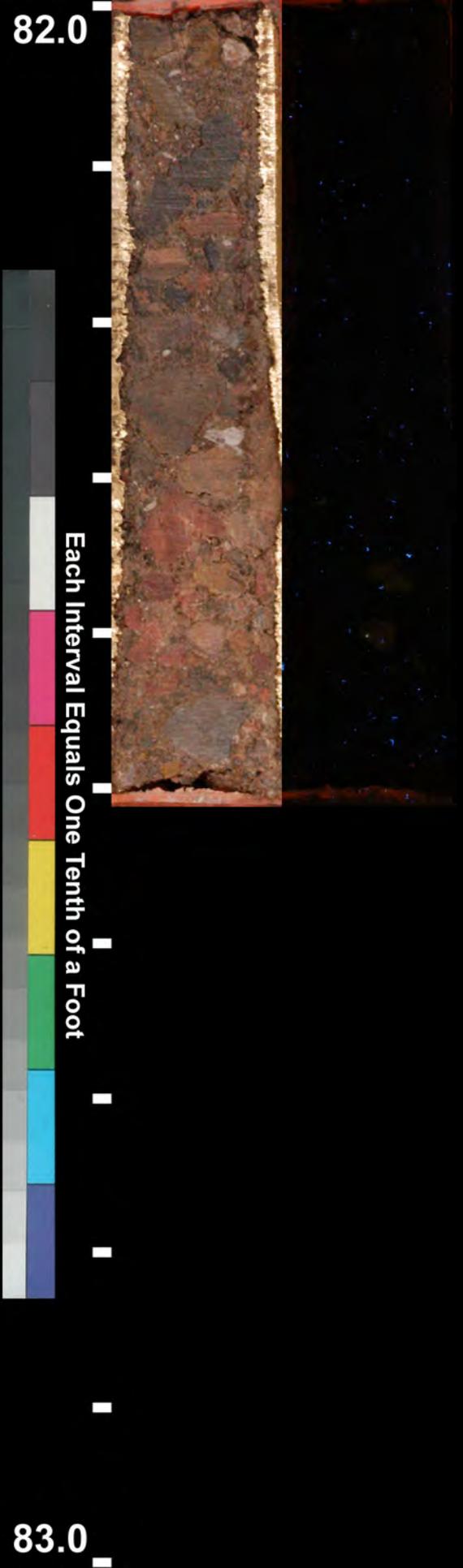
Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15



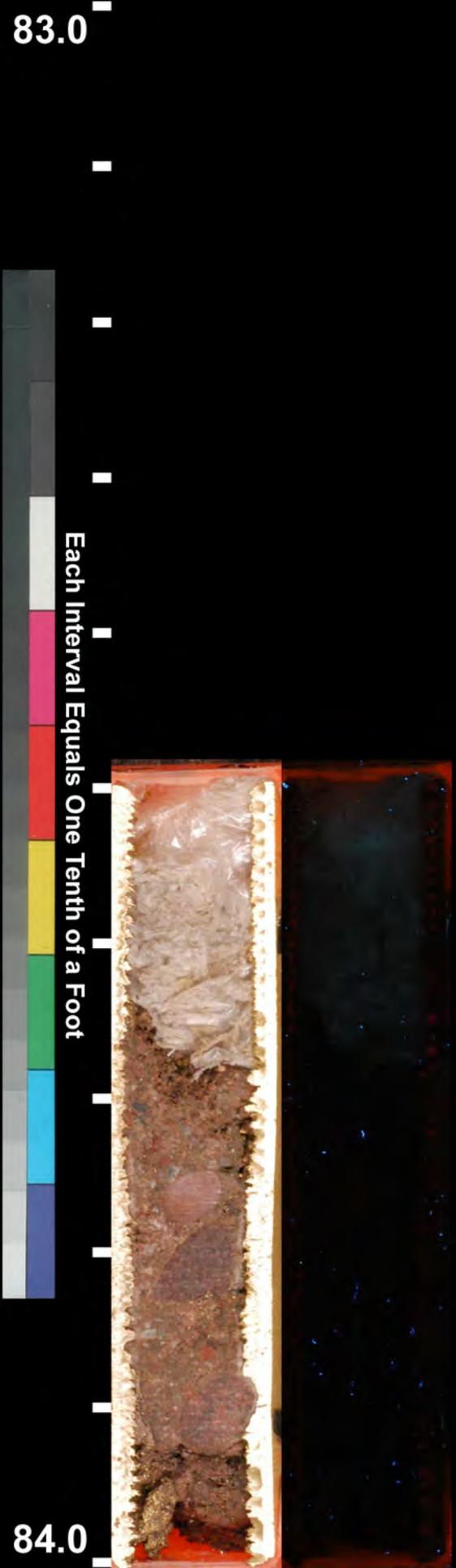
Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15



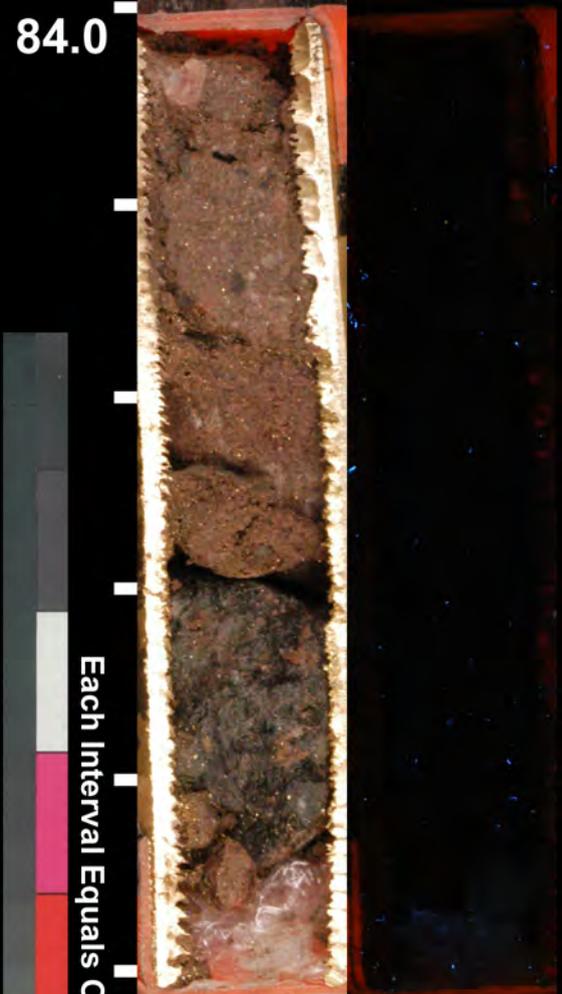
Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15



Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15



Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15

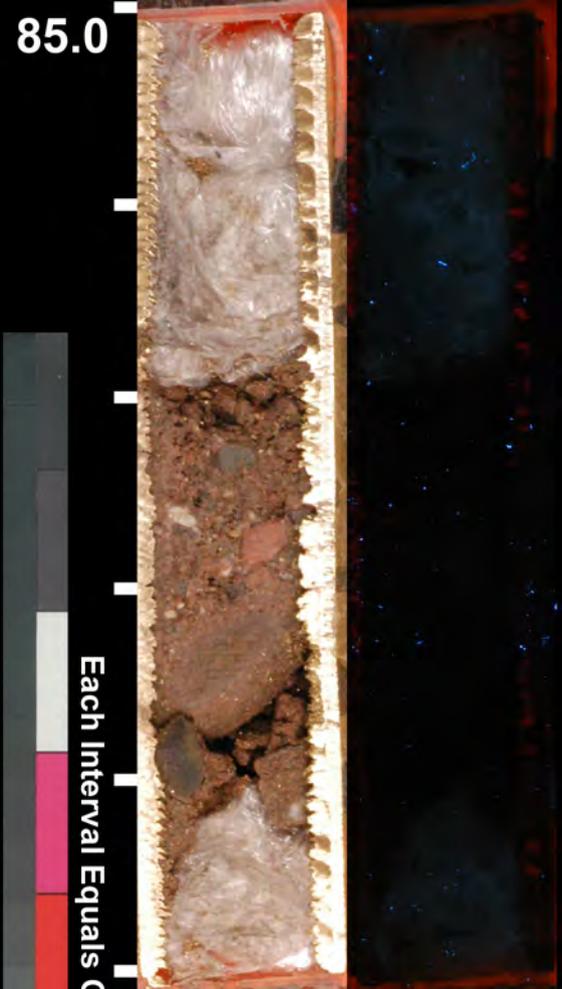


Each Interval Equals One Tenth of a Foot



Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15

85.0

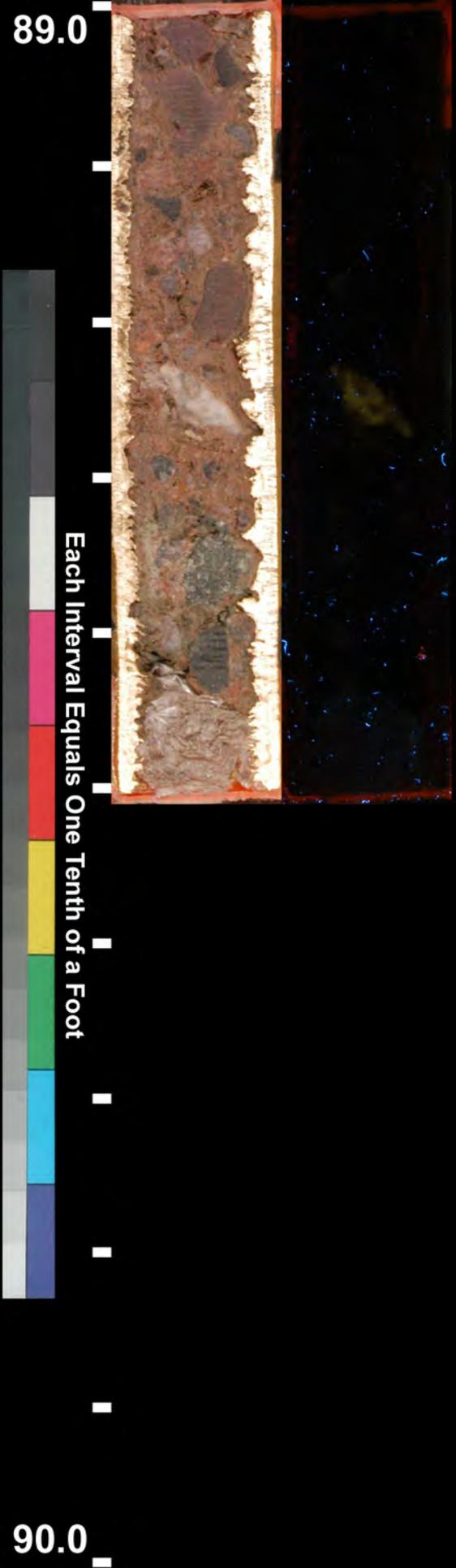


Each Interval Equals One Tenth of a Foot

85.0

86.0

Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15



Project: Honeywell Sky Harbor, AZ Boring ID: BV-33N
Project No.: 396460.PC.57.05.15

INTERFACIAL / SURFACE TENSION DATA

(METHODOLOGY: DuNuoy Method - ASTM D971)

PROJECT NAME: Honeywell

PROJECT NO: 538.03

PHASE PAIR		TEMP., (°F)	INTERFACIAL TENSION, (Dynes/centimeter)
ASE-89A (Water)	Air	76.0	73.5
ASE-89A (Oil)	Air	76.0	28.9
ASE-89A (Water)	ASE-89A (Oil)	76.0	30.6
ASE-56A (Water)	Air	76.0	67.9
ASE-56A (Oil)	Air	76.0	27.8
ASE-56A (Water)	ASE-89A (Oil)	76.0	31.4

QUALITY CONTROL DATA

PHASE PAIR: DIWATER / AIR
 TEMPERATURE, °F: 76.0
 IFT, MEASURED: 72.8
 IFT, PUBLISHED: 72.1
 RPD: 1.05

VISCOSITY, SPECIFIC GRAVITY and DENSITY DATA

(METHODOLOGY: ASTM D445, API RP40)

PROJECT NAME: Honeywell
PROJECT NO: 538.03

SAMPLE ID	MATRIX	TEMP., (°F)	SPECIFIC GRAVITY	DENSITY (g/cc)	VISCOSITY	
					(centistokes)	(centipoise)
ASE-89A (Water)	Field Water	70	1.0005	0.9985	1.01	1.01
		100		0.9955	0.694	0.691
		130		0.9925	0.528	0.524
ASE-89A (Oil)	NAPL	70	0.8039	0.8023	1.77	1.42
		100		0.7958	1.36	1.09
		130		0.7893	1.10	0.869
ASE-59A (Water)	Field Water	70	1.0008	0.9988	0.998	0.997
		100		0.9955	0.690	0.686
		130		0.9923	0.528	0.524
ASE-56A (Oil)	NAPL	70	0.7904	0.7888	1.35	1.06
		100		0.7798	1.08	0.842
		130		0.7709	0.886	0.683

**Attachment J2 - LNAPL Mobility Assessment
Spreadsheet and Figures**

LNAPL Saturation and Velocity Calculations - BV-33N-001 @ 75.1 feet

LNAPL Density	0.8020	g/cm ³			
Water Density	1.0010	g/cm ³			
Gravity	980.00	cm/sec ²			
LNAPL Viscosity	1.43	centipoise	=	0.0142	g/cm sec
Water Viscosity	1.010	centipoise	=	0.0101	g/cm sec
Saturated Hydraulic Conductivity	1.39E-03	cm/sec			
Porosity	0.368				
LNAPL Gradient	0.0043				
Hydrocarbon Thickness	1.60	feet	=	48.768	cm

Results		
Maximum LNAPL Saturation	8.1	%
Maximum LNAPL Conductivity	4.65E-05	cm/sec
LNAPL Transmissivity	8.19E-04	cm ² /sec
Maximum LNAPL Pore Velocity	1.99E-02	feet/day
Maximum LNAPL Distance in 1 Year	7.26E+00	feet

Air-Water Surface Tension	73.50	dyne/cm			
Air-LNAPL Surface Tension	28.90	dyne/cm			
LNAPL-Water Surface Tension		dyne/cm			
Air-LNAPL Scaling Factor	2.54				
LNAPL-Water Scaling Factor	2.40				

LNAPL/Air Interface Line		
Zero Value	48.768	0
Saturation Graph	48.768	0
Conductivity Graph	48.768	5.00E-05
Velocity Graph	48.768	2.00E-02

alpha (aw)	0.0222	1/cm			
n	2.1150				
Residual Water Saturation	0.2900				
Gamma	0.527				

alpha (ow)	0.0533	1/cm			
alpha (ao)	0.0565	1/cm			

Height Above Oil/Water Interface (cm)	Height Above Oil/Water Interface (feet)	S(o)	S(w)	S(a)	S(t)	S̄(w)	S̄(t)	Relative k(o)	LNAPL K (cm/sec)	LNAPL Pore Velocity (cm/sec)	LNAPL Pore Velocity (ft/day)
0	0.00	0.0000	1.0000	0.0000	1.0000	1.0000	1.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1	0.03	0.0000	1.0000	0.0000	1.0000	1.0000	1.0000	2.31E-07	1.83E-10	8.65E-08	2.45E-04
2	0.07	0.0001	0.9999	0.0000	1.0000	0.9998	1.0000	2.25E-06	1.79E-09	1.95E-07	5.52E-04
3	0.10	0.0003	0.9997	0.0000	1.0000	0.9996	1.0000	8.54E-06	6.77E-09	3.13E-07	8.88E-04
4	0.13	0.0005	0.9995	0.0000	1.0000	0.9993	1.0000	2.20E-05	1.74E-08	4.39E-07	1.24E-03
5	0.16	0.0007	0.9993	0.0000	1.0000	0.9990	1.0000	4.57E-05	3.62E-08	5.70E-07	1.62E-03
6	0.20	0.0011	0.9989	0.0000	1.0000	0.9985	1.0000	8.32E-05	6.59E-08	7.05E-07	2.00E-03
7	0.23	0.0015	0.9985	0.0000	1.0000	0.9979	1.0000	1.38E-04	1.09E-07	8.44E-07	2.39E-03
8	0.26	0.0020	0.9980	0.0000	1.0000	0.9972	1.0000	2.13E-04	1.69E-07	9.87E-07	2.80E-03
9	0.30	0.0026	0.9974	0.0000	1.0000	0.9964	1.0000	3.14E-04	2.48E-07	1.13E-06	3.21E-03
10	0.33	0.0032	0.9968	0.0000	1.0000	0.9955	1.0000	4.42E-04	3.50E-07	1.28E-06	3.63E-03
11	0.36	0.0039	0.9961	0.0000	1.0000	0.9945	1.0000	6.03E-04	4.78E-07	1.43E-06	4.05E-03
12	0.39	0.0047	0.9953	0.0000	1.0000	0.9934	1.0000	8.01E-04	6.34E-07	1.58E-06	4.48E-03
13	0.43	0.0055	0.9945	0.0000	1.0000	0.9922	1.0000	1.04E-03	8.22E-07	1.73E-06	4.91E-03
14	0.46	0.0065	0.9935	0.0000	1.0000	0.9909	1.0000	1.32E-03	1.05E-06	1.89E-06	5.35E-03
15	0.49	0.0075	0.9925	0.0000	1.0000	0.9895	1.0000	1.65E-03	1.31E-06	2.04E-06	5.79E-03
16	0.52	0.0086	0.9914	0.0000	1.0000	0.9880	1.0000	2.03E-03	1.61E-06	2.20E-06	6.23E-03
17	0.56	0.0097	0.9903	0.0000	1.0000	0.9863	1.0000	2.47E-03	1.95E-06	2.35E-06	6.67E-03
18	0.59	0.0109	0.9891	0.0000	1.0000	0.9846	1.0000	2.96E-03	2.35E-06	2.51E-06	7.12E-03
19	0.62	0.0122	0.9878	0.0000	1.0000	0.9828	1.0000	3.52E-03	2.79E-06	2.67E-06	7.57E-03
20	0.66	0.0136	0.9864	0.0000	1.0000	0.9809	1.0000	4.15E-03	3.29E-06	2.83E-06	8.02E-03
21	0.69	0.0150	0.9850	0.0000	1.0000	0.9789	1.0000	4.84E-03	3.84E-06	2.99E-06	8.47E-03
22	0.72	0.0165	0.9835	0.0000	1.0000	0.9768	1.0000	5.61E-03	4.44E-06	3.15E-06	8.92E-03
23	0.75	0.0181	0.9819	0.0000	1.0000	0.9746	1.0000	6.45E-03	5.11E-06	3.31E-06	9.37E-03
24	0.79	0.0197	0.9803	0.0000	1.0000	0.9723	1.0000	7.37E-03	5.84E-06	3.46E-06	9.82E-03
25	0.82	0.0214	0.9786	0.0000	1.0000	0.9699	1.0000	8.38E-03	6.63E-06	3.62E-06	1.03E-02
26	0.85	0.0232	0.9768	0.0000	1.0000	0.9674	1.0000	9.46E-03	7.49E-06	3.78E-06	1.07E-02
27	0.89	0.0250	0.9750	0.0000	1.0000	0.9648	1.0000	1.06E-02	8.42E-06	3.94E-06	1.12E-02
28	0.92	0.0269	0.9731	0.0000	1.0000	0.9621	1.0000	1.19E-02	9.42E-06	4.10E-06	1.16E-02
29	0.95	0.0288	0.9712	0.0000	1.0000	0.9594	1.0000	1.32E-02	1.05E-05	4.25E-06	1.21E-02
30	0.98	0.0308	0.9692	0.0000	1.0000	0.9566	1.0000	1.47E-02	1.16E-05	4.41E-06	1.25E-02
31	1.02	0.0329	0.9671	0.0000	1.0000	0.9536	1.0000	1.62E-02	1.29E-05	4.56E-06	1.29E-02
32	1.05	0.0350	0.9650	0.0000	1.0000	0.9507	1.0000	1.79E-02	1.41E-05	4.72E-06	1.34E-02
33	1.08	0.0372	0.9628	0.0000	1.0000	0.9476	1.0000	1.96E-02	1.55E-05	4.87E-06	1.38E-02
34	1.12	0.0395	0.9605	0.0000	1.0000	0.9444	1.0000	2.14E-02	1.70E-05	5.02E-06	1.42E-02
35	1.15	0.0417	0.9583	0.0000	1.0000	0.9412	1.0000	2.33E-02	1.85E-05	5.17E-06	1.47E-02
36	1.18	0.0441	0.9559	0.0000	1.0000	0.9379	1.0000	2.53E-02	2.01E-05	5.32E-06	1.51E-02
37	1.21	0.0465	0.9535	0.0000	1.0000	0.9346	1.0000	2.75E-02	2.18E-05	5.47E-06	1.55E-02
38	1.25	0.0489	0.9511	0.0000	1.0000	0.9311	1.0000	2.97E-02	2.35E-05	5.62E-06	1.59E-02
39	1.28	0.0514	0.9486	0.0000	1.0000	0.9276	1.0000	3.20E-02	2.53E-05	5.77E-06	1.63E-02
40	1.31	0.0539	0.9461	0.0000	1.0000	0.9241	1.0000	3.44E-02	2.73E-05	5.91E-06	1.68E-02
41	1.35	0.0565	0.9435	0.0000	1.0000	0.9205	1.0000	3.69E-02	2.93E-05	6.05E-06	1.72E-02
42	1.38	0.0591	0.9409	0.0000	1.0000	0.9168	1.0000	3.95E-02	3.13E-05	6.20E-06	1.76E-02
43	1.41	0.0617	0.9383	0.0000	1.0000	0.9131	1.0000	4.22E-02	3.35E-05	6.34E-06	1.80E-02
44	1.44	0.0644	0.9356	0.0000	1.0000	0.9093	1.0000	4.50E-02	3.57E-05	6.48E-06	1.84E-02
45	1.48	0.0671	0.9329	0.0000	1.0000	0.9055	1.0000	4.79E-02	3.80E-05	6.61E-06	1.87E-02
46	1.51	0.0699	0.9301	0.0000	1.0000	0.9016	1.0000	5.09E-02	4.03E-05	6.75E-06	1.91E-02
47	1.54	0.0726	0.9274	0.0000	1.0000	0.8977	1.0000	5.40E-02	4.28E-05	6.88E-06	1.95E-02
48	1.57	0.0755	0.9245	0.0000	1.0000	0.8937	1.0000	5.72E-02	4.53E-05	7.02E-06	1.99E-02
49	1.61	0.0783	0.9217	0.0000	1.0000	0.8897	1.0000	6.07E-02	4.78E-05	7.16E-06	2.03E-02
50	1.64	0.0803	0.9188	0.0000	0.9992	0.8857	0.9998	6.43E-02	5.03E-05	7.30E-06	2.07E-02
51	1.67	0.0811	0.9159	0.0029	0.9971	0.8816	0.9959	6.80E-02	5.28E-05	7.44E-06	2.11E-02
52	1.71	0.0807	0.9130	0.0063	0.9937	0.8775	0.9911	7.17E-02	5.53E-05	7.58E-06	2.15E-02
53	1.74	0.0788	0.9101	0.0111	0.9889	0.8733	0.9844	7.53E-02	5.78E-05	7.72E-06	2.19E-02
54	1.77	0.0757	0.9071	0.0171	0.9829	0.8692	0.9759	7.89E-02	6.03E-05	7.86E-06	2.23E-02
55	1.80	0.0714	0.9041	0.0244	0.9756	0.8650	0.9656	8.25E-02	6.28E-05	8.00E-06	2.27E-02
56	1.84	0.0660	0.9011	0.0329	0.9671	0.8607	0.9537	8.60E-02	6.53E-05	8.14E-06	2.31E-02
57	1.87	0.0595	0.8981	0.0424	0.9576	0.8565	0.9403	8.93E-02	6.78E-05	8.28E-06	2.35E-02
58	1.90	0.0522	0.8951	0.0528	0.9472	0.8522	0.9257	9.25E-02	7.03E-05	8.42E-06	2.39E-02
59	1.94	0.0440	0.8920	0.0640	0.9360	0.8479	0.9099	9.58E-02	7.28E-05	8.56E-06	2.43E-02
60	1.97	0.0353	0.8889	0.0758	0.9242	0.8436	0.8932	1.00E-01	7.53E-05	8.70E-06	2.47E-02
61	2.00	0.0259	0.8859	0.0882	0.9118	0.8393	0.8758	1.14E-01	7.78E-05	8.84E-06	2.51E-02
62	2.03	0.0162	0.8828	0.1010	0.8990	0.8349	0.8578	1.28E-01	8.03E-05	8.98E-06	2.55E-02
63	2.07	0.0063	0.8797	0.1141	0.8859	0.8306	0.8394	1.40E-01	8.27E-05	9.12E-06	2.59E-02
64	2.10	0.0000	0.8766	0.1234	0.8727	0.8262	0.8207	0.00E+00	0.00E+00	0.00E+00	0.00E+00
65	2.13	0.0000	0.8735	0.1265	0.8593	0.8218	0.8018	0.00E+00	0.00E+00	0.00E+00	0.00E+00
66	2.17	0.0000	0.8704	0.1296	0.8459	0.8174	0.7830	0.00E+00	0.00E+00	0.00E+00	0.00E+00
67	2.20	0.0000	0.8672	0.1328	0.8326	0.8130	0.7642	0.00E+00	0.00E+00	0.00E+00	0.00E+00
68	2.23	0.0000	0.8641	0.1359	0.8194	0.8086	0.7457	0.00E+00	0.00E+00	0.00E+00	0.00E+00
69	2.28	0.0000	0.8610	0.1390	0.8064	0.8042	0.7274	0.00E+00	0.00E+00	0.00E+00	0.00E+00
70	2.30	0.0000	0.8579	0.1421	0.7936	0.7998	0.7094	0.00E+00	0.00E+00	0.00E+00	0.00E+00
71	2.33	0.0000	0.8548	0.1452	0.7811	0.7954	0.6917	0.00E+00	0.00E+00	0.00E+00	0.00E+00
72	2.36	0.0000	0.8516	0.1484	0.7689	0.7910	0.6745	0.00E+00	0.00E+00	0.00E+00	0.00E+00
73	2.40	0.0000	0.8485	0.1515	0.7569	0.7866	0.6577	0.00E+00	0.00E+00	0.00E+00	0.00E+00
74	2.43	0.0000	0.8454	0.1546	0.7453	0.7822	0.6413	0.00E+00	0.00E+00	0.00E+00	0.00E+

82	2.69	0.0000	0.8207	0.1793	0.6643	0.7474	0.5272	0.00E+00	0.00E+00	0.00E+00	0.00E+00
83	2.72	0.0000	0.8176	0.1824	0.6556	0.7431	0.5150	0.00E+00	0.00E+00	0.00E+00	0.00E+00
84	2.76	0.0000	0.8145	0.1855	0.6472	0.7388	0.5032	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85	2.79	0.0000	0.8115	0.1885	0.6391	0.7345	0.4918	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86	2.82	0.0000	0.8085	0.1915	0.6313	0.7303	0.4808	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87	2.85	0.0000	0.8055	0.1945	0.6238	0.7260	0.4701	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88	2.89	0.0000	0.8025	0.1975	0.6165	0.7218	0.4599	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89	2.92	0.0000	0.7995	0.2005	0.6095	0.7176	0.4500	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90	2.95	0.0000	0.7965	0.2035	0.6027	0.7134	0.4404	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91	2.99	0.0000	0.7935	0.2065	0.5961	0.7092	0.4312	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92	3.02	0.0000	0.7906	0.2094	0.5898	0.7051	0.4223	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93	3.05	0.0000	0.7877	0.2123	0.5837	0.7009	0.4136	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94	3.08	0.0000	0.7847	0.2153	0.5778	0.6968	0.4053	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95	3.12	0.0000	0.7818	0.2182	0.5721	0.6927	0.3973	0.00E+00	0.00E+00	0.00E+00	0.00E+00
96	3.15	0.0000	0.7790	0.2210	0.5665	0.6887	0.3895	0.00E+00	0.00E+00	0.00E+00	0.00E+00
97	3.18	0.0000	0.7761	0.2239	0.5612	0.6846	0.3819	0.00E+00	0.00E+00	0.00E+00	0.00E+00
98	3.22	0.0000	0.7732	0.2268	0.5560	0.6806	0.3747	0.00E+00	0.00E+00	0.00E+00	0.00E+00
99	3.25	0.0000	0.7704	0.2296	0.5510	0.6766	0.3676	0.00E+00	0.00E+00	0.00E+00	0.00E+00
100	3.28	0.0000	0.7676	0.2324	0.5462	0.6726	0.3608	0.00E+00	0.00E+00	0.00E+00	0.00E+00
101	3.31	0.0000	0.7648	0.2352	0.5415	0.6687	0.3542	0.00E+00	0.00E+00	0.00E+00	0.00E+00
102	3.35	0.0000	0.7620	0.2380	0.5369	0.6647	0.3478	0.00E+00	0.00E+00	0.00E+00	0.00E+00
103	3.38	0.0000	0.7592	0.2408	0.5325	0.6608	0.3416	0.00E+00	0.00E+00	0.00E+00	0.00E+00
104	3.41	0.0000	0.7564	0.2436	0.5282	0.6570	0.3355	0.00E+00	0.00E+00	0.00E+00	0.00E+00
105	3.44	0.0000	0.7537	0.2463	0.5241	0.6531	0.3297	0.00E+00	0.00E+00	0.00E+00	0.00E+00
106	3.48	0.0000	0.7510	0.2490	0.5201	0.6493	0.3241	0.00E+00	0.00E+00	0.00E+00	0.00E+00
107	3.51	0.0000	0.7483	0.2517	0.5162	0.6455	0.3186	0.00E+00	0.00E+00	0.00E+00	0.00E+00
108	3.54	0.0000	0.7456	0.2544	0.5124	0.6417	0.3133	0.00E+00	0.00E+00	0.00E+00	0.00E+00
109	3.58	0.0000	0.7429	0.2571	0.5087	0.6379	0.3081	0.00E+00	0.00E+00	0.00E+00	0.00E+00
110	3.61	0.0000	0.7403	0.2597	0.5052	0.6342	0.3031	0.00E+00	0.00E+00	0.00E+00	0.00E+00
111	3.64	0.0000	0.7376	0.2624	0.5017	0.6305	0.2982	0.00E+00	0.00E+00	0.00E+00	0.00E+00
112	3.67	0.0000	0.7350	0.2650	0.4984	0.6268	0.2935	0.00E+00	0.00E+00	0.00E+00	0.00E+00
113	3.71	0.0000	0.7324	0.2676	0.4951	0.6232	0.2889	0.00E+00	0.00E+00	0.00E+00	0.00E+00
114	3.74	0.0000	0.7299	0.2701	0.4919	0.6195	0.2844	0.00E+00	0.00E+00	0.00E+00	0.00E+00
115	3.77	0.0000	0.7273	0.2727	0.4888	0.6159	0.2800	0.00E+00	0.00E+00	0.00E+00	0.00E+00
116	3.81	0.0000	0.7248	0.2752	0.4858	0.6123	0.2758	0.00E+00	0.00E+00	0.00E+00	0.00E+00
117	3.84	0.0000	0.7222	0.2778	0.4829	0.6088	0.2717	0.00E+00	0.00E+00	0.00E+00	0.00E+00
118	3.87	0.0000	0.7197	0.2803	0.4800	0.6053	0.2677	0.00E+00	0.00E+00	0.00E+00	0.00E+00
119	3.90	0.0000	0.7173	0.2827	0.4773	0.6018	0.2638	0.00E+00	0.00E+00	0.00E+00	0.00E+00
120	3.94	0.0000	0.7148	0.2852	0.4746	0.5983	0.2600	0.00E+00	0.00E+00	0.00E+00	0.00E+00
121	3.97	0.0000	0.7123	0.2877	0.4719	0.5948	0.2562	0.00E+00	0.00E+00	0.00E+00	0.00E+00
122	4.00	0.0000	0.7099	0.2901	0.4694	0.5914	0.2526	0.00E+00	0.00E+00	0.00E+00	0.00E+00
123	4.04	0.0000	0.7075	0.2925	0.4669	0.5880	0.2491	0.00E+00	0.00E+00	0.00E+00	0.00E+00
124	4.07	0.0000	0.7051	0.2949	0.4644	0.5847	0.2457	0.00E+00	0.00E+00	0.00E+00	0.00E+00
125	4.10	0.0000	0.7027	0.2973	0.4621	0.5813	0.2423	0.00E+00	0.00E+00	0.00E+00	0.00E+00
126	4.13	0.0000	0.7004	0.2996	0.4597	0.5780	0.2391	0.00E+00	0.00E+00	0.00E+00	0.00E+00
127	4.17	0.0000	0.6980	0.3020	0.4575	0.5747	0.2359	0.00E+00	0.00E+00	0.00E+00	0.00E+00
128	4.20	0.0000	0.6957	0.3043	0.4553	0.5714	0.2328	0.00E+00	0.00E+00	0.00E+00	0.00E+00
129	4.23	0.0000	0.6934	0.3066	0.4531	0.5682	0.2298	0.00E+00	0.00E+00	0.00E+00	0.00E+00
130	4.27	0.0000	0.6911	0.3089	0.4510	0.5650	0.2268	0.00E+00	0.00E+00	0.00E+00	0.00E+00
131	4.30	0.0000	0.6889	0.3111	0.4490	0.5618	0.2239	0.00E+00	0.00E+00	0.00E+00	0.00E+00
132	4.33	0.0000	0.6866	0.3134	0.4470	0.5586	0.2211	0.00E+00	0.00E+00	0.00E+00	0.00E+00
133	4.36	0.0000	0.6844	0.3156	0.4450	0.5555	0.2183	0.00E+00	0.00E+00	0.00E+00	0.00E+00
134	4.40	0.0000	0.6822	0.3178	0.4431	0.5523	0.2156	0.00E+00	0.00E+00	0.00E+00	0.00E+00
135	4.43	0.0000	0.6800	0.3200	0.4412	0.5493	0.2130	0.00E+00	0.00E+00	0.00E+00	0.00E+00
136	4.46	0.0000	0.6778	0.3222	0.4394	0.5462	0.2104	0.00E+00	0.00E+00	0.00E+00	0.00E+00
137	4.49	0.0000	0.6756	0.3244	0.4376	0.5431	0.2079	0.00E+00	0.00E+00	0.00E+00	0.00E+00
138	4.53	0.0000	0.6735	0.3265	0.4358	0.5401	0.2054	0.00E+00	0.00E+00	0.00E+00	0.00E+00
139	4.56	0.0000	0.6714	0.3286	0.4341	0.5371	0.2030	0.00E+00	0.00E+00	0.00E+00	0.00E+00
140	4.59	0.0000	0.6693	0.3307	0.4325	0.5342	0.2006	0.00E+00	0.00E+00	0.00E+00	0.00E+00
141	4.63	0.0000	0.6672	0.3328	0.4308	0.5312	0.1983	0.00E+00	0.00E+00	0.00E+00	0.00E+00
142	4.66	0.0000	0.6651	0.3349	0.4292	0.5283	0.1961	0.00E+00	0.00E+00	0.00E+00	0.00E+00
143	4.69	0.0000	0.6630	0.3370	0.4276	0.5254	0.1939	0.00E+00	0.00E+00	0.00E+00	0.00E+00
144	4.72	0.0000	0.6610	0.3390	0.4261	0.5225	0.1917	0.00E+00	0.00E+00	0.00E+00	0.00E+00
145	4.76	0.0000	0.6590	0.3410	0.4246	0.5197	0.1896	0.00E+00	0.00E+00	0.00E+00	0.00E+00
146	4.79	0.0000	0.6569	0.3431	0.4231	0.5168	0.1875	0.00E+00	0.00E+00	0.00E+00	0.00E+00
147	4.82	0.0000	0.6550	0.3450	0.4217	0.5140	0.1854	0.00E+00	0.00E+00	0.00E+00	0.00E+00
148	4.86	0.0000	0.6530	0.3470	0.4202	0.5112	0.1834	0.00E+00	0.00E+00	0.00E+00	0.00E+00
149	4.89	0.0000	0.6510	0.3490	0.4189	0.5085	0.1815	0.00E+00	0.00E+00	0.00E+00	0.00E+00
150	4.92	0.0000	0.6491	0.3509	0.4175	0.5057	0.1796	0.00E+00	0.00E+00	0.00E+00	0.00E+00
151	4.95	0.0000	0.6471	0.3529	0.4162	0.5030	0.1777	0.00E+00	0.00E+00	0.00E+00	0.00E+00
152	4.99	0.0000	0.6452	0.3548	0.4148	0.5003	0.1758	0.00E+00	0.00E+00	0.00E+00	0.00E+00
153	5.02	0.0000	0.6433	0.3567	0.4136	0.4977	0.1740	0.00E+00	0.00E+00	0.00E+00	0.00E+00
154	5.05	0.0000	0.6415	0.3585	0.4123	0.4950	0.1722	0.00E+00	0.00E+00	0.00E+00	0.00E+00
155	5.09	0.0000	0.6396	0.3604	0.4111	0.4924	0.1705	0.00E+00	0.00E+00	0.00E+00	0.00E+00
156	5.12	0.0000	0.6377	0.3623	0.4098	0.4898	0.1688	0.00E+00	0.00E+00	0.00E+00	0.00E+00
157	5.15	0.0000	0.6359	0.3641	0.4086	0.4877	0.1671	0.00E+00	0.00E+00	0.00E+00	0.00E+00
158	5.18	0.0000	0.6341	0.3659	0.4075	0.4846	0.1655	0.00E+00	0.00E+00	0.00E+00	0.00E+00
159	5.22	0.0000	0.6323	0.3677	0.4063	0.4821	0.1638	0.00E+00	0.00E+00	0.00E+00	0.00E+00
160	5.25	0.0000	0.6305	0.3695	0.4052	0.4795	0.1623	0.00E+00	0.00E+00	0.00E+00	0.00E+00
161	5.28	0.0000	0.6287	0.3713	0.4041	0.4770	0.1607	0.00E+00	0.00E+00	0.00E+00	0.00E+00
162	5.31	0.0000	0.6269	0.3731	0.4030	0.4746	0.1592	0.00E+00	0.00E+00	0.00E+00	0.00E+00
163	5.35	0.0000	0.6252	0.3748	0.4019	0.4721	0.1577	0.00E+00	0.00E+00	0.00E+00	0.00E+00
164	5.38	0.0000	0.6235	0.3765	0.4009	0.4697	0.1562	0.00E+00	0.00E+00	0.00E+00	0.00E+00
165	5.41	0.0000	0.6217	0.3783	0.3999	0.4672	0.1547	0.00E+00	0.00E+00	0.00E+00	0.00E+00
166	5.45	0.0000	0.6200	0.3800	0.3988	0.4648	0.1533	0.00E+00	0.00E+00	0.00E+00	0.00E+00
167	5.48	0.0000	0.6183	0.3817	0.3978	0.4625	0.1519	0.00E+00	0.00E+00	0.00E+00	0.00E+00
168	5.51	0.0000	0.6167	0.3833	0.3969	0.4601	0.1505	0.00E+00	0.00E+00	0.00E+00	0.00E+00
169	5.54	0.0000	0.6150	0.3850	0.3959	0.4577	0.1492	0.00E+00	0.00E+00	0.00E+00	0.00E+00
170	5.58	0.0000	0.6133	0							

196	6.43	0.0000	0.5748	0.4252	0.3749	0.4011	0.1196	0.00E+00	0.00E+00	0.00E+00	0.00E+00
197	6.46	0.0000	0.5735	0.4265	0.3743	0.3993	0.1187	0.00E+00	0.00E+00	0.00E+00	0.00E+00
198	6.50	0.0000	0.5722	0.4278	0.3737	0.3974	0.1178	0.00E+00	0.00E+00	0.00E+00	0.00E+00
199	6.53	0.0000	0.5709	0.4291	0.3731	0.3956	0.1170	0.00E+00	0.00E+00	0.00E+00	0.00E+00
200	6.56	0.0000	0.5696	0.4304	0.3725	0.3937	0.1161	0.00E+00	0.00E+00	0.00E+00	0.00E+00
201	6.59	0.0000	0.5683	0.4317	0.3719	0.3919	0.1153	0.00E+00	0.00E+00	0.00E+00	0.00E+00
202	6.63	0.0000	0.5670	0.4330	0.3713	0.3901	0.1145	0.00E+00	0.00E+00	0.00E+00	0.00E+00
203	6.66	0.0000	0.5657	0.4343	0.3707	0.3883	0.1137	0.00E+00	0.00E+00	0.00E+00	0.00E+00
204	6.69	0.0000	0.5645	0.4356	0.3701	0.3866	0.1129	0.00E+00	0.00E+00	0.00E+00	0.00E+00
205	6.73	0.0000	0.5632	0.4368	0.3696	0.3848	0.1121	0.00E+00	0.00E+00	0.00E+00	0.00E+00
206	6.76	0.0000	0.5620	0.4380	0.3690	0.3831	0.1113	0.00E+00	0.00E+00	0.00E+00	0.00E+00
207	6.79	0.0000	0.5607	0.4393	0.3685	0.3813	0.1105	0.00E+00	0.00E+00	0.00E+00	0.00E+00
208	6.82	0.0000	0.5595	0.4405	0.3679	0.3796	0.1097	0.00E+00	0.00E+00	0.00E+00	0.00E+00
209	6.86	0.0000	0.5583	0.4417	0.3674	0.3779	0.1090	0.00E+00	0.00E+00	0.00E+00	0.00E+00
210	6.89	0.0000	0.5571	0.4429	0.3669	0.3762	0.1083	0.00E+00	0.00E+00	0.00E+00	0.00E+00
211	6.92	0.0000	0.5559	0.4441	0.3663	0.3745	0.1075	0.00E+00	0.00E+00	0.00E+00	0.00E+00
212	6.96	0.0000	0.5547	0.4453	0.3658	0.3729	0.1068	0.00E+00	0.00E+00	0.00E+00	0.00E+00
213	6.99	0.0000	0.5536	0.4464	0.3653	0.3712	0.1061	0.00E+00	0.00E+00	0.00E+00	0.00E+00
214	7.02	0.0000	0.5524	0.4476	0.3648	0.3696	0.1054	0.00E+00	0.00E+00	0.00E+00	0.00E+00
215	7.05	0.0000	0.5513	0.4487	0.3643	0.3680	0.1047	0.00E+00	0.00E+00	0.00E+00	0.00E+00
216	7.09	0.0000	0.5501	0.4499	0.3638	0.3663	0.1040	0.00E+00	0.00E+00	0.00E+00	0.00E+00
217	7.12	0.0000	0.5490	0.4510	0.3633	0.3647	0.1033	0.00E+00	0.00E+00	0.00E+00	0.00E+00
218	7.15	0.0000	0.5478	0.4522	0.3629	0.3631	0.1026	0.00E+00	0.00E+00	0.00E+00	0.00E+00
219	7.19	0.0000	0.5467	0.4533	0.3624	0.3616	0.1020	0.00E+00	0.00E+00	0.00E+00	0.00E+00
220	7.22	0.0000	0.5456	0.4544	0.3619	0.3600	0.1013	0.00E+00	0.00E+00	0.00E+00	0.00E+00
221	7.25	0.0000	0.5445	0.4555	0.3615	0.3584	0.1007	0.00E+00	0.00E+00	0.00E+00	0.00E+00
222	7.28	0.0000	0.5434	0.4566	0.3610	0.3569	0.1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00
223	7.32	0.0000	0.5423	0.4577	0.3606	0.3554	0.0994	0.00E+00	0.00E+00	0.00E+00	0.00E+00
224	7.35	0.0000	0.5412	0.4588	0.3601	0.3538	0.0988	0.00E+00	0.00E+00	0.00E+00	0.00E+00
225	7.38	0.0000	0.5402	0.4598	0.3597	0.3523	0.0982	0.00E+00	0.00E+00	0.00E+00	0.00E+00
226	7.41	0.0000	0.5391	0.4609	0.3593	0.3508	0.0975	0.00E+00	0.00E+00	0.00E+00	0.00E+00
227	7.45	0.0000	0.5380	0.4620	0.3588	0.3493	0.0969	0.00E+00	0.00E+00	0.00E+00	0.00E+00
228	7.48	0.0000	0.5370	0.4630	0.3584	0.3479	0.0964	0.00E+00	0.00E+00	0.00E+00	0.00E+00
229	7.51	0.0000	0.5359	0.4641	0.3580	0.3464	0.0958	0.00E+00	0.00E+00	0.00E+00	0.00E+00
230	7.55	0.0000	0.5349	0.4651	0.3576	0.3449	0.0952	0.00E+00	0.00E+00	0.00E+00	0.00E+00
231	7.58	0.0000	0.5339	0.4661	0.3572	0.3435	0.0946	0.00E+00	0.00E+00	0.00E+00	0.00E+00
232	7.61	0.0000	0.5329	0.4671	0.3568	0.3421	0.0940	0.00E+00	0.00E+00	0.00E+00	0.00E+00
233	7.64	0.0000	0.5319	0.4681	0.3564	0.3406	0.0935	0.00E+00	0.00E+00	0.00E+00	0.00E+00
234	7.68	0.0000	0.5309	0.4691	0.3560	0.3392	0.0929	0.00E+00	0.00E+00	0.00E+00	0.00E+00
235	7.71	0.0000	0.5299	0.4701	0.3556	0.3378	0.0924	0.00E+00	0.00E+00	0.00E+00	0.00E+00
236	7.74	0.0000	0.5289	0.4711	0.3552	0.3364	0.0918	0.00E+00	0.00E+00	0.00E+00	0.00E+00
237	7.78	0.0000	0.5279	0.4721	0.3548	0.3351	0.0913	0.00E+00	0.00E+00	0.00E+00	0.00E+00
238	7.81	0.0000	0.5269	0.4731	0.3544	0.3337	0.0908	0.00E+00	0.00E+00	0.00E+00	0.00E+00
239	7.84	0.0000	0.5259	0.4741	0.3541	0.3323	0.0902	0.00E+00	0.00E+00	0.00E+00	0.00E+00
240	7.87	0.0000	0.5250	0.4750	0.3537	0.3310	0.0897	0.00E+00	0.00E+00	0.00E+00	0.00E+00
241	7.91	0.0000	0.5240	0.4760	0.3533	0.3296	0.0892	0.00E+00	0.00E+00	0.00E+00	0.00E+00
242	7.94	0.0000	0.5231	0.4769	0.3530	0.3283	0.0887	0.00E+00	0.00E+00	0.00E+00	0.00E+00
243	7.97	0.0000	0.5221	0.4779	0.3526	0.3270	0.0882	0.00E+00	0.00E+00	0.00E+00	0.00E+00
244	8.01	0.0000	0.5212	0.4788	0.3523	0.3256	0.0877	0.00E+00	0.00E+00	0.00E+00	0.00E+00
245	8.04	0.0000	0.5203	0.4797	0.3519	0.3243	0.0872	0.00E+00	0.00E+00	0.00E+00	0.00E+00
246	8.07	0.0000	0.5194	0.4806	0.3516	0.3230	0.0867	0.00E+00	0.00E+00	0.00E+00	0.00E+00
247	8.10	0.0000	0.5184	0.4816	0.3512	0.3218	0.0862	0.00E+00	0.00E+00	0.00E+00	0.00E+00
248	8.14	0.0000	0.5175	0.4825	0.3509	0.3205	0.0857	0.00E+00	0.00E+00	0.00E+00	0.00E+00
249	8.17	0.0000	0.5166	0.4834	0.3505	0.3192	0.0853	0.00E+00	0.00E+00	0.00E+00	0.00E+00
250	8.20	0.0000	0.5157	0.4843	0.3502	0.3179	0.0848	0.00E+00	0.00E+00	0.00E+00	0.00E+00
251	8.23	0.0000	0.5148	0.4852	0.3499	0.3167	0.0843	0.00E+00	0.00E+00	0.00E+00	0.00E+00
252	8.27	0.0000	0.5140	0.4860	0.3496	0.3154	0.0839	0.00E+00	0.00E+00	0.00E+00	0.00E+00
253	8.30	0.0000	0.5131	0.4869	0.3492	0.3142	0.0834	0.00E+00	0.00E+00	0.00E+00	0.00E+00
254	8.33	0.0000	0.5122	0.4878	0.3489	0.3130	0.0830	0.00E+00	0.00E+00	0.00E+00	0.00E+00
255	8.37	0.0000	0.5114	0.4886	0.3486	0.3119	0.0825	0.00E+00	0.00E+00	0.00E+00	0.00E+00
256	8.40	0.0000	0.5105	0.4895	0.3483	0.3106	0.0821	0.00E+00	0.00E+00	0.00E+00	0.00E+00
257	8.43	0.0000	0.5096	0.4904	0.3480	0.3094	0.0817	0.00E+00	0.00E+00	0.00E+00	0.00E+00
258	8.46	0.0000	0.5088	0.4912	0.3477	0.3082	0.0812	0.00E+00	0.00E+00	0.00E+00	0.00E+00
259	8.50	0.0000	0.5080	0.4920	0.3474	0.3070	0.0808	0.00E+00	0.00E+00	0.00E+00	0.00E+00
260	8.53	0.0000	0.5071	0.4929	0.3471	0.3058	0.0804	0.00E+00	0.00E+00	0.00E+00	0.00E+00
261	8.56	0.0000	0.5063	0.4937	0.3468	0.3046	0.0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00
262	8.60	0.0000	0.5055	0.4945	0.3465	0.3035	0.0795	0.00E+00	0.00E+00	0.00E+00	0.00E+00
263	8.63	0.0000	0.5046	0.4954	0.3462	0.3023	0.0791	0.00E+00	0.00E+00	0.00E+00	0.00E+00
264	8.66	0.0000	0.5038	0.4962	0.3459	0.3012	0.0787	0.00E+00	0.00E+00	0.00E+00	0.00E+00
265	8.69	0.0000	0.5030	0.4970	0.3456	0.3000	0.0783	0.00E+00	0.00E+00	0.00E+00	0.00E+00
266	8.73	0.0000	0.5022	0.4978	0.3453	0.2989	0.0779	0.00E+00	0.00E+00	0.00E+00	0.00E+00
267	8.76	0.0000	0.5014	0.4986	0.3450	0.2978	0.0775	0.00E+00	0.00E+00	0.00E+00	0.00E+00
268	8.79	0.0000	0.5006	0.4994	0.3448	0.2967	0.0771	0.00E+00	0.00E+00	0.00E+00	0.00E+00
269	8.83	0.0000	0.4998	0.5002	0.3445	0.2956	0.0767	0.00E+00	0.00E+00	0.00E+00	0.00E+00
270	8.86	0.0000	0.4991	0.5009	0.3442	0.2945	0.0764	0.00E+00	0.00E+00	0.00E+00	0.00E+00
271	8.89	0.0000	0.4983	0.5017	0.3439	0.2934	0.0760	0.00E+00	0.00E+00	0.00E+00	0.00E+00
272	8.92	0.0000	0.4975	0.5025	0.3437	0.2923	0.0756	0.00E+00	0.00E+00	0.00E+00	0.00E+00
273	8.96	0.0000	0.4968	0.5032	0.3434	0.2912	0.0752	0.00E+00	0.00E+00	0.00E+00	0.00E+00
274	8.99	0.0000	0.4960	0.5040	0.3432	0.2901	0.0749	0.00E+00	0.00E+00	0.00E+00	0.00E+00
275	9.02	0.0000	0.4952	0.5048	0.3429	0.2891	0.0745	0.00E+00	0.00E+00	0.00E+00	0.00E+00
276	9.06	0.0000	0.4945	0.5055	0.3426	0.2880	0.0741	0.00E+00	0.00E+00	0.00E+00	0.00E+00
277	9.09	0.0000	0.4937	0.5063	0.3424	0.2870	0.0738	0.00E+00	0.00E+00	0.00E+00	0.00E+00
278	9.12	0.0000	0.4930	0.5070	0.3421	0.2859	0.0734	0.00E+00	0.00E+00	0.00E+00	0.00E+00
279	9.15	0.0000	0.4923	0.5077	0.3419	0.2849	0.0731	0.00E+00	0.00E+00	0.00E+00	0.00E+00
280	9.19	0.0000	0.4915	0.5085	0.3416	0.2839	0.0727	0.00E+00	0.00E+00	0.00E+00	0.00E+00
281	9.22	0.0000	0.4908	0.5092	0.3414	0.2828	0.0724	0.00E+00	0.00E+00	0.00E+00	0.00E+00
282	9.25	0.0000	0.4901	0.5099	0.3411	0.2818	0.0720	0.00E+00	0.00E+00	0.00E+00	0.00E+00
283	9.28	0.0000	0.4894	0.5106	0.3409	0.2808	0.0717	0.00E+00	0.00E+00	0.00E+00	0.00E+00
284	9.32	0.000									

310	10.17	0.0000	0.4716	0.5284	0.3351	0.2558	0.0635	0.00E+00	0.00E+00	0.00E+00	0.00E+00
311	10.20	0.0000	0.4710	0.5290	0.3349	0.2550	0.0633	0.00E+00	0.00E+00	0.00E+00	0.00E+00
312	10.24	0.0000	0.4704	0.5296	0.3347	0.2541	0.0630	0.00E+00	0.00E+00	0.00E+00	0.00E+00
313	10.27	0.0000	0.4698	0.5302	0.3345	0.2533	0.0627	0.00E+00	0.00E+00	0.00E+00	0.00E+00
314	10.30	0.0000	0.4692	0.5308	0.3343	0.2524	0.0625	0.00E+00	0.00E+00	0.00E+00	0.00E+00
315	10.33	0.0000	0.4686	0.5314	0.3342	0.2516	0.0622	0.00E+00	0.00E+00	0.00E+00	0.00E+00
316	10.37	0.0000	0.4681	0.5319	0.3340	0.2508	0.0619	0.00E+00	0.00E+00	0.00E+00	0.00E+00
317	10.40	0.0000	0.4675	0.5325	0.3338	0.2500	0.0617	0.00E+00	0.00E+00	0.00E+00	0.00E+00
318	10.43	0.0000	0.4669	0.5331	0.3336	0.2492	0.0614	0.00E+00	0.00E+00	0.00E+00	0.00E+00
319	10.47	0.0000	0.4663	0.5337	0.3334	0.2484	0.0612	0.00E+00	0.00E+00	0.00E+00	0.00E+00
320	10.50	0.0000	0.4658	0.5342	0.3333	0.2475	0.0609	0.00E+00	0.00E+00	0.00E+00	0.00E+00
321	10.53	0.0000	0.4652	0.5348	0.3331	0.2467	0.0607	0.00E+00	0.00E+00	0.00E+00	0.00E+00
322	10.56	0.0000	0.4646	0.5354	0.3329	0.2460	0.0604	0.00E+00	0.00E+00	0.00E+00	0.00E+00
323	10.60	0.0000	0.4641	0.5359	0.3327	0.2452	0.0602	0.00E+00	0.00E+00	0.00E+00	0.00E+00
324	10.63	0.0000	0.4635	0.5365	0.3326	0.2444	0.0599	0.00E+00	0.00E+00	0.00E+00	0.00E+00
325	10.66	0.0000	0.4630	0.5370	0.3324	0.2436	0.0597	0.00E+00	0.00E+00	0.00E+00	0.00E+00
326	10.70	0.0000	0.4624	0.5376	0.3322	0.2428	0.0595	0.00E+00	0.00E+00	0.00E+00	0.00E+00
327	10.73	0.0000	0.4619	0.5381	0.3321	0.2420	0.0592	0.00E+00	0.00E+00	0.00E+00	0.00E+00
328	10.76	0.0000	0.4613	0.5387	0.3319	0.2413	0.0590	0.00E+00	0.00E+00	0.00E+00	0.00E+00
329	10.79	0.0000	0.4608	0.5392	0.3317	0.2405	0.0588	0.00E+00	0.00E+00	0.00E+00	0.00E+00
330	10.83	0.0000	0.4602	0.5398	0.3316	0.2398	0.0585	0.00E+00	0.00E+00	0.00E+00	0.00E+00
331	10.86	0.0000	0.4597	0.5403	0.3314	0.2390	0.0583	0.00E+00	0.00E+00	0.00E+00	0.00E+00
332	10.89	0.0000	0.4592	0.5408	0.3312	0.2383	0.0581	0.00E+00	0.00E+00	0.00E+00	0.00E+00
333	10.93	0.0000	0.4586	0.5414	0.3311	0.2375	0.0578	0.00E+00	0.00E+00	0.00E+00	0.00E+00
334	10.96	0.0000	0.4581	0.5419	0.3309	0.2368	0.0576	0.00E+00	0.00E+00	0.00E+00	0.00E+00
335	10.99	0.0000	0.4576	0.5424	0.3308	0.2360	0.0574	0.00E+00	0.00E+00	0.00E+00	0.00E+00
336	11.02	0.0000	0.4571	0.5429	0.3306	0.2353	0.0572	0.00E+00	0.00E+00	0.00E+00	0.00E+00
337	11.06	0.0000	0.4565	0.5435	0.3304	0.2346	0.0570	0.00E+00	0.00E+00	0.00E+00	0.00E+00
338	11.09	0.0000	0.4560	0.5440	0.3303	0.2338	0.0567	0.00E+00	0.00E+00	0.00E+00	0.00E+00
339	11.12	0.0000	0.4555	0.5445	0.3301	0.2331	0.0565	0.00E+00	0.00E+00	0.00E+00	0.00E+00
340	11.15	0.0000	0.4550	0.5450	0.3300	0.2324	0.0563	0.00E+00	0.00E+00	0.00E+00	0.00E+00
341	11.19	0.0000	0.4545	0.5455	0.3298	0.2317	0.0561	0.00E+00	0.00E+00	0.00E+00	0.00E+00
342	11.22	0.0000	0.4540	0.5460	0.3297	0.2310	0.0559	0.00E+00	0.00E+00	0.00E+00	0.00E+00
343	11.25	0.0000	0.4535	0.5465	0.3295	0.2303	0.0557	0.00E+00	0.00E+00	0.00E+00	0.00E+00
344	11.29	0.0000	0.4530	0.5470	0.3294	0.2296	0.0555	0.00E+00	0.00E+00	0.00E+00	0.00E+00
345	11.32	0.0000	0.4525	0.5475	0.3292	0.2289	0.0552	0.00E+00	0.00E+00	0.00E+00	0.00E+00
346	11.35	0.0000	0.4520	0.5480	0.3291	0.2282	0.0550	0.00E+00	0.00E+00	0.00E+00	0.00E+00
347	11.38	0.0000	0.4515	0.5485	0.3289	0.2275	0.0548	0.00E+00	0.00E+00	0.00E+00	0.00E+00
348	11.42	0.0000	0.4510	0.5490	0.3288	0.2268	0.0546	0.00E+00	0.00E+00	0.00E+00	0.00E+00
349	11.45	0.0000	0.4506	0.5494	0.3286	0.2261	0.0544	0.00E+00	0.00E+00	0.00E+00	0.00E+00
350	11.48	0.0000	0.4501	0.5499	0.3285	0.2255	0.0542	0.00E+00	0.00E+00	0.00E+00	0.00E+00
351	11.52	0.0000	0.4496	0.5504	0.3284	0.2248	0.0540	0.00E+00	0.00E+00	0.00E+00	0.00E+00
352	11.55	0.0000	0.4491	0.5509	0.3282	0.2241	0.0538	0.00E+00	0.00E+00	0.00E+00	0.00E+00
353	11.58	0.0000	0.4487	0.5513	0.3281	0.2235	0.0536	0.00E+00	0.00E+00	0.00E+00	0.00E+00
354	11.61	0.0000	0.4482	0.5518	0.3279	0.2228	0.0534	0.00E+00	0.00E+00	0.00E+00	0.00E+00
355	11.65	0.0000	0.4477	0.5523	0.3278	0.2221	0.0532	0.00E+00	0.00E+00	0.00E+00	0.00E+00
356	11.68	0.0000	0.4472	0.5528	0.3277	0.2215	0.0531	0.00E+00	0.00E+00	0.00E+00	0.00E+00
357	11.71	0.0000	0.4468	0.5532	0.3275	0.2208	0.0529	0.00E+00	0.00E+00	0.00E+00	0.00E+00
358	11.75	0.0000	0.4463	0.5537	0.3274	0.2202	0.0527	0.00E+00	0.00E+00	0.00E+00	0.00E+00
359	11.78	0.0000	0.4459	0.5541	0.3273	0.2195	0.0525	0.00E+00	0.00E+00	0.00E+00	0.00E+00
360	11.81	0.0000	0.4454	0.5546	0.3271	0.2189	0.0523	0.00E+00	0.00E+00	0.00E+00	0.00E+00
361	11.84	0.0000	0.4450	0.5550	0.3270	0.2183	0.0521	0.00E+00	0.00E+00	0.00E+00	0.00E+00
362	11.88	0.0000	0.4445	0.5555	0.3269	0.2176	0.0519	0.00E+00	0.00E+00	0.00E+00	0.00E+00
363	11.91	0.0000	0.4441	0.5559	0.3267	0.2170	0.0517	0.00E+00	0.00E+00	0.00E+00	0.00E+00
364	11.94	0.0000	0.4436	0.5564	0.3266	0.2164	0.0516	0.00E+00	0.00E+00	0.00E+00	0.00E+00
365	11.98	0.0000	0.4432	0.5568	0.3265	0.2157	0.0514	0.00E+00	0.00E+00	0.00E+00	0.00E+00
366	12.01	0.0000	0.4427	0.5573	0.3264	0.2151	0.0512	0.00E+00	0.00E+00	0.00E+00	0.00E+00
367	12.04	0.0000	0.4423	0.5577	0.3262	0.2145	0.0510	0.00E+00	0.00E+00	0.00E+00	0.00E+00
368	12.07	0.0000	0.4419	0.5581	0.3261	0.2139	0.0508	0.00E+00	0.00E+00	0.00E+00	0.00E+00
369	12.11	0.0000	0.4414	0.5586	0.3260	0.2133	0.0507	0.00E+00	0.00E+00	0.00E+00	0.00E+00
370	12.14	0.0000	0.4410	0.5590	0.3259	0.2127	0.0505	0.00E+00	0.00E+00	0.00E+00	0.00E+00
371	12.17	0.0000	0.4406	0.5594	0.3257	0.2121	0.0503	0.00E+00	0.00E+00	0.00E+00	0.00E+00
372	12.20	0.0000	0.4401	0.5599	0.3256	0.2114	0.0501	0.00E+00	0.00E+00	0.00E+00	0.00E+00
373	12.24	0.0000	0.4397	0.5603	0.3255	0.2109	0.0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00
374	12.27	0.0000	0.4393	0.5607	0.3254	0.2103	0.0498	0.00E+00	0.00E+00	0.00E+00	0.00E+00
375	12.30	0.0000	0.4389	0.5611	0.3252	0.2097	0.0496	0.00E+00	0.00E+00	0.00E+00	0.00E+00
376	12.34	0.0000	0.4384	0.5616	0.3251	0.2091	0.0495	0.00E+00	0.00E+00	0.00E+00	0.00E+00
377	12.37	0.0000	0.4380	0.5620	0.3250	0.2085	0.0493	0.00E+00	0.00E+00	0.00E+00	0.00E+00
378	12.40	0.0000	0.4376	0.5624	0.3249	0.2079	0.0491	0.00E+00	0.00E+00	0.00E+00	0.00E+00
379	12.43	0.0000	0.4372	0.5628	0.3248	0.2073	0.0490	0.00E+00	0.00E+00	0.00E+00	0.00E+00
380	12.47	0.0000	0.4368	0.5632	0.3246	0.2067	0.0488	0.00E+00	0.00E+00	0.00E+00	0.00E+00
381	12.50	0.0000	0.4364	0.5636	0.3245	0.2062	0.0486	0.00E+00	0.00E+00	0.00E+00	0.00E+00
382	12.53	0.0000	0.4360	0.5640	0.3244	0.2056	0.0485	0.00E+00	0.00E+00	0.00E+00	0.00E+00
383	12.57	0.0000	0.4356	0.5644	0.3243	0.2050	0.0483	0.00E+00	0.00E+00	0.00E+00	0.00E+00
384	12.60	0.0000	0.4352	0.5648	0.3242	0.2045	0.0482	0.00E+00	0.00E+00	0.00E+00	0.00E+00
385	12.63	0.0000	0.4348	0.5652	0.3241	0.2039	0.0480	0.00E+00	0.00E+00	0.00E+00	0.00E+00
386	12.66	0.0000	0.4344	0.5656	0.3240	0.2033	0.0478	0.00E+00	0.00E+00	0.00E+00	0.00E+00
387	12.70	0.0000	0.4340	0.5660	0.3239	0.2028	0.0477	0.00E+00	0.00E+00	0.00E+00	0.00E+00
388	12.73	0.0000	0.4336	0.5664	0.3237	0.2022	0.0475	0.00E+00	0.00E+00	0.00E+00	0.00E+00
389	12.76	0.0000	0.4332	0.5668	0.3236	0.2017	0.0474	0.00E+00	0.00E+00	0.00E+00	0.00E+00
390	12.80	0.0000	0.4328	0.5672	0.3235	0.2011	0.0472	0.00E+00	0.00E+00	0.00E+00	0.00E+00
391	12.83	0.0000	0.4324	0.5676	0.3234	0.2006	0.0471	0.00E+00	0.00E+00	0.00E+00	0.00E+00
392	12.86	0.0000	0.4320	0.5680	0.3233	0.2000	0.0469	0.00E+00	0.00E+00	0.00E+00	0.00E+00
393	12.89	0.0000	0.4316	0.5684	0.3232	0.1995	0.0468	0.00E+00	0.00E+00	0.00E+00	0.00E+00
394	12.93	0.0000	0.4313	0.5687	0.3231	0.1990	0.0466	0.00E+00	0.00E+00	0.00E+00	0.00E+00
395	12.96	0.0000	0.4309	0.5691	0.3230	0.1984	0.0465	0.00E+00	0.00E+00	0.00E+00	0.00E+00
396	12.99	0.0000	0.4305	0.5695	0.3229	0.1979	0.0463	0.00E+00	0.00E+00	0.00E+00	0.00E+00
397	13.02	0.0000	0.4301	0.5699	0.3228	0.1974	0.				

424	13.91	0.0000	0.4206	0.5794	0.3202	0.1840	0.0425	0.00E+00	0.00E+00	0.00E+00	0.00E+00
425	13.94	0.0000	0.4203	0.5797	0.3201	0.1835	0.0424	0.00E+00	0.00E+00	0.00E+00	0.00E+00
426	13.98	0.0000	0.4200	0.5800	0.3200	0.1831	0.0422	0.00E+00	0.00E+00	0.00E+00	0.00E+00
427	14.01	0.0000	0.4196	0.5804	0.3199	0.1826	0.0421	0.00E+00	0.00E+00	0.00E+00	0.00E+00
428	14.04	0.0000	0.4193	0.5807	0.3198	0.1821	0.0420	0.00E+00	0.00E+00	0.00E+00	0.00E+00
429	14.07	0.0000	0.4190	0.5810	0.3197	0.1817	0.0419	0.00E+00	0.00E+00	0.00E+00	0.00E+00
430	14.11	0.0000	0.4187	0.5813	0.3196	0.1812	0.0417	0.00E+00	0.00E+00	0.00E+00	0.00E+00
431	14.14	0.0000	0.4184	0.5816	0.3195	0.1808	0.0416	0.00E+00	0.00E+00	0.00E+00	0.00E+00
432	14.17	0.0000	0.4180	0.5820	0.3195	0.1803	0.0415	0.00E+00	0.00E+00	0.00E+00	0.00E+00
433	14.21	0.0000	0.4177	0.5823	0.3194	0.1799	0.0414	0.00E+00	0.00E+00	0.00E+00	0.00E+00
434	14.24	0.0000	0.4174	0.5826	0.3193	0.1794	0.0413	0.00E+00	0.00E+00	0.00E+00	0.00E+00
435	14.27	0.0000	0.4171	0.5829	0.3192	0.1790	0.0411	0.00E+00	0.00E+00	0.00E+00	0.00E+00
436	14.30	0.0000	0.4168	0.5832	0.3191	0.1786	0.0410	0.00E+00	0.00E+00	0.00E+00	0.00E+00
437	14.34	0.0000	0.4165	0.5835	0.3190	0.1781	0.0409	0.00E+00	0.00E+00	0.00E+00	0.00E+00
438	14.37	0.0000	0.4162	0.5838	0.3190	0.1777	0.0408	0.00E+00	0.00E+00	0.00E+00	0.00E+00
439	14.40	0.0000	0.4158	0.5842	0.3189	0.1773	0.0407	0.00E+00	0.00E+00	0.00E+00	0.00E+00
440	14.44	0.0000	0.4155	0.5845	0.3188	0.1768	0.0406	0.00E+00	0.00E+00	0.00E+00	0.00E+00
441	14.47	0.0000	0.4152	0.5848	0.3187	0.1764	0.0404	0.00E+00	0.00E+00	0.00E+00	0.00E+00
442	14.50	0.0000	0.4149	0.5851	0.3186	0.1760	0.0403	0.00E+00	0.00E+00	0.00E+00	0.00E+00
443	14.53	0.0000	0.4146	0.5854	0.3186	0.1755	0.0402	0.00E+00	0.00E+00	0.00E+00	0.00E+00
444	14.57	0.0000	0.4143	0.5857	0.3185	0.1751	0.0401	0.00E+00	0.00E+00	0.00E+00	0.00E+00
445	14.60	0.0000	0.4140	0.5860	0.3184	0.1747	0.0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00
446	14.63	0.0000	0.4137	0.5863	0.3183	0.1743	0.0399	0.00E+00	0.00E+00	0.00E+00	0.00E+00
447	14.67	0.0000	0.4134	0.5866	0.3182	0.1738	0.0398	0.00E+00	0.00E+00	0.00E+00	0.00E+00
448	14.70	0.0000	0.4131	0.5869	0.3182	0.1734	0.0397	0.00E+00	0.00E+00	0.00E+00	0.00E+00
449	14.73	0.0000	0.4128	0.5872	0.3181	0.1730	0.0395	0.00E+00	0.00E+00	0.00E+00	0.00E+00
450	14.76	0.0000	0.4125	0.5875	0.3180	0.1726	0.0394	0.00E+00	0.00E+00	0.00E+00	0.00E+00
451	14.80	0.0000	0.4123	0.5877	0.3179	0.1722	0.0393	0.00E+00	0.00E+00	0.00E+00	0.00E+00
452	14.83	0.0000	0.4120	0.5880	0.3178	0.1718	0.0392	0.00E+00	0.00E+00	0.00E+00	0.00E+00
453	14.86	0.0000	0.4117	0.5883	0.3178	0.1714	0.0391	0.00E+00	0.00E+00	0.00E+00	0.00E+00
454	14.89	0.0000	0.4114	0.5886	0.3177	0.1710	0.0390	0.00E+00	0.00E+00	0.00E+00	0.00E+00
455	14.93	0.0000	0.4111	0.5889	0.3176	0.1706	0.0389	0.00E+00	0.00E+00	0.00E+00	0.00E+00
456	14.96	0.0000	0.4108	0.5892	0.3175	0.1702	0.0388	0.00E+00	0.00E+00	0.00E+00	0.00E+00
457	14.99	0.0000	0.4105	0.5895	0.3175	0.1698	0.0387	0.00E+00	0.00E+00	0.00E+00	0.00E+00
458	15.03	0.0000	0.4102	0.5898	0.3174	0.1694	0.0386	0.00E+00	0.00E+00	0.00E+00	0.00E+00
459	15.06	0.0000	0.4100	0.5900	0.3173	0.1690	0.0385	0.00E+00	0.00E+00	0.00E+00	0.00E+00
460	15.09	0.0000	0.4097	0.5903	0.3172	0.1686	0.0384	0.00E+00	0.00E+00	0.00E+00	0.00E+00
461	15.12	0.0000	0.4094	0.5906	0.3172	0.1682	0.0383	0.00E+00	0.00E+00	0.00E+00	0.00E+00
462	15.16	0.0000	0.4091	0.5909	0.3171	0.1678	0.0382	0.00E+00	0.00E+00	0.00E+00	0.00E+00
463	15.19	0.0000	0.4088	0.5912	0.3170	0.1674	0.0381	0.00E+00	0.00E+00	0.00E+00	0.00E+00
464	15.22	0.0000	0.4086	0.5914	0.3169	0.1670	0.0380	0.00E+00	0.00E+00	0.00E+00	0.00E+00
465	15.26	0.0000	0.4083	0.5917	0.3169	0.1666	0.0379	0.00E+00	0.00E+00	0.00E+00	0.00E+00
466	15.29	0.0000	0.4080	0.5920	0.3168	0.1662	0.0378	0.00E+00	0.00E+00	0.00E+00	0.00E+00
467	15.32	0.0000	0.4078	0.5922	0.3167	0.1658	0.0377	0.00E+00	0.00E+00	0.00E+00	0.00E+00
468	15.35	0.0000	0.4075	0.5925	0.3167	0.1655	0.0376	0.00E+00	0.00E+00	0.00E+00	0.00E+00
469	15.39	0.0000	0.4072	0.5928	0.3166	0.1651	0.0375	0.00E+00	0.00E+00	0.00E+00	0.00E+00
470	15.42	0.0000	0.4069	0.5931	0.3165	0.1647	0.0374	0.00E+00	0.00E+00	0.00E+00	0.00E+00
471	15.45	0.0000	0.4067	0.5933	0.3165	0.1643	0.0373	0.00E+00	0.00E+00	0.00E+00	0.00E+00
472	15.49	0.0000	0.4064	0.5936	0.3164	0.1640	0.0372	0.00E+00	0.00E+00	0.00E+00	0.00E+00
473	15.52	0.0000	0.4061	0.5939	0.3163	0.1636	0.0371	0.00E+00	0.00E+00	0.00E+00	0.00E+00
474	15.55	0.0000	0.4059	0.5941	0.3162	0.1632	0.0370	0.00E+00	0.00E+00	0.00E+00	0.00E+00
475	15.58	0.0000	0.4056	0.5944	0.3162	0.1628	0.0369	0.00E+00	0.00E+00	0.00E+00	0.00E+00
476	15.62	0.0000	0.4054	0.5946	0.3161	0.1625	0.0368	0.00E+00	0.00E+00	0.00E+00	0.00E+00
477	15.65	0.0000	0.4051	0.5949	0.3160	0.1621	0.0367	0.00E+00	0.00E+00	0.00E+00	0.00E+00
478	15.68	0.0000	0.4048	0.5952	0.3160	0.1617	0.0366	0.00E+00	0.00E+00	0.00E+00	0.00E+00
479	15.72	0.0000	0.4046	0.5954	0.3159	0.1614	0.0365	0.00E+00	0.00E+00	0.00E+00	0.00E+00
480	15.75	0.0000	0.4043	0.5957	0.3158	0.1610	0.0364	0.00E+00	0.00E+00	0.00E+00	0.00E+00
481	15.78	0.0000	0.4041	0.5959	0.3158	0.1606	0.0363	0.00E+00	0.00E+00	0.00E+00	0.00E+00
482	15.81	0.0000	0.4038	0.5962	0.3157	0.1603	0.0362	0.00E+00	0.00E+00	0.00E+00	0.00E+00
483	15.85	0.0000	0.4035	0.5965	0.3156	0.1599	0.0361	0.00E+00	0.00E+00	0.00E+00	0.00E+00
484	15.88	0.0000	0.4033	0.5967	0.3156	0.1596	0.0360	0.00E+00	0.00E+00	0.00E+00	0.00E+00
485	15.91	0.0000	0.4030	0.5970	0.3155	0.1592	0.0359	0.00E+00	0.00E+00	0.00E+00	0.00E+00
486	15.94	0.0000	0.4028	0.5972	0.3154	0.1589	0.0358	0.00E+00	0.00E+00	0.00E+00	0.00E+00
487	15.98	0.0000	0.4025	0.5975	0.3154	0.1585	0.0357	0.00E+00	0.00E+00	0.00E+00	0.00E+00
488	16.01	0.0000	0.4023	0.5977	0.3153	0.1582	0.0357	0.00E+00	0.00E+00	0.00E+00	0.00E+00
489	16.04	0.0000	0.4020	0.5980	0.3153	0.1578	0.0356	0.00E+00	0.00E+00	0.00E+00	0.00E+00
490	16.08	0.0000	0.4018	0.5982	0.3152	0.1575	0.0355	0.00E+00	0.00E+00	0.00E+00	0.00E+00
491	16.11	0.0000	0.4015	0.5985	0.3151	0.1571	0.0354	0.00E+00	0.00E+00	0.00E+00	0.00E+00
492	16.14	0.0000	0.4013	0.5987	0.3151	0.1568	0.0353	0.00E+00	0.00E+00	0.00E+00	0.00E+00
493	16.17	0.0000	0.4011	0.5989	0.3150	0.1564	0.0352	0.00E+00	0.00E+00	0.00E+00	0.00E+00
494	16.21	0.0000	0.4008	0.5992	0.3149	0.1561	0.0351	0.00E+00	0.00E+00	0.00E+00	0.00E+00
495	16.24	0.0000	0.4006	0.5994	0.3149	0.1557	0.0350	0.00E+00	0.00E+00	0.00E+00	0.00E+00
496	16.27	0.0000	0.4003	0.5997	0.3148	0.1554	0.0349	0.00E+00	0.00E+00	0.00E+00	0.00E+00
497	16.31	0.0000	0.4001	0.5999	0.3148	0.1551	0.0349	0.00E+00	0.00E+00	0.00E+00	0.00E+00
498	16.34	0.0000	0.3999	0.6001	0.3147	0.1547	0.0348	0.00E+00	0.00E+00	0.00E+00	0.00E+00
499	16.37	0.0000	0.3996	0.6004	0.3146	0.1544	0.0347	0.00E+00	0.00E+00	0.00E+00	0.00E+00
500	16.40	0.0000	0.3994	0.6006	0.3146	0.1541	0.0346	0.00E+00	0.00E+00	0.00E+00	0.00E+00

LNAPL Mobility Assessment Spreadsheet was created by Robert J. Frank, R.G./PHX and is copyrighted to CH2M HILL ©2009

Figure 1
LNAPL Saturation vs. Elevation

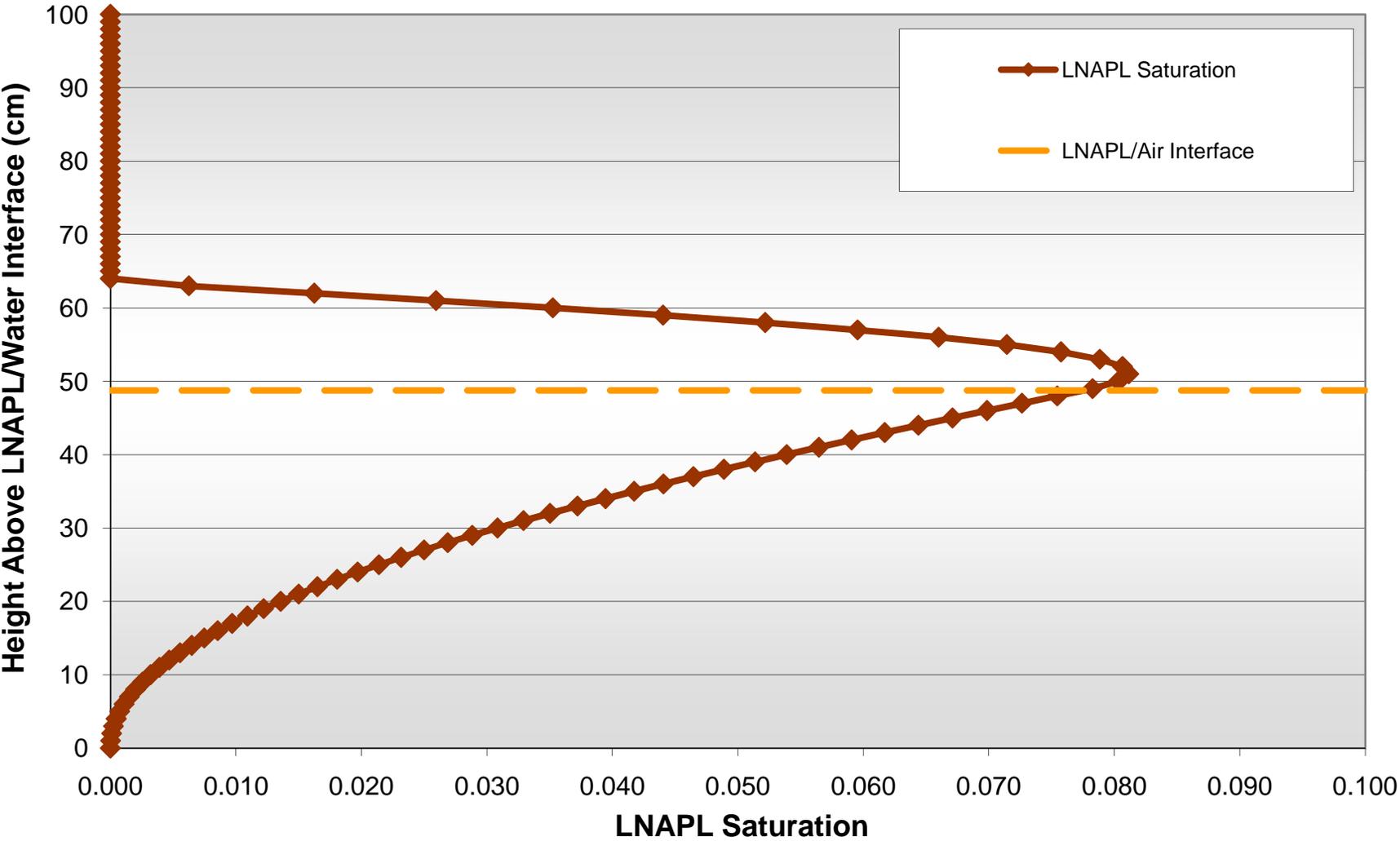


Figure 2
LNAPL Conductivity vs. Elevation

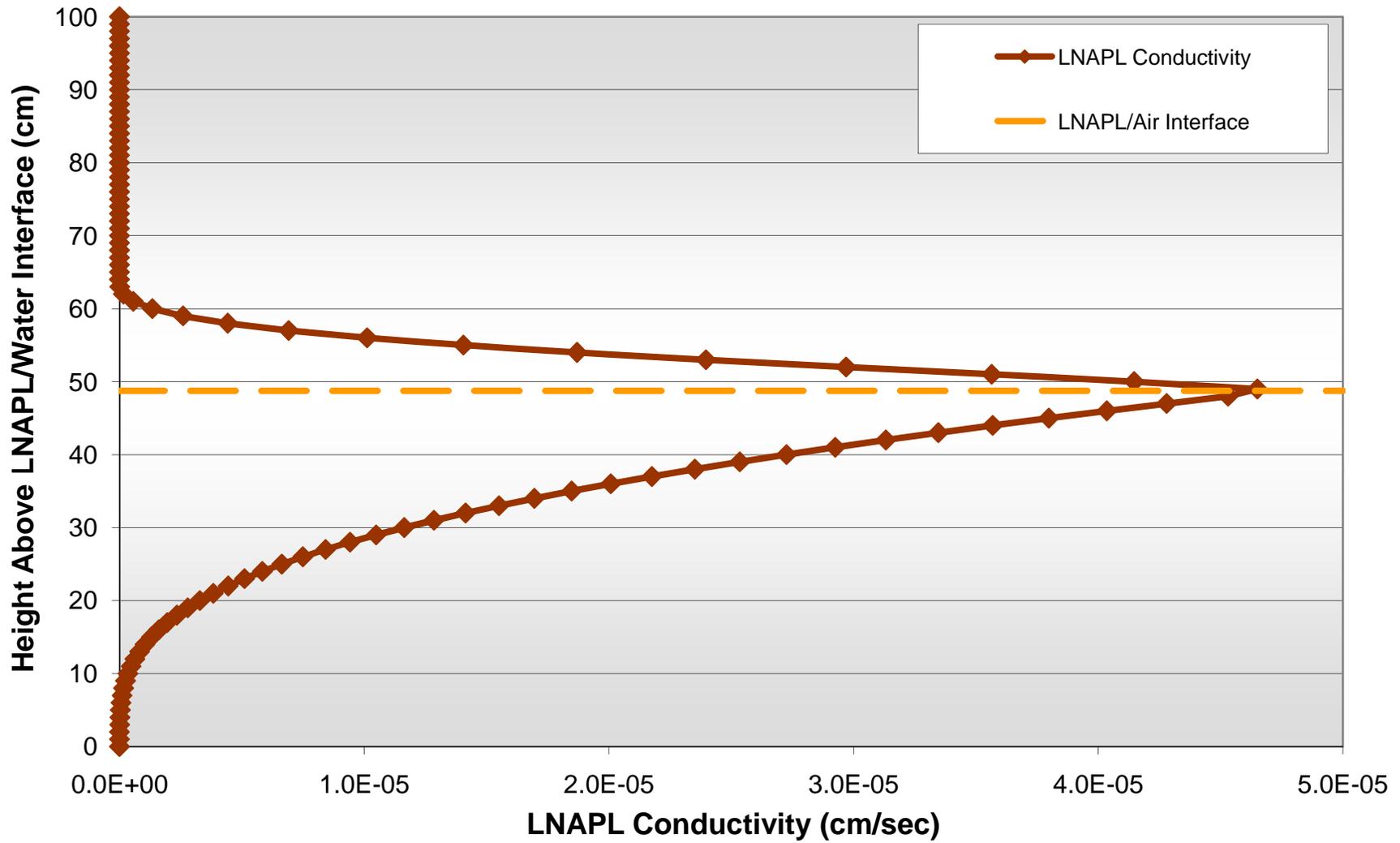
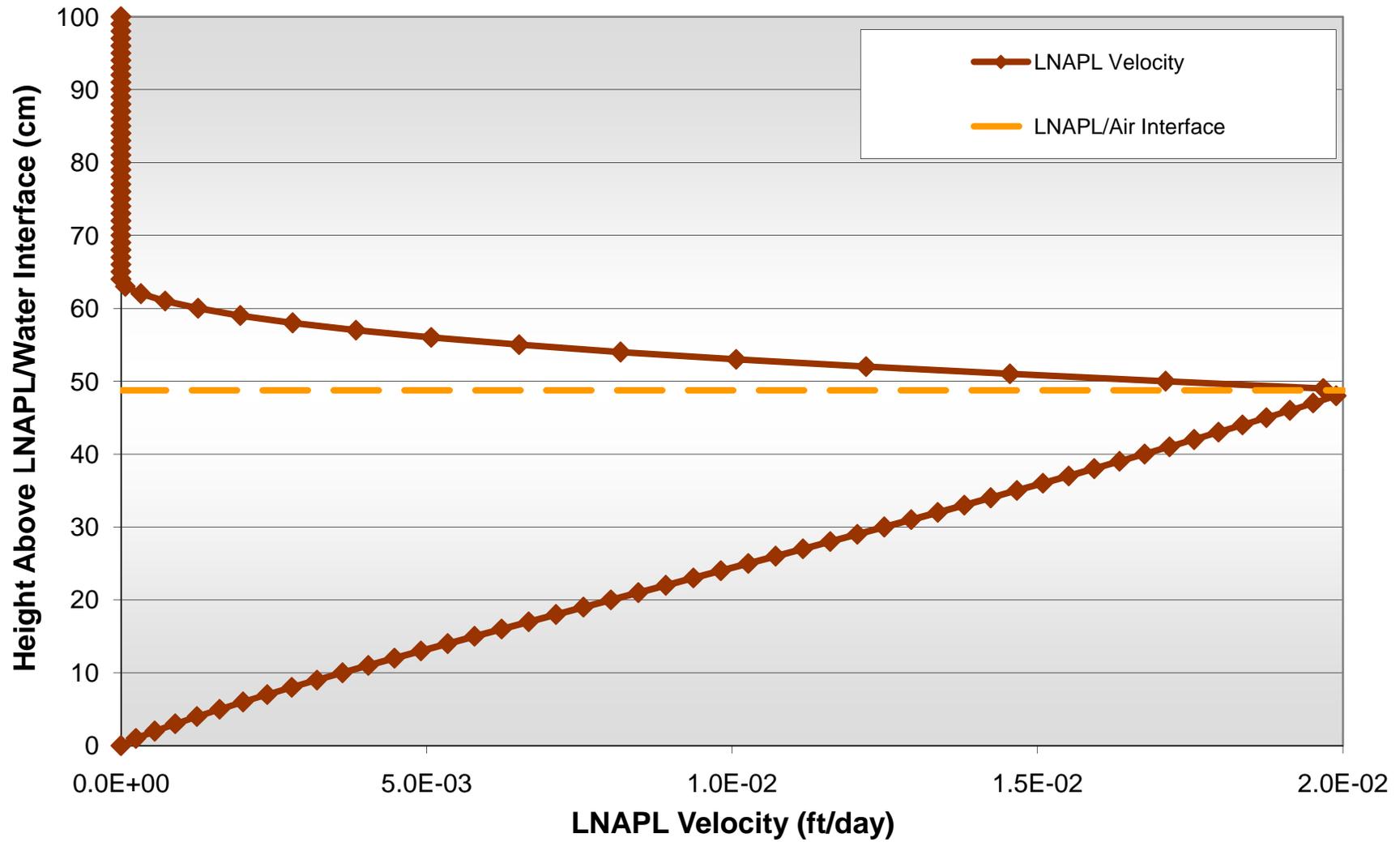


Figure 3
LNAPL Velocity vs. Elevation



**Attachment J3 - Environmental Weathering of Jet
Fuel NAPL Samples from the Honeywell 34th
Street Facility Technical Memorandum**



Memorandum

To: Darian Davies, R.G.

From: Gregory Douglas, Ph.D.

Cc: T. Palaia, R. Hinchee, R. Frank

Date: August 23, 2010

Subject: Environmental Weathering of Jet Fuel NAPL Samples from the Honeywell 34th Street Facility.

The following is memorandum concerning the degree of environmental weathering that has occurred within **non aqueous phase liquid (NAPL)** jet fuel samples collected at the Honeywell 34th Street facility and the northern portion of Phoenix Sky Harbor International Airport (Site) between April 1999 and November 2006. This report will focus on NAPL samples collected within or in the vicinity of the Area of Interest as indicated in Figure 1 of this report. Weathering as defined within this report includes evaporation, water washing and biodegradation. In summary, the samples within the Area of Interest are moderately to heavily weathered; it appears that more than 50 percent of the originally released free product mass has been removed by weathering processes.

Introduction

NAPL samples from the Site were analyzed for total and resolved hydrocarbons¹ by Torkelson Geochemistry, Inc. A listing of the samples, target compounds, and analytical results as provided by the laboratory are provided in Attachment 1. The samples were originally received by Trillium who subcontracted the analyses to Torkelson Geochemistry, Inc. Chain-of-custody information regarding the samples discussed in this report is provided in the many Site Forensic Analysis reports prepared by Trillium. For the purposes of this document, it is assumed that all chain-of-custody information as managed by Trillium is accurate. The Trillium reports also contain interpretive product allocation analyses² and the associated Torkelson Geochemistry, Inc. sample chromatograms.

¹ Resolved hydrocarbons are individual hydrocarbon peaks/compounds that can be identified and quantified by gas chromatography. Unresolved hydrocarbons represent the unresolved complex mixture (UCM) of hydrocarbons that is also present in some petroleum products and cannot be separated by gas chromatography (Figure 2).

² Product allocation was performed by Trillium to identify the relative percentages of JP-4 and JP-5/Jet-A fuels in the NAPL samples.

The objectives of this study were to determine:

- 1) If the NAPL samples from the Area of Interest exhibited chemical evidence of environmental weathering relative to known JP-4 and JP-5/Jet-A³ Site reference samples. Weathering is defined as loss of NAPL mass due to the processes of evaporation, water washing, and biodegradation.
- 2) The types and relative significance of each weathering process.
- 3) To the extent possible, with the existing data, quantify the amount of environmental weathering in the Site NAPL samples located within the Area of Interest.

Analytical Methods

The primary analytical method used by Torkelson Geochemistry, Inc. for the analysis of the NAPL samples was the whole oil carbon range method (C₄ – C₄₀) using gas chromatography/flame ionization spectrometry (GC/FID).⁴ This analytical method is used to identify product types with multiple boiling ranges (e.g., gasoline, diesel fuel, waste oil, Figure 2). For this analysis, individual resolved hydrocarbons were identified and peak areas⁵ determined relative to a compound retention time standard. In addition, the total area associated with resolved and unresolved hydrocarbons was also determined for each sample. This total GC/FID area response was corrected for the internal standards ortho-terphenyl and *n*-C₂₅ which were added to each sample by the laboratory for quality control purposes. Attachment 1 is a list of target compounds, abbreviations and integrated area results for the NAPL samples analyzed for this study. For interpretive purposes, each compound peak area is normalized to the total GC/FID area. Given that the GC/FID detector is non-specific, the response of equal masses of hydrocarbons are approximately the same, therefore the normalized response (compound peak area/total GC/FID area response) represents weight percent (wt percent).

Data Interpretation Methods.

Principal Component Analysis: Principal Component Analysis (PCA) is a data exploration tool designed to visually present chemical trends in large complex data sets. It is mathematically defined as an orthogonal linear transformation that transforms the data to a new coordinate system such that the greatest variance by any projection of the data comes to lie on the first coordinate (called the first principal component, Scores Factor #1), the second greatest variance on the second coordinate (Scores Factor #2), and so on. PCA is theoretically the optimum transform for a given data set in least square terms. PCA was performed on all of the NAPL samples using the Einsight© version 4.04 by InfoMetrix, Inc. A data matrix consisting of sample ID's and analyte results⁶ is pre-

³ Both JP-5 and Jet-A were reportedly used on this site, these are nearly identical fuels, JP-5 being the military version and Jet-A civilian. For the purpose of this memo, the fuels are indistinguishable.

⁴ Wigger J.W. and Torkelson B.E. (1997), Petroleum Hydrocarbon Fingerprinting - Numerical interpretation Development, International Petroleum Environmental Conference, San Antonio, Texas

⁵ The data is reported as peak area response for each target compound identified in Table 1. The target compounds are identified by their respective retention times relative to a retention time standard analyzed by the laboratory. Because the detector used for this method is GC/FID, the relative response factors for the target compounds and total GC/FID response are assumed to be the same.

⁶ Reported as percent of total GC/FID Area for each sample.

processed to minimize the effect of absolute concentration in the samples and to optimize the identification of hydrocarbon distribution similarities within the samples. The Scores function (Figure 3A) provides a visual analysis of how similar or dissimilar the samples are based on the associated chemical data. The Loadings function (Figure 3B) defines the chemical compounds that are responsible for the sample distribution. Each Scores Factor represents a percentage of the total variance present in the data. Within this data set, 95 percent of the variance within the data set could be explained by Factors 1 and 2. Examination of the Scores and Loadings distributions indicates that the sample separations along the Factor 1 axis (Figure 3A) are driven by sample weathering differences (Figure 3B) and the sample separations along the Factor 2 axis (Figure 3A) are driven by petroleum product differences (Figure 3B, e.g., JP-4 versus JP-5/Jet-A).

Within the fresh fuels, the most characteristic formulation difference between fresh JP-4 and JP-5/Jet-A is methylcyclohexane (MCH, JP-4) and *n*-C₁₁ and *n*-C₁₂ (JP-5/Jet-A). The PCA Loadings plot provides a clear separation between these two products and the compounds that define those differences (Figure 3B, Loadings Factor 2). The dominant weathering pathway for JP-5/Jet-A fuels is biodegradation and this process is defined within the PCA Loadings plot. As the fresh JP-5/Jet-A fuel weathers in the environment, other compounds become more dominant, such as the heavier more biodegradation resistant isoprenoid hydrocarbons (IP13⁷ through Pristane, Figure 3B), and the most biodegraded samples reflect a dominance of pristane⁸ (Figure 3B). The weathering pathway for JP-4 initially follows a different pathway because of the higher concentrations of more volatile (e.g., *n*-C₆) and soluble (e.g., benzene, toluene, ethylbenzene, and xylenes; collectively referred to as BTEX) hydrocarbons compared to JP-5/Jet-A. However, because JP-4 is a blend of these lighter hydrocarbons (approximately 70 percent) and kerosene (approximately 30 percent), once the most labile⁹ hydrocarbons are lost, the weathering pathway converges with the kerosene base JP-5/Jet-A fuel and biodegradation becomes the dominant weathering process (Figure 3B). This is why the two loadings fuel profiles converge within the most weathered NAPL samples (Figure 3B) at the Site.

Concentration Cross Plots (Evaporative and Water Washing). Concentration plots of key analytes were used to evaluate the type(s) of weathering occurring in the samples. For evaporative weathering,¹⁰ the volatile alkane *n*-C₆ was evaluated. The *n*-C₆ alkane is present at high concentrations in JP-4 (Figure 2, Figure 4) but only at trace levels in JP-5/Jet-A (Figure 2, Figure 5). Therefore, this indicator is most sensitive for JP-4 releases and relatively insensitive for JP-5/Jet-A because of the dominance of higher molecular weight, less volatile hydrocarbons in JP-5/Jet-A. 124-trimethylbenzene (124TMB) was selected as a water washing indicator because it is a moderately soluble aromatic hydrocarbon with only

⁷ IP stands for isoprenoid hydrocarbon. These branched chained hydrocarbons are highly resistant to biodegradation processes.

⁸ Pristane: branched chain biodegradation resistant hydrocarbon with similar vapor pressure and solubility as the easily biodegradable *n*-C₁₇. Therefore, changes in the proportion of *n*-C₁₇/Pristane in the environmental samples document biodegradation activity.

⁹ Labile means the most easily degraded compounds.

¹⁰ Evaporative weathering, also called volatilization, denotes the evaporative losses of the most volatile hydrocarbons in the NAPL sample.

moderate volatility¹¹ that is present in both product types at similar concentrations (see peak label at approximately 10 minutes on Figure 2). Selection of traditional water washing indices such as benzene and toluene would have been insensitive to JP-5/Jet-A because these products contain only trace amounts of these water soluble hydrocarbons. Therefore, a decrease in the 124TMB in the NAPL indicates water washing is occurring in both JP-4 and JP-5/Jet-A products observed at the Site. A cross plot of these two compounds provides a visual depiction of evaporation and water washing trends in the Site NAPL samples (Figure 6).

Biodegradation Ratio Plots.

JP-4 from the Site is roughly a blend of 70 percent gasoline range naphtha and 30 percent kerosene, whereas JP-5/Jet-A are kerosene-based products (Figure 2, Figure 5). These distillate fuels contain both highly biodegradable *n*-alkanes¹² (e.g., *n*-C13, *n*-C16) and biodegradation resistant isoprenoid (iso = branched) alkanes (e.g., IP15, IP18). The ratio of the *n*-alkane/iso-alkane compounds within the same boiling range represents a relative biodegradation ratio that is used to 1) document that biodegradation of the samples is occurring, and 2) compare the relative degree of biodegradation between samples at the Site. The degree of biodegradation in the Phase D samples is extensive relative to the JP-4 and JP-5/Jet-A reference fuels (Figure 7).

Percent NAPL Depletion/Lost Estimates. Percent depletion of the resolved hydrocarbons reported in this study can be estimated within a field NAPL sample by direct comparison with JP-4 (Figure 4) and JP-5/Jet-A reference standards (Figure 5). The PCA analysis and weathering ratio analyses combined with the direct comparison of GC/FID chromatograms and concentration bar plots was used to identify the least weathered NAPL samples in the data set. This analysis resulted in NAPL sample ASE-111B-5C2 being the least weathered JP-4 sample and NAPL sample ASE-67A-5C3 being the least weathered JP-5/Jet-A sample. Sample ASE-111B-5C2 was later identified as a JP-4 product sample collected directly from the Honeywell tank farm in 2005. These two samples (ASE-111B-5C2 and ASE-67A-5C3) were subsequently utilized to calculate the range of percent weathering in the remaining NAPL samples.

Given that the biodegradation pathways for JP-4 and JP-5/Jet-A have similar endpoints (Figure 3)¹³ and NAPL sample composition was not defined as part of this effort, both product reference samples were utilized to bracket the percent weathering measurements. For this analysis, the NAPL field sample is normalized to the most refractory compounds in the sample (IP13, IP-14, and IP15) relative to the respective source products. The percent

¹¹ The fact that 124TMB is less volatile than the lighter hydrocarbons such as BTEX, yet has significant water solubility, provides a chemical tool to observe the relative degree of water washing between NAPL samples with only minor influences from evaporative losses.

¹² *n*-alkanes represent fully saturated straight chained hydrocarbons that are easily biodegraded in the environment.

¹³ JP-4 is a rough blend of gasoline range naphtha (approximately 70 percent) and kerosene approximately (30 percent). As the lighter and more water soluble hydrocarbons in the JP-4 (e.g., C4-C8 hydrocarbons) are lost due to environmental weathering, the JP-4 becomes more kerosene like (C9-C17 hydrocarbons).

lost value represents the relative difference in hydrocarbon concentration between the normalized weathered NAPL sample and un-weathered source product (JP-4 and JP-5/Jet-A).

It should be noted that the GC/FID methods used by Torkelson Geochemistry, Inc. do not quantify all of the resolved hydrocarbon present in the two fuels. However, given that the compounds that are measured represent; 1) the full carbon range (e.g., C₄-C₂₀) of the fuels, and 2) the types of hydrocarbons (*n*-alkanes, isoprenoids, aromatics) in the fuels, the percent mass loss estimate is a reasonable surrogate for the total mass loss in the samples and provide a reasonable basis from which to monitor further NAPL hydrocarbon weathering at the Site. Clearly, these estimates demonstrate that substantial NAPL weathering has occurred at the Site. The results of this analysis for the Area of Interest and proximal samples are presented in Figures 8 through 15.

Results and Discussion

As discussed above, JP-4 (Figure 4) is a lighter more volatile fuel than JP-5/Jet-A which are kerosene based products (Figure 2, Figure 5). As a result of their product chemistry, JP-4 is more likely to be influenced by evaporative weathering (volatilization) than JP-5/Jet-A. The PCA analysis Scores Plot for all of the NAPL samples analyzed by Torkelson Geochemistry, Inc. (Figure 3A) clearly identifies and separates the least weathered JP-4 sample as ASE-111B-5C2. The resolution between JP-5/Jet-A fuels was not as refined; additional analyses of the raw data (bar plots, diagnostic ratio plots) were required to determine that NAPL sample ASE-67A-5C3 represented the least weathered JP-5/Jet-A sample at the Site (discussed above). For the purpose of weathering calculations, absent a dispensed source product sample (e.g., ASE-111B-5C2), the least weathered NAPL sample is used as the un-weathered reference. Given that the reference field sample is likely to have weathered to some degree, the percentage NAPL depletion estimates are considered conservative given that they will underestimate the degree of weathering in the sample.¹⁴

The distribution of *n*-alkanes *n*-C₁₁ through *n*-C₁₆) and iso-alkanes (IP13, IP14, IP15, IP16, Pristane) from the PCA analysis (Scores Plot Figure 3B) and the biodegradation weathering cross plot (Figure 7) document that biodegradation is the primary weathering pathway for the JP-5/Jet-A fraction of the NAPL. JP-4 weathering *initially* follows a different pathway because of the higher concentrations of more volatile (e.g., *n*-C₆) and soluble (e.g., BTEX) hydrocarbons compared to JP-5/Jet-A. The distribution of methylcyclohexane (MCH), light alkanes (e.g., *n*-C₆, *n*-C₇, *n*-C₈, *n*-C₉) and soluble aromatics toluene (Tol), ethylbenzene (EB), ortho-xylene (o-xyl), and meta/para-xylene (m,p-xyl) compounds in the PCA Scores plot document the dominance of evaporative¹⁵ and water washing weathering pathways within the JP-4 fraction of the NAPL (Figure 3B)¹⁶. Specifically, NAPL compositional differences between the JP-4 reference standard and the most degraded NAPL samples (Figure 3A) are driven by a relative reduction in the lighter and more soluble hydrocarbons and represent losses due to evaporation and water washing. This observation is confirmed by the

¹⁴ The assumption is made that the reference and weathered NAPL samples are from similar sources and initially had similar hydrocarbon distributions.

¹⁵ Volatilization

¹⁶ Confirmed by direct analysis of the GC/FID chromatograms and concentration bar plots.

weathering analysis plot in Figure 6 where Phased D samples are clearly heavily impacted by evaporative weathering (low *n*-C₆ wt% relative to JP-4) and water washing (low 124 TMB wt% relative to JP-4).

Because JP-4 is a blend of lighter gasoline range hydrocarbons (approximately 70 percent) and kerosene (approximately 30 percent), once the most labile hydrocarbons are lost, the weathering pathway converges with the kerosene base JP-5/Jet-A fuel and biodegradation becomes the dominant weathering process (Figure 3B). This observation as derived from the PCA analysis is confirmed in Figure 7, where a cross plot of two biodegradation indices (as discussed above) document the extensive amounts of biodegradation that have occurred in the Phase D samples (e.g., ASE-107A-6D1) relative to other field NAPL samples and the reference fuels.

These results are supported by the basic chemistry of the two products and the weathering profiles for the entire NAPL data set as presented in Figures 6 and Figure 7. The percent depletion, or mass lost for the Area of Interest samples is provided in Table 2. These results are based on the available NAPL hydrocarbon data as provided by Torkelson Geochemistry, Inc. relative to the fuel reference standards.

Table 2. Percent NAPL Mass Lost Relative to JP-4 and JP-5/Jet-A		
Sample ID	Mass Lost Relative to JP-4 (percent)	Mass Lost Relative to JP-5/Jet-A (percent)
ASE-96A-401	89	75
ASE-107A-6D1	96	73
ASE-102A-5A2	90	73
ASE-90A-4B2	89	73
ASE-90A-401	85	65
ASE-89A-4B2	84	61
ASE-92A-4B2	83	59
ASE-64A	92	76
Samples ASE-96A, ASE-107A, and ASE-102A are within Phase D.		
Samples ASE-90A, ASE-89A, ASE-92A, ASE-64A are proximal and north of Phase D.		

Conclusions

Based on the above analysis, the following conclusions are determined:

- Principal component analysis of the available hydrocarbon data indicates the presence of JP-4 and JP-5/Jet-A products at the Site.
- The primary weathering pathways for the JP-4 fraction of the NAPL is evaporative weathering and water washing, with secondary amounts of biodegradation.
- The primary weathering pathway for the JP-5/Jet-A fraction of the NAPL is biodegradation, with secondary amounts of water washing and evaporation.
- Based on the JP-5/Jet A reference fuel, between about 59 and 76 percent of the JP-5/Jet-A NAPL mass has been lost to weathering within the Area of Interest.
- Based on the JP-4 reference fuel, between about 83 and 96 percent of the JP-4 NAPL mass has been lost to weathering within the Area of Interest.
- Based on the direct examination of the NAPL gas chromatograms, PCA analysis, evaporation, water washing, and biodegradation cross plots, and the percent NAPL mass lost estimates, the NAPL samples within the Area of Interest are moderately to severely weathered.
- Given the extensive losses of the volatile and soluble hydrocarbons in the Phase D NAPL samples, the primary weathering pathway for the remaining NAPL hydrocarbons will be most likely be biodegradation.

Attachments:

Attachment I – Torkelson Geochemistry, Inc. Data

Attachment II - Figures

Attachment 1
Torkelson Geochemistry, Inc. Data

Torkelson Data Tables

	JP-4 REF	JP-5 Jet-A REF							
TGI Job #	05092	05110	99053	99053	99053	99053	99053	99053	99053
Sample ID>>>>	ASE-111B-5C2	ASE-67A-5C3	ASE-19AB	ASE-20AB	PL-508B ²	ASE-19A	ASE-19A 6-1-99	ASE-20A 6-1-99	
type	product	product	product	product	product	product	product	product	product
GC File Name	111b-5c2	67a-5c3	Ase19ab	Ase20ab.2	PL508b	ase-19a	Ase19a-2	Ase20a-2	
Date Collected>	7/7/2005	7/26/2005	4/12/1999	4/12/1999	4/12/1999	5/14/1999	6/1/1999	6/1/1999	
Compound	Abbreviation								
Butane	nC4	3635	76	83	1420	1640	68	57	1243
Isopentane	iC5	38708	755	861	3916	4140	655	514	3306
Pentane	nC5	34333	466	1634	5844	6330	1250	1001	4908
2 Methylpentane	2M Pentane	43245	0	3686	10928	11277	2816	2358	8922
Hexane	nC6	60730	822	5770	19514	20176	4366	3683	15740
Olefin a	olefin a	403	0	0	0	0	0	0	0
Olefin b	olefin b	0	0	0	0	0	0	0	0
Olefin c	olefin c	660	0	0	0	0	0	0	0
2,4 Dimethylpentane	2,4 DMP	5048	161	588	2351	2426	464	453	1991
Benzene	Bnz	29586	0	947	1583	1623	881	628	962
2,2,4 Trimethylpentane	Isooctane	19957	211	702	2715	2802	1043	508	2738
Heptane	nC7	46413	2502	9574	40451	41757	7738	7493	31477
Methylcyclohexane	MCHX	121677	5287	21144	69255	71702	16099	18151	52572
Toluene	Tol	112223	137	866	5060	5250	675	572	3775
Octane	nC8	62469	9773	7764	48886	50690	5871	5838	37125
Ethylbenzene	EB	33780	9729	6180	13575	14204	4426	4963	9713
meta/para-Xylene	m/p-xyl	72319	7560	2186	12727	13218	1474	1527	6985
ortho-Xylene	o-xyl	35301	8404	2644	9766	10183	2103	2390	6546
Nonane	nC9	108838	41137	14455	72010	74962	11119	12343	55016
1,2,4 Trimethylbenzene	1,2,4 TMB	46732	38099	21495	38239	39805	15611	16925	27446
Decane	nC10	107309	71738	29331	100360	104631	22579	25771	76571
Undecane	nC11	75297	84144	82237	189958	198648	62897	73224	145536
Naphthalene	Naph	15890	15832	19625	26960	28289	15901	31326	20493
Dodecane	nC12	62567	64274	88773	169138	178166	67702	79591	129866
C13 Isoprenoid	IP13	15076	23144	53899	69991	73185	40179	48169	50224
C14 Isoprenoid	IP14	12050	12472	41625	55654	54649	34944	42249	42608
Tridecane	nC13	43700	58365	83150	152427	155425	64768	76426	115977
Farnasane (C15 Isoreneid)	IP15	3676	11830	47258	49854	51506	36290	42367	37539
Tetradecane	nC14	11333	43535	62941	100645	106122	46709	51428	76606
C16 Isoprenoid	IP16	1018	12596	43450	38495	40467	32586	36611	29208
Pentadecane	nC15	1459	28032	36539	51374	53866	25633	25873	42533
Hexadecane	nC16	234	11689	19025	19443	20521	13045	9677	14676
Norpristane (C18 Isoprenoid)	IP18	51	2931	22982	8026	8510	14637	1134	5687
Heptadecane	nC17	0	3201	14076	6554	6932	9509	5941	5309
Pristane	Pristane	51	1825	29067	7231	7610	19593	15677	5055
Octadecane	nC18	0	692	10049	3078	3234	6922	4463	2333
Phytane	Phytane	59	384	14801	2129	2229	10240	6700	1600
Ortho-Terphenyl (IS) ¹	o-terphenyl	37697	30354	63986	60010	67720	43488	47659	43241
Nonadecane	nC19	103	409	6368	1887	2055	5010	3116	1467
Eicosane	nC20	0	204	1828	917	945	1374	881	919
Heneicosane	nC21	0	153	852	746	758	591	498	511
Docosane	nC22	0	35	430	356	319	255	181	255
Tricosane	nC23	0	99	213	211	205	125	113	184
Tetracosane	nC24	39	96	114	154	134	77	65	125
Pentacosane (IS)	nC25	22685	18798	53239	58571	54763	37616	41656	38084
Hexacosane	nC26	0	64	61	83	64	0	51	110
Heptacosane	nC27	0	0	71	74	55	93	97	133
Octacosane	nC28	0	0	79	83	136	72	149	68
Nonacosane	nC29	0	0	0	60	261	52	94	101
Triacontane	nC30	0	0	0	0	0	0	0	0
Hentriacontane	nC31	0	0	0	0	0	0	0	0
Dotriacontane	nC32	0	0	0	0	0	0	0	65
Tritriacontane	nC33	0	0	0	0	0	0	0	0
Tetraatriacontane	nC34	0	0	0	0	0	0	0	0
Pentatriacontane	nC35	0	0	0	0	0	0	0	0
Hexatriacontane	nC36	0	0	0	773	0	280	0	608
Hepatriacontane	nC37	0	0	0	0	0	0	0	0
Octatriacontane	nC38	0	0	0	0	0	0	0	0
Nonatriacontane	nC39	0	189	96	95	0	0	0	0
Tetracontane	nC40	44	82	0	96	0	53	0	0
Total GC Area Response	Total GC Area	3345363	2795785	6541584	6243823	6577429	4799217	4655567	4766328

1. o-terphenyl and n-C25 are internal standards that are added by the laboratory for quality control purposes.
2. PL-508Bis a duplicate sample of ASE-20A 4/12/1999

Torkelson Data Tables

	TGI Job #	00095	00159	00207	01193	01193	02009	02009	02009
Sample ID	ASE-37A	ASE-38A	ASE-20AFS	ASE-51AFP	ASE-52AFP	ASE-51A	ASE-52A	ASE-53A	
type	product	product	product	product	product	product	product	product	
GC File Name	Ase37a	Ase-38a	Ase20afs	Ase51a	Ase52a	Ase-51a	Ase-52a	Ase-53a	
Date Collected	6/1/2000	9/12/2000	12/5/2000	10/1/2001	10/1/2001	1/7/2002	1/7/2002	1/7/2002	
Compound	Abbreviation								
Butane	nC4	106	80	200	25	63	27	117	178
Isopentane	iC5	2046	1519	1688	217	529	179	855	4864
Pentane	nC5	1830	963	2638	296	476	258	752	7324
2 Methylpentane	2M Pentane	5225	4596	6155	617	376	521	429	17833
Hexane	nC6	5114	5595	9254	720	433	541	447	30254
Olefin a	olefin a	0	0	0	0	0	0	0	95
Olefin b	olefin b	0	0	0	0	0	0	0	69
Olefin c	olefin c	0	0	0	0	0	0	0	73
2,4 Dimethylpentane	2,4 DMP	2374	3085	1434	145	71	125	67	3838
Benzene	Bnz	1771	3462	674	79	0	64	21	15432
2,2,4 Trimethylpentane	Isocotane	856	797	2010	263	120	224	117	1311
Heptane	nC7	20203	20870	20759	3365	1919	2540	1842	58839
Methylcyclohexane	MCHX	64292	108892	40747	9183	7548	7335	7124	131747
Toluene	Tol	4684	1923	3324	212	96	166	161	27117
Octane	nC8	63227	34745	24035	3632	3268	1589	2594	79141
Ethylbenzene	EB	23328	20722	9160	3415	1708	2860	2234	26232
meta/para-Xylene	m/p-xyl	38597	20097	8779	630	3845	189	3601	53958
ortho-Xylene	o-xyl	27404	15870	4568	1982	2326	1581	2155	27101
Nonane	nC9	101970	48818	31529	7837	13141	6956	14262	91764
1,2,4 Trimethylbenzene	1,2,4 TMB	51464	43531	22328	8223	28049	6666	25703	32406
Decane	nC10	87290	35699	48188	24228	28542	18692	27490	85221
Undecane	nC11	100458	57446	105203	96852	99251	81412	97979	86141
Naphthalene	Naph	21132	18311	24044	28049	15660	27469	19727	22139
Dodecane	nC12	84285	65419	91398	130769	116803	99887	128274	87634
C13 Isoprenoid	IP13	57693	47387	40702	69505	55380	47800	68255	37352
C14 Isoprenoid	IP14	50805	34410	37832	56095	39550	34853	53885	23020
Tridecane	nC13	61124	27811	69741	107784	102187	72661	124074	45410
Farnasane (C15 Isoprenoid)	IP15	45217	29426	31532	60226	38307	35687	46070	17538
Tetradecane	nC14	49685	24014	58736	66357	76702	44531	86824	25789
C16 Isoprenoid	IP16	32137	23734	24315	54023	33643	38177	44938	14792
Pentadecane	nC15	17888	11741	24846	37170	35583	28384	50087	11897
Hexadecane	nC16	6775	4241	9245	14036	15138	8829	19278	4938
Norpristane (C18 Isoprenoid)	IP18	4795	4708	6275	10946	5890	8941	7721	2409
Heptadecane	nC17	2104	1503	3495	3141	4019	2406	4865	1370
Pristane	Pristane	3903	2934	4711	7677	3996	6093	5228	1778
Octadecane	nC18	1092	683	1681	776	1203	581	1633	491
Phytane	Phytane	903	813	1606	1460	1072	1161	1411	436
Ortho-Terphenyl (IS) ¹	o-terphenyl	63459	57864	60791	49514	40938	35418	41123	45862
Nonadecane	nC19	761	608	1580	321	602	0	699	383
Eicosane	nC20	337	264	612	51	190	0	210	143
Heneicosane	nC21	228	277	489	0	795	0	169	125
Docosane	nC22	142	156	207	0	89	0	104	67
Tricosane	nC23	116	210	175	0	79	0	113	48
Tetracosane	nC24	120	235	182	0	0	28	75	33
Pentacosane (IS) ¹	nC25	54368	49142	44931	35948	29382	27654	30169	32180
Hexacosane	nC26	145	247	281	0	0	0	0	0
Heptacosane	nC27	113	194	181	138	187	0	173	0
Octacosane	nC28	264	103	90	0	143	125	171	0
Nonacosane	nC29	56	0	145	66	546	0	572	0
Triacontane	nC30	0	114	0	0	964	0	1025	71
Hentriacontane	nC31	0	0	0	0	0	0	0	0
Dotriacontane	nC32	88	62	0	0	788	0	812	0
Tritriacontane	nC33	0	0	0	0	798	0	840	0
Tetraatriacontane	nC34	84	0	0	0	446	0	488	0
Pentatriacontane	nC35	0	83	0	0	0	0	0	0
Hexatriacontane	nC36	0	0	0	398	53	0	149	0
Heptatriacontane	nC37	0	0	0	0	278	0	248	0
Octatriacontane	nC38	0	0	0	0	0	0	0	0
Nonatriacontane	nC39	85	0	0	0	0	32	48	0
Tetracontane	nC40	0	0	0	0	0	55	46	0
Total GC Area Response	Total GC Area	6001380	4453140	4002528	4393784	3914685	3471088	3786194	4575840

1. *o*-terphenyl and n-C25 are internal standards that are added by the laboratory for quality control purposes.

Torkelson Data Tables

	TGI Job #	02009	02009	02038	02038	02135	02135	03013	03025
Sample ID	ASE-56A	ASE-57A	ASE-39A	PL101A	ASE-67A	ASE-68A	ASE-64A	ASE-41	
type	product	product	product	product	product	product	product	product	
GC File Name	Ase-56a	ase-57a	Ase39a	Pl101a.2	Ase67a	Ase68a	Ase64a	Ase-41a	
Date Collected	1/7/2002	1/7/2002	1/7/2002	2/7/2002	6/26/2002	6/26/2002	1/24/2003	2/6/2003	
Compound	Abbreviation								
Butane	nC4	636	58	51	0	29	520	0	288
Isopentane	iC5	3613	336	2277	252	272	3397	106	1797
Pentane	nC5	4187	195	3141	0	186	3844	154	2621
2 Methylpentane	2M Pentane	14047	1382	16047	2240	376	7493	1453	6700
Hexane	nC6	19741	156	25507	2306	414	8144	1667	10416
Olefin a	olefin a	66	0	0	0	28	0	0	0
Olefin b	olefin b	90	0	0	0	0	0	0	0
Olefin c	olefin c	0	0	206	0	0	19	36	36
2,4 Dimethylpentane	2,4 DMP	4012	730	4429	1754	138	1496	616	1700
Benzene	Bnz	788	531	10742	497	355	436	119	787
2,2,4 Trimethylpentane	Isooctane	8301	644	1803	780	316	606	783	2400
Heptane	nC7	32567	718	62455	13203	1446	18393	5712	24728
Methylcyclohexane	MCHX	64010	32597	164730	75551	7291	52171	20378	45868
Toluene	Tol	5387	624	10384	792	739	747	617	1557
Octane	nC8	34877	575	90971	28202	3444	21740	8546	31664
Ethylbenzene	EB	9293	4256	34862	13706	2790	9417	5345	6997
meta/para-Xylene	m/p-xyl	6497	335	60746	12825	498	2513	363	3725
ortho-Xylene	o-xyl	4601	3079	25022	13882	2255	1596	3138	3729
Nonane	nC9	52941	10588	100629	37993	8173	25159	15700	48863
1,2,4 Trimethylbenzene	1,2,4 TMB	24019	8736	36317	19730	12048	22908	7684	21871
Decane	nC10	68706	15364	81927	32497	21334	39374	15561	56938
Undecane	nC11	127375	49151	69982	39948	70416	83148	40539	124008
Naphthalene	Naph	11853	2998	18129	13992	23227	24391	14685	26058
Dodecane	nC12	117299	69273	64654	42547	80215	80992	46447	104919
C13 Isoprenoid	IP13	49073	47615	30955	36752	52172	43109	51061	40900
C14 Isoprenoid	IP14	39396	36111	19831	26549	50754	43347	49802	33369
Tridecane	nC13	100048	54405	23943	23648	63010	65224	42515	69673
Farnasane (C15 Isoprenoid)	IP15	30188	34395	12490	27619	48071	35522	49197	27247
Tetradecane	nC14	64717	34270	12502	19126	50471	48688	47540	51986
C16 Isoprenoid	IP16	26012	32328	8987	20818	38725	26208	37932	18551
Pentadecane	nC15	31392	14393	4738	9478	26728	21861	14045	18398
Hexadecane	nC16	12016	5351	1701	3226	11376	8686	8211	8021
Norpristane (C18 Isoprenoid)	IP18	4957	7553	1476	3354	7760	5510	8867	5074
Heptadecane	nC17	3944	1606	508	984	2765	2529	1917	2243
Pristane	Pristane	4096	5880	1213	2553	5635	4407	6305	3829
Octadecane	nC18	1701	453	148	323	823	857	656	984
Phytane	Phytane	1388	1259	305	593	1004	969	1267	1190
Ortho-Terphenyl (IS) ¹	o-terphenyl	40978	37296	47112	39514	33680	44231	42003	40107
Nonadecane	nC19	1285	0	73	197	490	537	369	785
Eicosane	nC20	590	47	0	130	157	153	95	278
Heneicosane	nC21	278	0	0	93	217	212	33	115
Docosane	nC22	187	0	0	29	71	60	43	81
Tricosane	nC23	119	0	0	25	82	54	66	50
Tetracosane	nC24	94	27	31	39	177	82	117	35
Pentacosane (IS) ¹	nC25	27671	26251	31536	28146	24909	30009	30289	27313
Hexacosane	nC26	0	0	0	0	212	92	166	0
Heptacosane	nC27	124	0	0	0	128	108	117	0
Octacosane	nC28	0	0	0	0	78	99	73	0
Nonacosane	nC29	233	0	0	0	125	48	0	45
Triacotane	nC30	134	0	0	104	246	0	0	0
Henotriacontane	nC31	182	0	0	0	0	0	0	0
Dotriacontane	nC32	0	0	0	0	0	0	0	0
Tritriacontane	nC33	0	0	0	0	0	0	0	0
Tetatriacontane	nC34	0	0	0	0	122	0	0	0
Pentatriacontane	nC35	0	0	0	0	0	0	0	0
Hexatriacontane	nC36	0	0	325	0	0	0	0	0
Heptatriacontane	nC37	582	0	0	0	871	0	0	0
Octatriacontane	nC38	0	0	0	0	0	0	0	0
Nonatriacontane	nC39	122	0	0	0	0	0	0	0
Tetracontane	nC40	224	0	0	0	0	0	0	0
Total GC Area Response	Total GC Area	4409024	3780710	4600804	3567136	3784297	4188190	3846096	3805953

1. *o*-terphenyl and n-C25 are internal standards that are added by the laboratory for quality control purposes.

Torkelson Data Tables

	TGI Job #	03025	04123	04123	04123	04123	04123	04123	04123	04123
Sample ID	PL-105a	ASE-20A-4B2	ASE-38A-4B2	ASE-41A-4B2	ASE-51A-4B2	ASE-52A-4B2	ASE-53A-4B2	ASE-55A-4B2		
type	product	product	product	product	product	product	product	product		
GC File Name	PL-105a	Ase-20a	Ase-38a	Ase-41a	Ase-51a	Ase-52a	Ase-53a	Ase-55a		
Date Collected	2/6/2003	5/7/2004	5/6/2004	5/6/2004	5/7/2004	5/7/2004	5/7/2004	5/6/2004		
Compound	Abbreviation									
Butane	nC4	0	417	354	155	25	0	1755	0	
Isopentane	iC5	162	1821	4074	1545	384	162	8770	53	
Pentane	nC5	210	2536	3208	1319	480	319	9767	21	
2 Methylpentane	2M Pentane	1098	4699	16116	6945	1254	2009	24962	165	
Hexane	nC6	1620	6794	25635	4329	2183	4366	28227	0	
Olefin a	olefin a	0	0	0	0	0	0	200	0	
Olefin b	olefin b	0	0	0	0	0	0	162	0	
Olefin c	olefin c	0	46	90	30	0	0	211	0	
2,4 Dimethylpentane	2,4 DMP	509	1126	4875	2640	363	647	3639	163	
Benzene	Bnz	382	174	3794	514	809	2795	14022	0	
2,2,4 Trimethylpentane	isooctane	791	1893	1312	4051	260	214	1740	128	
Heptane	nC7	4839	9468	64558	11786	6687	12285	32338	20	
Methylcyclohexane	MCHX	10204	21329	164071	45292	16573	29271	101510	4194	
Toluene	Tol	1371	1280	8797	2160	218	10991	19223	136	
Octane	nC8	7430	11112	100357	18690	9058	19292	111238	0	
Ethylbenzene	EB	764	3787	23727	6581	3239	5579	40208	1962	
meta/para-Xylene	m/p-xyl	1771	0	52593	0	3385	13916	78910	214	
ortho-Xylene	o-xyl	2954	2735	32423	3143	3279	10113	42925	1841	
Nonane	nC9	15016	27910	137819	39423	21321	33289	99478	7126	
1,2,4 Trimethylbenzene	1,2,4 TMB	6658	17064	39099	8101	14559	24833	26164	12669	
Decane	nC10	41055	42440	122395	64520	26302	37096	47618	9550	
Undecane	nC11	142317	83401	100389	176424	81675	82715	46986	14977	
Naphthalene	Naph	28066	20033	37922	35468	20580	20164	16556	17805	
Dodecane	nC12	126175	84105	89466	158416	91665	95740	41712	25479	
C13 Isoprenoid	IP13	60774	45974	41607	52824	44754	42074	16330	52203	
C14 Isoprenoid	IP14	46701	39413	31491	36094	37988	34761	12014	47077	
Tridecane	nC13	65543	67512	41710	92243	56916	72621	25982	28321	
Farnasane (C15 Isoprenoid)	IP15	32790	37425	23195	22091	38705	33916	9106	40909	
Tetradecane	nC14	6505	68605	27665	39812	55473	72180	19599	32238	
C16 Isoprenoid	IP16	16902	29837	14212	13325	32877	27063	6091	28678	
Pentadecane	nC15	1486	24744	8462	8838	18357	31119	7358	4211	
Hexadecane	nC16	0	10639	3835	3775	8302	11740	2462	3627	
Norpristane (C18 Isoprenoid)	IP18	0	6651	2907	3194	7458	5147	1058	6602	
Heptadecane	nC17	1778	2745	1003	895	2116	3084	666	570	
Pristane	Pristane	0	4886	1984	2354	5888	3671	675	5209	
Octadecane	nC18	221	963	390	412	734	992	290	339	
Phytane	Phytane	510	1191	423	617	1010	760	200	1459	
Ortho-Terphenyl (IS) ¹	o-terphenyl	45866								
Nonadecane	nC19	210	512	176	0	225	393	182	0	
Eicosane	nC20	0	193	62	64	59	142	80	48	
Heneicosane	nC21	0	208	60	52	391	744	37	37	
Docosane	nC22	0	59	0	0	0	49	31	0	
Tricosane	nC23	0	27	0	0	0	42	0	0	
Tetracosane	nC24	0	34	0	0	0	0	0	0	
Pentacosane (IS) ¹	nC25	32351	0	135	0	0	0	0	0	
Hexacosane	nC26	0	0	0	0	0	0	0	0	
Heptacosane	nC27	0	0	0	0	340	247	0	0	
Octacosane	nC28	0	0	0	0	973	934	0	0	
Nonacosane	nC29	43	0	0	0	37	246	0	0	
Triacontane	nC30	0	0	0	0	0	0	0	0	
Hentriacontane	nC31	0	0	0	0	0	0	0	0	
Dotriacontane	nC32	0	0	0	0	503	420	0	0	
Tritriacontane	nC33	0	0	0	0	458	281	0	0	
Tetraatriacontane	nC34	0	0	432	0	0	0	0	0	
Pentatriacontane	nC35	0	0	0	0	0	0	0	0	
Hexatriacontane	nC36	0	0	0	0	0	0	0	0	
Heptatriacontane	nC37	0	0	0	0	0	0	0	0	
Octatriacontane	nC38	0	0	0	3034	0	0	0	0	
Nonatriacontane	nC39	0	0	249	0	214	67	0	66	
Tetracontane	nC40	0	66	0	0	0	26	0	88	
Total GC Area Response	Total GC Area	3866399	3918099	5195737	4091513	3737524	3724732	3989729	3779466	

1. *o*-terphenyl and n-C25 are internal standards that are added by the laboratory for quality control purposes.

Torkelson Data Tables

	TGI Job #	04123	04123	04123	04123	04123	04123	04123	04123
Sample ID	ASE-56A-4B2	ASE-57A-4B2	ASE-64A-4B2	ASE-67A-4B2	ASE-68A-4B2	ASE-89A-4B2	ASE-90A-4B2	ASE-92A-4B2	ASE-92A-4B2
type	product	product	product	product	product	product	product	product	product
GC File Name	Ase-56a	ase-57a	Ase-64a	Ase-67a	Ase-68a	Ase-89a	Ase-90a	Ase-92a.2	Ase-92a.2
Date Collected	5/7/2004	5/7/2004	5/6/2004	5/7/2004	5/7/2004	5/6/2004	5/6/2004	5/6/2004	5/6/2004
Compound	Abbreviation								
Butane	nC4	541	23	12	329	367	63	18	25
Isopentane	IC5	3783	186	792	2630	3641	670	11	411
Pentane	nC5	2849	384	1202	3158	1830	1033	16	645
2 Methylpentane	2M Pentane	17611	1436	7461	7442	5422	3087	191	3360
Hexane	nC6	11449	1152	12324	2380	1831	4457	199	4035
Olefin a	olefin a	0	0	0	0	0	0	0	0
Olefin b	olefin b	0	0	0	60	0	0	0	0
Olefin c	olefin c	75	0	33	0	31	23	0	26
2,4 Dimethylpentane	2,4 DMP	9120	510	1807	1168	4476	1126	452	1406
Benzene	Bnz	115	478	2759	4664	70	476	0	262
2,2,4 Trimethylpentane	Isocotane	15604	798	588	485	2528	1811	1987	2584
Heptane	nC7	23983	1960	23382	176	5073	13237	2503	16094
Methylcyclohexane	MCHX	108183	23422	61464	35336	147037	29202	16760	44350
Toluene	Tol	7980	777	6814	452	2173	1162	1948	1882
Octane	nC8	25731	2327	73347	0	9629	19242	7699	25953
Ethylbenzene	EB	16504	8646	20935	4445	8820	4693	4857	8308
meta/para-Xylene	m/p-xyl	2048	0	41805	251	1392	1673	0	3168
ortho-Xylene	o-xyl	7863	2703	24798	2319	10810	2754	3020	4379
Nonane	nC9	58220	11294	72457	7766	31372	31378	25054	46649
1,2,4 Trimethylbenzene	1,2,4 TMB	17080	2862	19064	13712	23881	18871	10304	21316
Decane	nC10	34602	29325	45176	11542	21915	48126	30579	48342
Undecane	nC11	45327	137955	50055	49356	17677	123099	77808	100090
Naphthalene	Naph	12414	42819	17276	13605	18984	31045	21894	24348
Dodecane	nC12	28163	139379	51780	61631	19183	111974	58144	93280
C13 Isoprenoid	IP13	23575	65369	31217	43390	28901	51230	50698	44520
C14 Isoprenoid	IP14	26529	44617	28313	40892	34784	43279	41977	39314
Tridecane	nC13	22516	77467	34466	45443	16476	78994	38614	61404
Farnesane (C15 Isoprenoid)	IP15	21191	28291	24977	41530	29986	34092	34858	32205
Tetradecane	nC14	16773	44733	31144	50496	7735	60134	39576	53113
C16 Isoprenoid	IP16	14087	18742	18887	32818	19367	24973	24127	22829
Pentadecane	nC15	5589	11830	9466	16036	4582	20343	9656	17693
Hexadecane	nC16	2138	5489	4913	8977	2476	9352	4468	6880
Norpristane (C18 Isoprenoid)	IP18	3326	4208	4678	7942	4994	6200	5204	5401
Heptadecane	nC17	563	1548	1264	2289	566	2709	1202	2122
Pristane	Pristane	2391	2935	3503	5783	3807	4544	4031	4668
Octadecane	nC18	299	505	451	648	345	863	509	955
Phytane	Phytane	565	533	620	1099	903	873	1029	1502
Ortho-Terphenyl (IS) ¹	o-terphenyl								
Nonadecane	nC19	0	180	166	249	0	322	333	727
Eicosane	nC20	47	55	37	62	49	75	122	228
Heneicosane	nC21	0	39	0	76	68	84	103	143
Docosane	nC22	0	0	0	0	0	36	123	68
Tricosane	nC23	0	0	0	0	0	0	140	34
Tetracosane	nC24	0	0	0	0	0	0	0	0
Pentacosane (IS) ¹	nC25	0	125	0	0	0	0	159	0
Hexacosane	nC26	0	0	0	0	0	0	0	0
Heptacosane	nC27	0	0	0	0	0	0	50	0
Octacosane	nC28	0	50	77	120	0	0	0	0
Nonacosane	nC29	64	85	0	0	0	0	0	75
Triacontane	nC30	0	0	0	0	0	0	0	0
Hentriacontane	nC31	0	0	0	0	0	0	0	0
Dotriacontane	nC32	0	0	0	0	0	0	0	0
Tritriacontane	nC33	0	0	0	0	0	0	0	0
Tetraatriacontane	nC34	0	0	0	580	0	0	0	0
Pentatriacontane	nC35	0	0	0	0	0	0	0	0
Hexatriacontane	nC36	0	0	0	0	0	0	0	0
Heptatriacontane	nC37	0	0	0	0	0	0	0	0
Octatriacontane	nC38	0	1408	0	0	0	0	0	0
Nonatriacontane	nC39	64	94	107	128	91	80	111	117
Tetracontane	nC40	0	0	0	61	0	0	48	40
Total GC Area Response	Total GC Area	3588376	3968716	3869459	3630577	4257040	3853962	3640791	4025440

1. *o*-terphenyl and n-C25 are internal standards that are added by the laboratory for quality control purposes.

Torkelson Data Tables

	TGI Job #	04257	04257	05007	05078	06158
	Sample ID	ASE-90A-401	ASE-96A-401	ASE-102A-5A2	ASE-111A-5B4	ASE-107A-6D1
	type	product	product	product	product	product
	GC File Name	Ase-90a	Ase-96a	5a2	111a54b	107a6d1.3
	Date Collected>	11/3/2004	11/3/2004	1/6/2005	6/15/2005	11/2/2006
Compound	Abbreviation					
Butane	nC4	32	11	22	130	29
Isopentane	iC5	690	47	587	4180	420
Pentane	nC5	638	49	386	5169	110
2 Methylpentane	2M Pentane	4485	576	2722	23309	1363
Hexane	nC6	3987	745	2220	37790	183
Olefin a	olefin a	0	0	0	0	0
Olefin b	olefin b	0	0	0	248	0
Olefin c	olefin c	22	0	0	388	0
2,4 Dimethylpentane	2,4 DMP	3227	471	2096	3204	1483
Benzene	Bnz	204	0	0	15919	24
2,2,4 Trimethylpentane	Isooctane	7523	994	4517	12847	2541
Heptane	nC7	11183	3940	6983	36107	576
Methylcyclohexane	MCHX	49571	8199	48059	106279	37257
Toluene	Tol	4468	1111	3000	53150	2951
Octane	nC8	15946	7401	10034	117184	2057
Ethylbenzene	EB	13181	5788	3166	80966	6324
meta/para-Xylene	m/p-xyl	14964	6708	1152	129308	1005
ortho-Xylene	o-xyl	4082	1889	5685	64731	6934
Nonane	nC9	33366	18338	30505	192223	25683
1,2,4 Trimethylbenzene	1,2,4 TMB	10064	10457	15546	75594	18120
Decane	nC10	37175	39780	45912	118409	37891
Undecane	nC11	79347	128335	96038	90334	70237
Naphthalene	Naph	20335	33113	38321	17900	62879
Dodecane	nC12	67180	120543	94545	74435	81821
C13 Isoprenoid	IP13	50428	73815	102525	17680	139364
C14 Isoprenoid	IP14	37100	64254	69419	12031	109694
Tridecane	nC13	43093	80138	82897	48061	77602
Farnasane (C15 Isorenoid)	IP15	31722	39303	64180	4550	91585
Tetradecane	nC14	29867	31447	53429	14334	28878
C16 Isoprenoid	IP16	23171	19462	51990	1706	62741
Pentadecane	nC15	9775	7537	17959	2529	15507
Hexadecane	nC16	5499	3205	9110	573	3627
Norpristane (C18 Isoprenoid)	IP18	4886	3449	11278	192	15805
Heptadecane	nC17	1292	827	2261	0	1189
Pristane	Pristane	3614	2452	8857	131	11514
Octadecane	nC18	603	506	716	0	398
Phytane	Phytane	951	743	2175	38	2224
Ortho-Terphenyl (IS) ¹	o-terphenyl	44407	40570	83009	58072	92322
Nonadecane	nC19	520	557	0	0	185
Eicosane	nC20	171	183	212	0	206
Heneicosane	nC21	119	137	401	0	223
Docosane	nC22	152	165	744	0	308
Tricosane	nC23	281	267	1098	0	338
Tetracosane	nC24	122	116	0	54	301
Pentacosane (IS) ¹	nC25	29462	25319	61114	35960	64024
Hexacosane	nC26	188	164	149	0	166
Heptacosane	nC27	132	135	83	0	209
Octacosane	nC28	82	194	0	0	117
Nonacosane	nC29	0	0	73	0	221
triacontane	nC30	0	0	141	0	219
Hentriacontane	nC31	0	0	0	0	150
Dotriacontane	nC32	0	0	0	0	161
Tritriacontane	nC33	0	0	0	0	0
Tetracontane	nC34	0	0	0	0	0
Pentatriacontane	nC35	0	0	0	0	0
Hexatriacontane	nC36	0	0	0	0	182
Heptatriacontane	nC37	0	0	0	0	112
Octatriacontane	nC38	0	77	0	0	105
Nonatriacontane	nC39	36	50	0	0	132
Tetracontane	nC40	55	40	0	48	0
Total GC Area Response	Total GC Area	3920898	3915872	6786089	4971165	7934811

1. *o*-terphenyl and n-C25 are internal standards that are added by the laboratory for quality control purposes.

Attachment 2

Figures

Figure 1. Map of study area. Area of Interest is defined by red square.



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Figure 2. GC/FID whole oil chromatograms of A) JP-4 reference sample (ASE-111B-5C2) collected from the Honeywell tank farm, and B) Jet Fuel A (provided by Trillium) showing the different hydrocarbon distributions within each product.

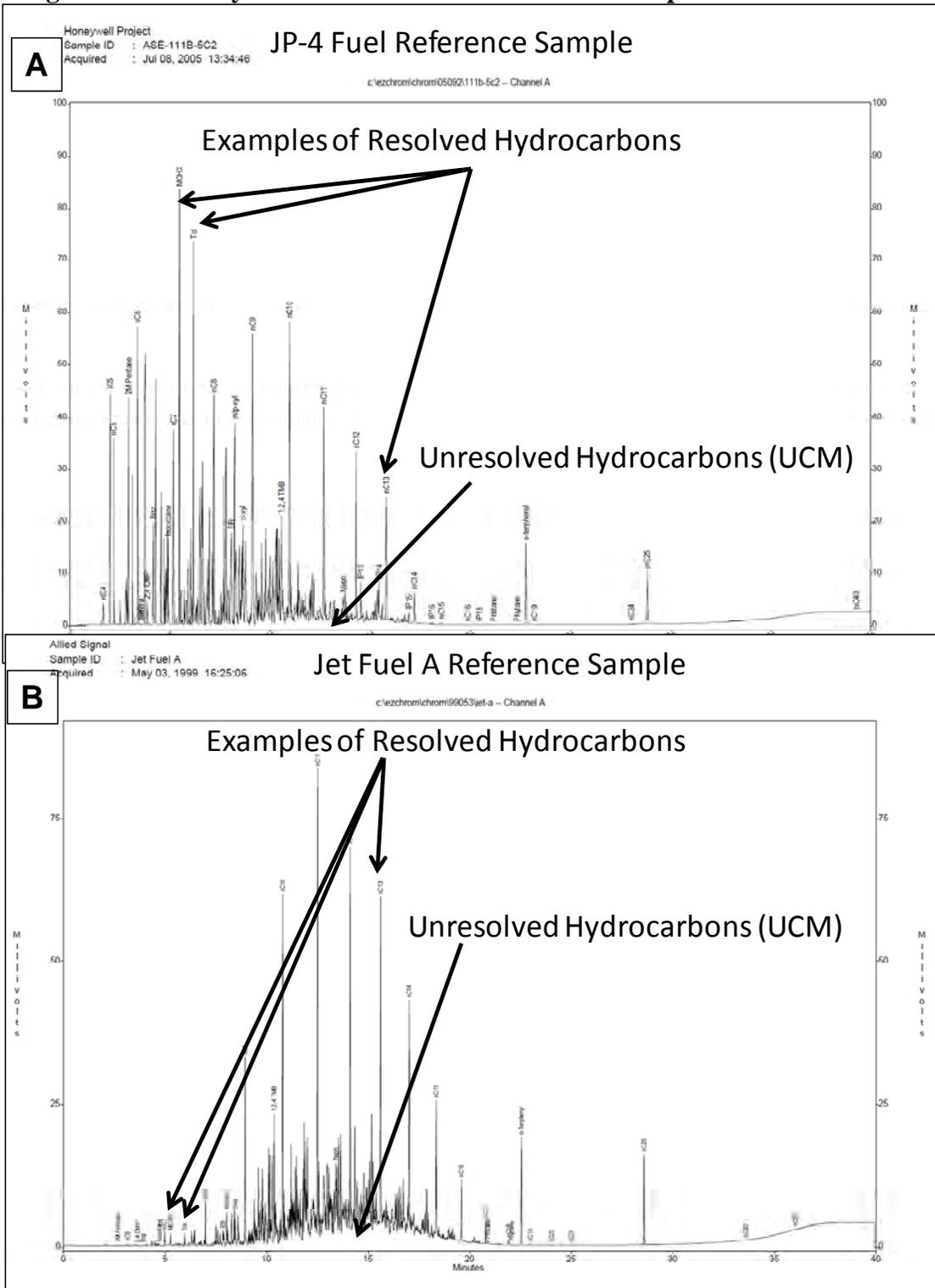


Figure 3. A) Principal component analysis scores plot of the GC/FID hydrocarbon data from the Site. B) PCA loadings plot of the hydrocarbons that drive the scores distribution.

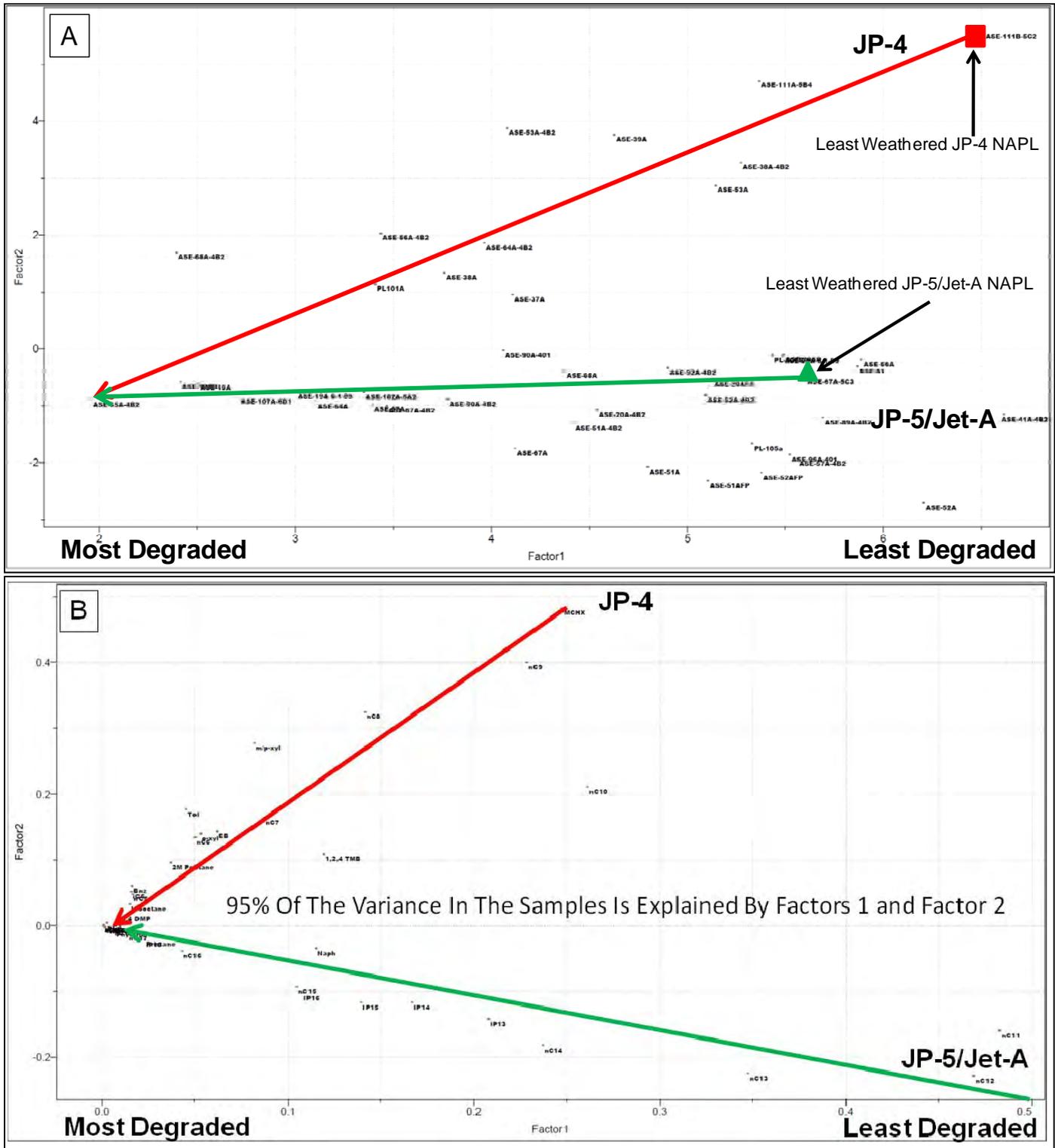


Figure 4. A) Whole oil GC/FID chromatogram of Honeywell JP-4 product sample ASE-111B-5C2. B) Relative weight percent plot of C4-C20 hydrocarbons in sample ASE-111B-5C2.

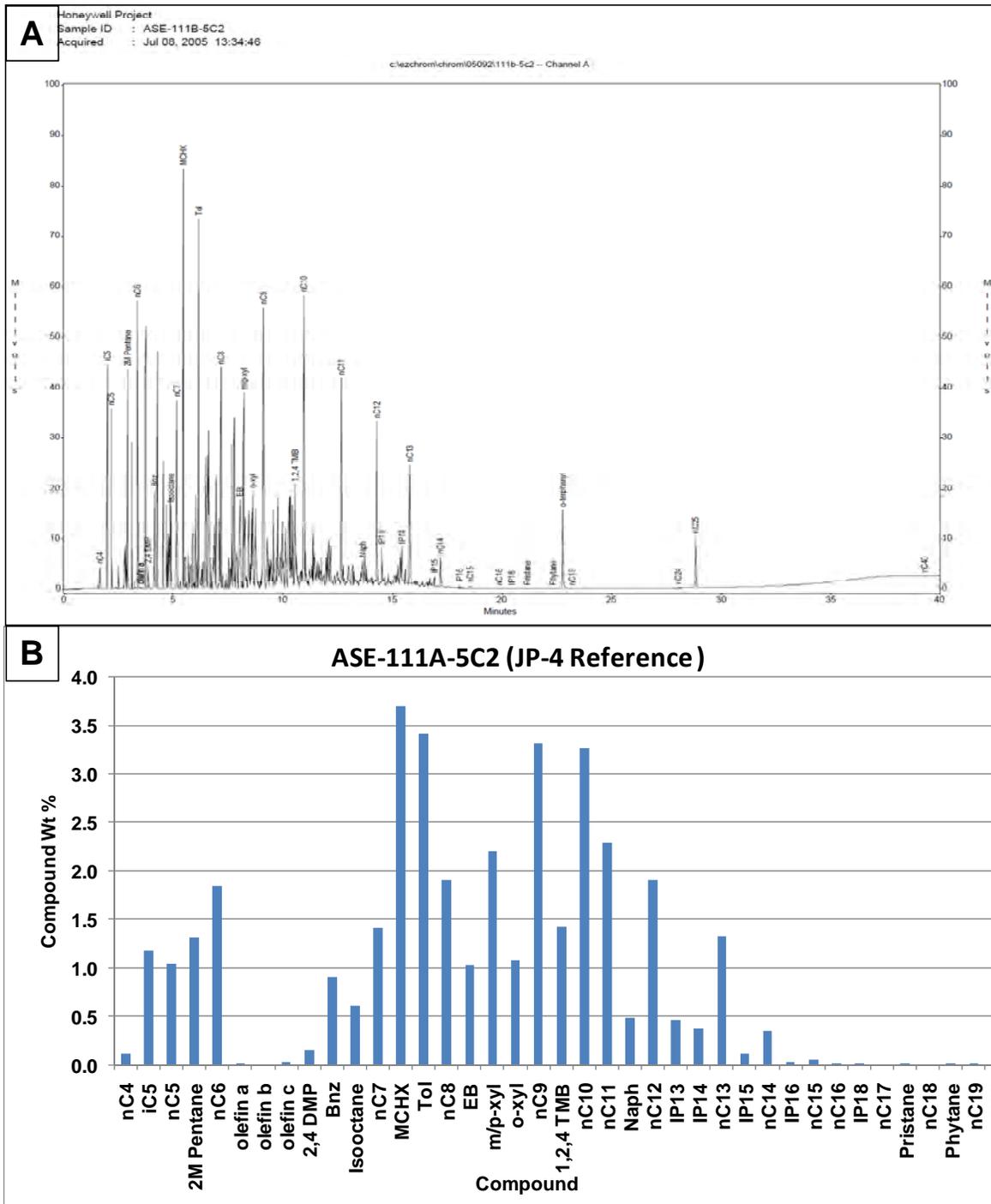


Figure 5. A) Whole oil GC/FID chromatogram of NAPL sample ASE-67A-5C3. B) Relative weight percent plot of C₄-C₂₀ hydrocarbons in NAPL sample ASE-67A-5C3. This sample was used as the JP-5/Jet-A reference sample because it exhibited the smallest amount of environmental weathering relative to the other NAPL samples from the Site.

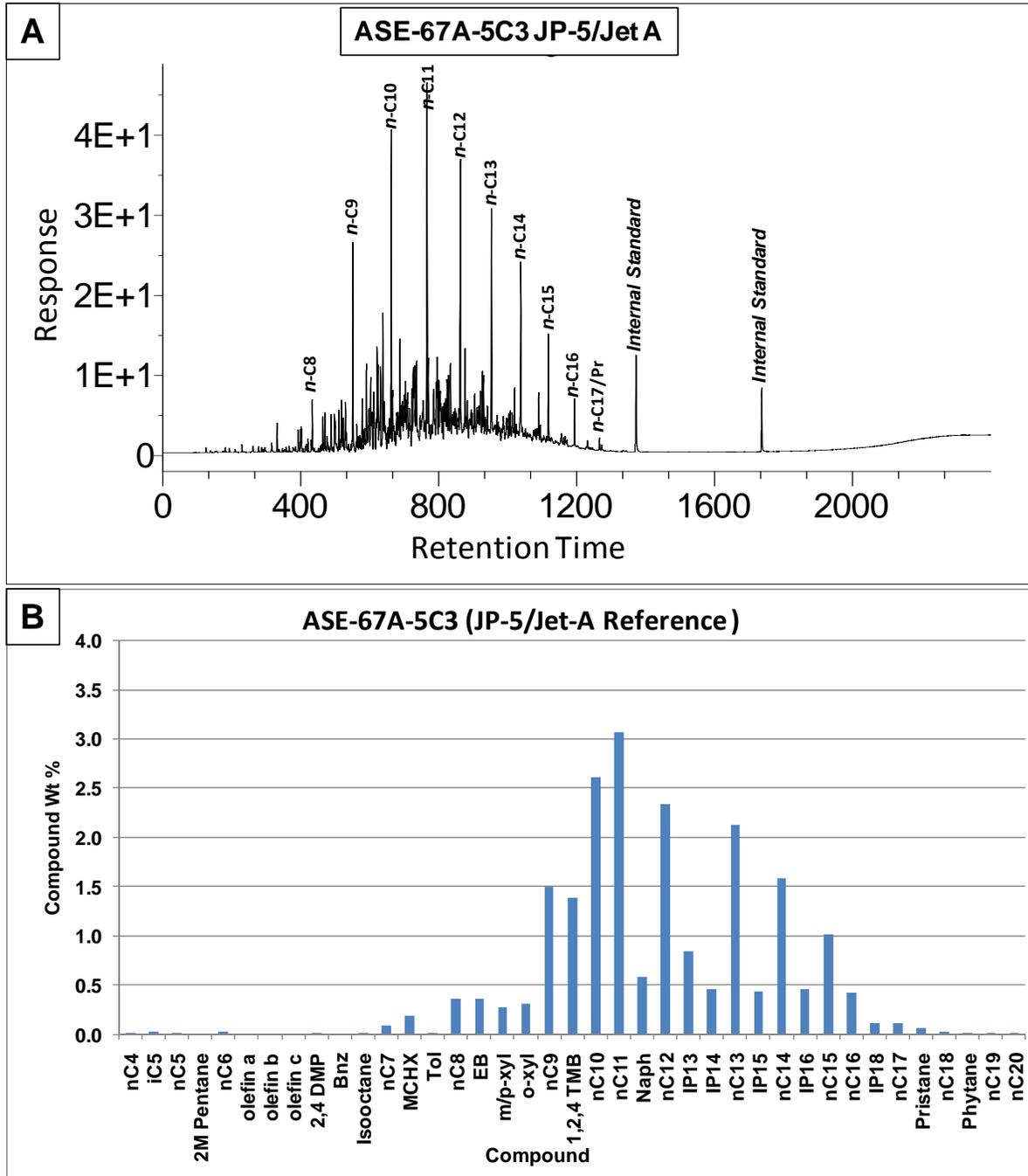


Figure 6. *n*-C₆ wt percent (evaporation) versus 124-trimethylbenzene (124TMB) wt percent (water washing) plot. 124TMB was selected as a water washing indicator for both JP-4 and JP-5/Jet-A because they both have similar concentrations of this aromatic hydrocarbon relative to benzene and toluene which are present at only trace levels in JP-5/Jet-A (see Figure 2). The decline of *n*-C₆ concentration documents the relative amounts of evaporative weathering in the LNAPL samples. Unlike JP-4, JP-5/Jet-A fuel has only trace amounts of the most volatile *n*-C₄-*n*-C₈ hydrocarbons (see below), therefore evaporation is unlikely to be the dominant weathering pathway relative to water washing and biodegradation for this product. The dark blue squares represent the samples of interest from Phase D.

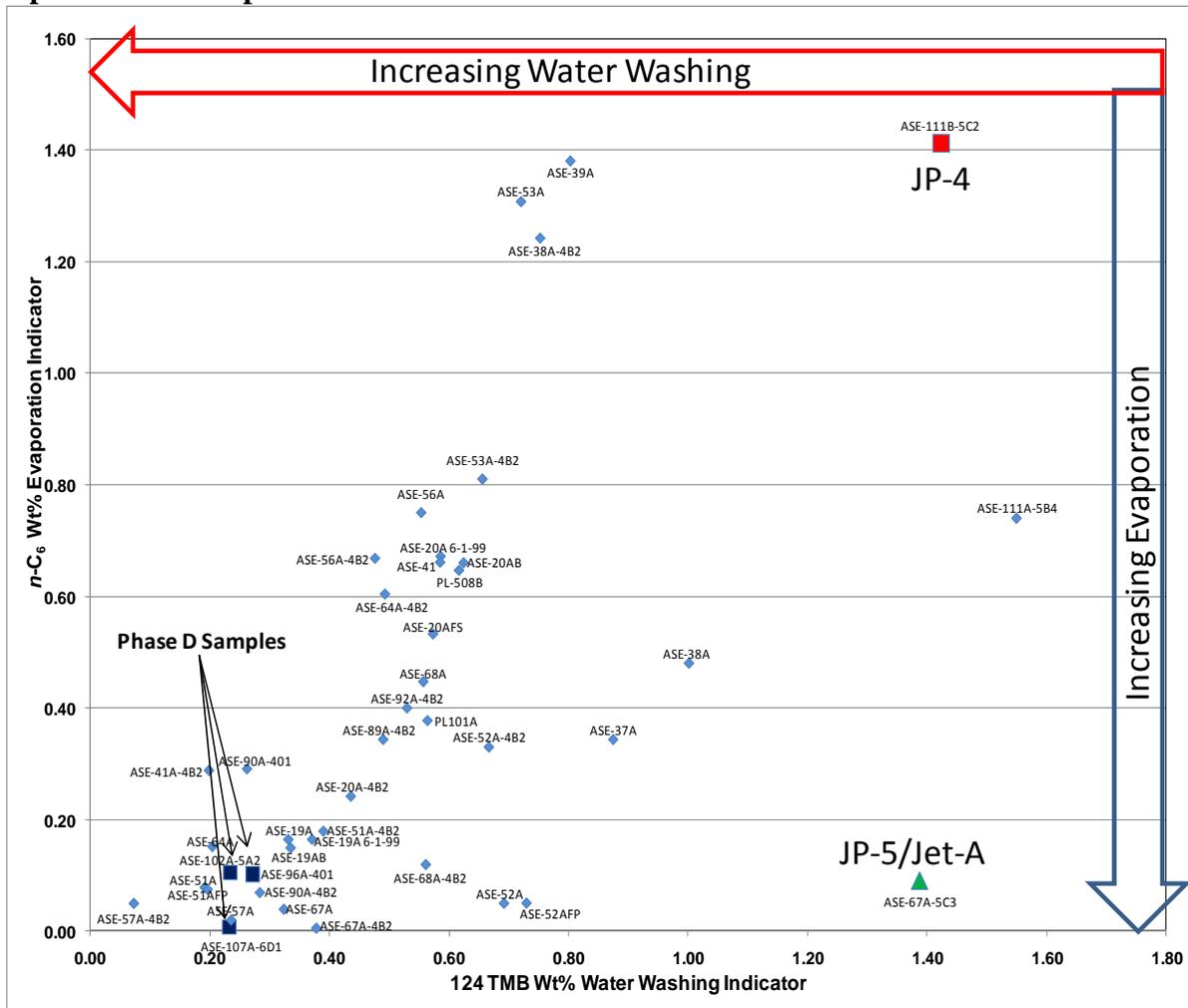


Figure 8. Percent NAPL depletion/lost plot for NAPL sample ASE-96A-401 (blue/green lines) relative to A) JP-4 (ASE-111B-5C2) and B) JP-5/Jet-A (NAPL sample ASE-67A-5C3). PIANO is an acronym referring to paraffin (P), isoparaffins (I), aromatics (A), naphthalene (N), and olefins (O). See Attachment 1 for compound abbreviations.

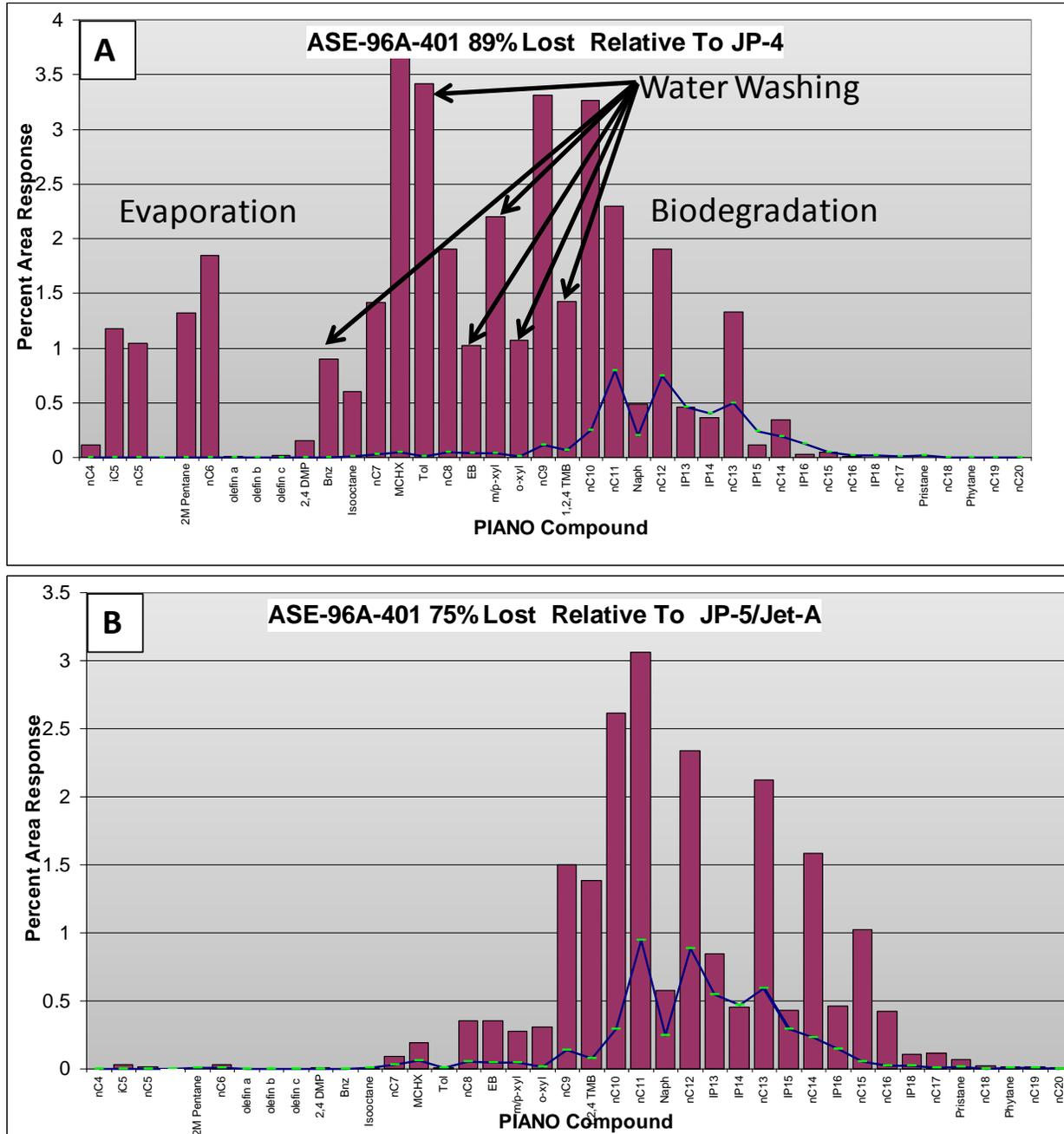


Figure 9. Percent NAPL depletion/lost plot for NAPL sample ASE-107A-6D1 (blue/green lines) relative to A) JP-4 (ASE-111B-5C2) and B) JP-5/Jet-A (NAPL sample ASE-67A-5C3).

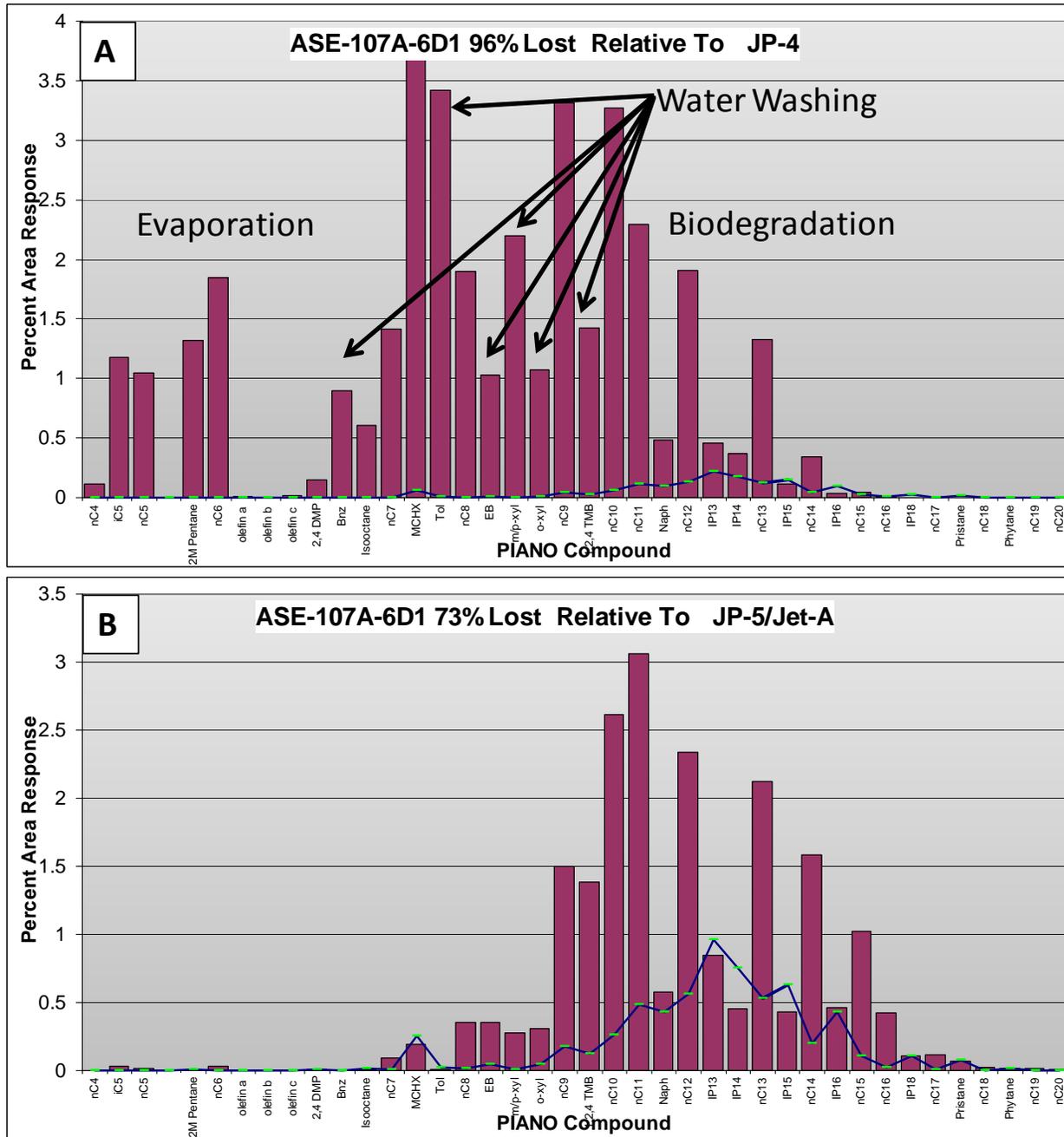


Figure 10. Percent NAPL depletion/lost plot for NAPL sample ASE-102A-5A2 (blue/green lines) relative to A) JP-4 (ASE-111B-5C2) and B) JP-5/Jet-A (NAPL sample ASE-67A-5C3).

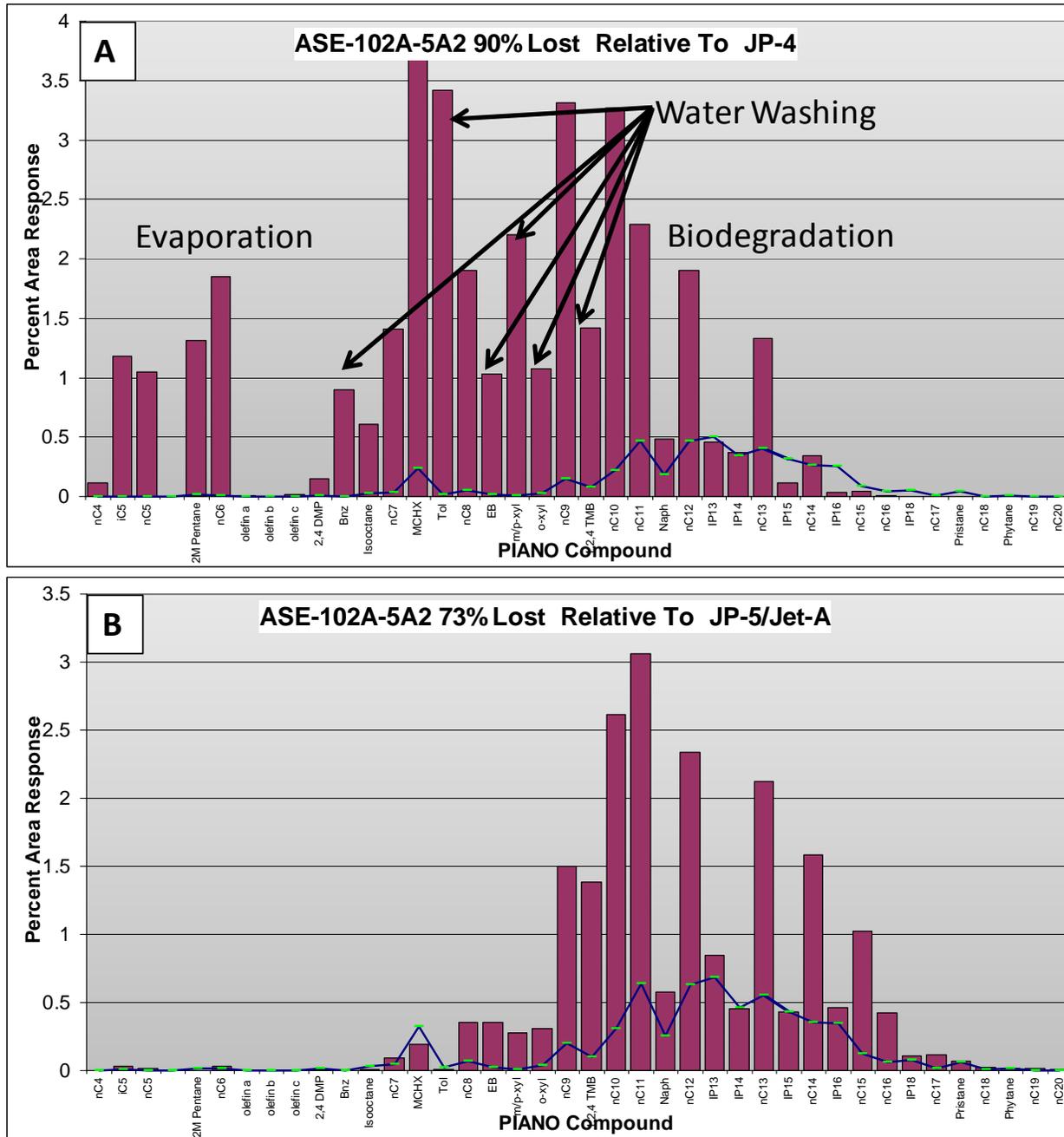


Figure 11. Percent NAPL depletion/lost plot for NAPL sample ASE-90A-4B2 located north of area of interest (blue/green lines) relative to A) JP-4 (ASE-111B-5C2) and B) JP-5/Jet-A (NAPL sample ASE-67A-5C3).

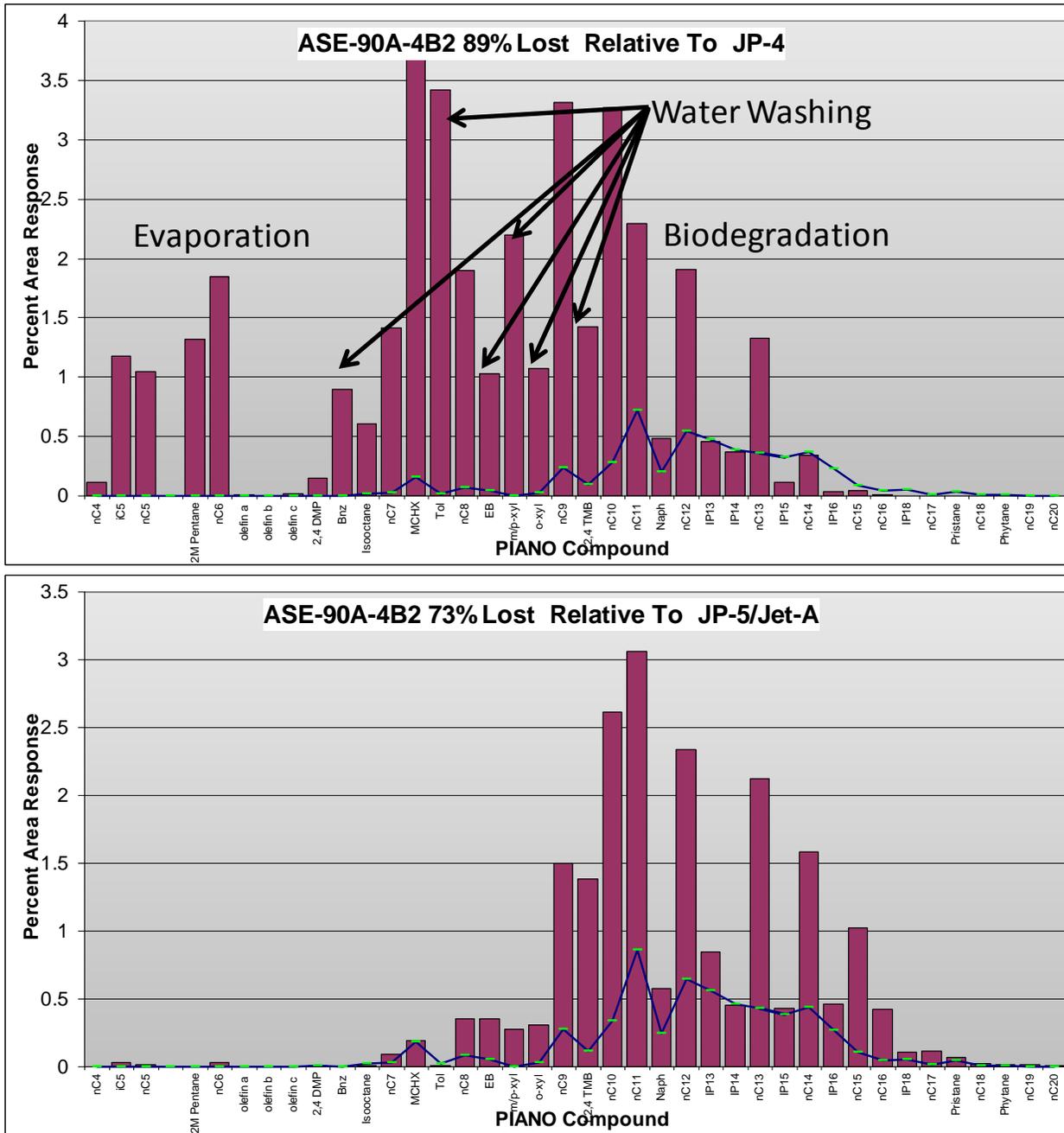


Figure 12. Percent NAPL depletion/lost plot for NAPL sample ASE-90A-401 located north of area of interest (blue/green lines) relative to A) JP-4 (ASE-111B-5C2) and B) JP-5/Jet-A (NAPL sample ASE-67A-5C3).

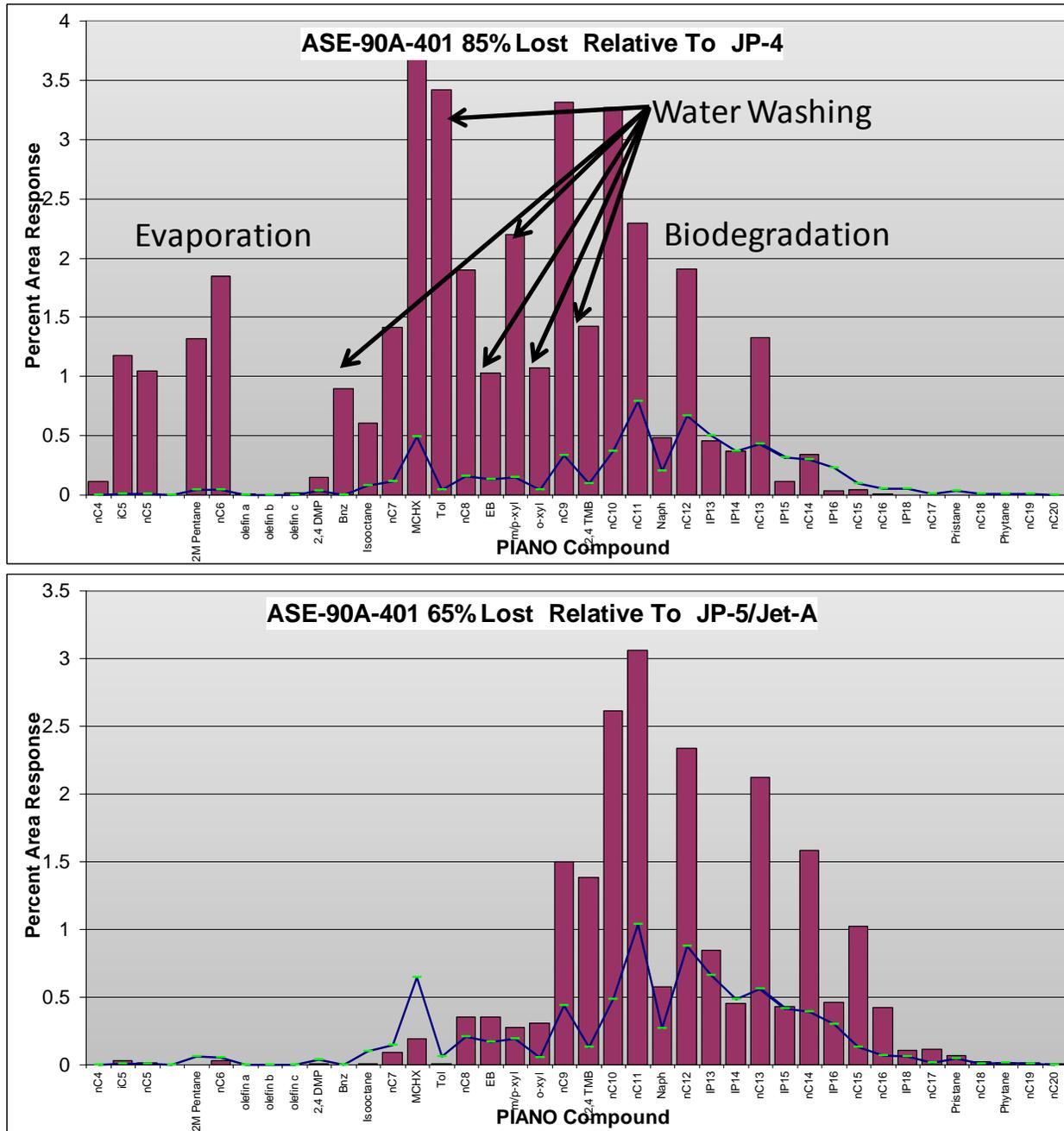


Figure 13. Percent NAPL depletion/lost plot for NAPL sample ASE-89A-4B2 located north of area of interest (blue/green lines) relative to A) JP-4 (ASE-111B-5C2) and B) JP-5/Jet-A (NAPL sample ASE-67A-5C3).

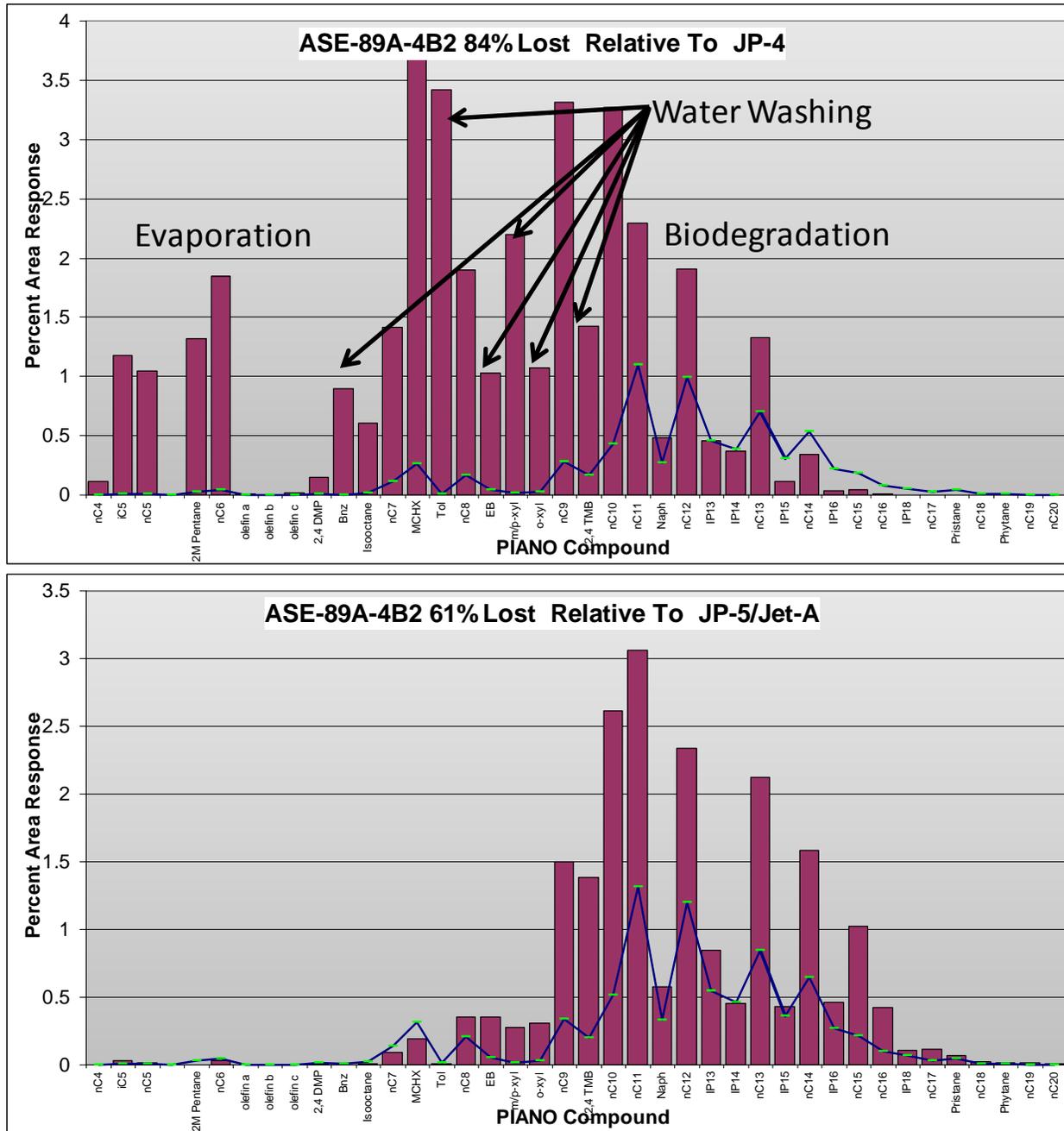


Figure 14. Percent NAPL depletion/lost plot for NAPL sample ASE-92A-4B2) located north of area of interest (blue/green lines) relative to A) JP-4 (ASE-111B-5C2) and B) JP-5/Jet-A (NAPL sample ASE-67A-5C3).

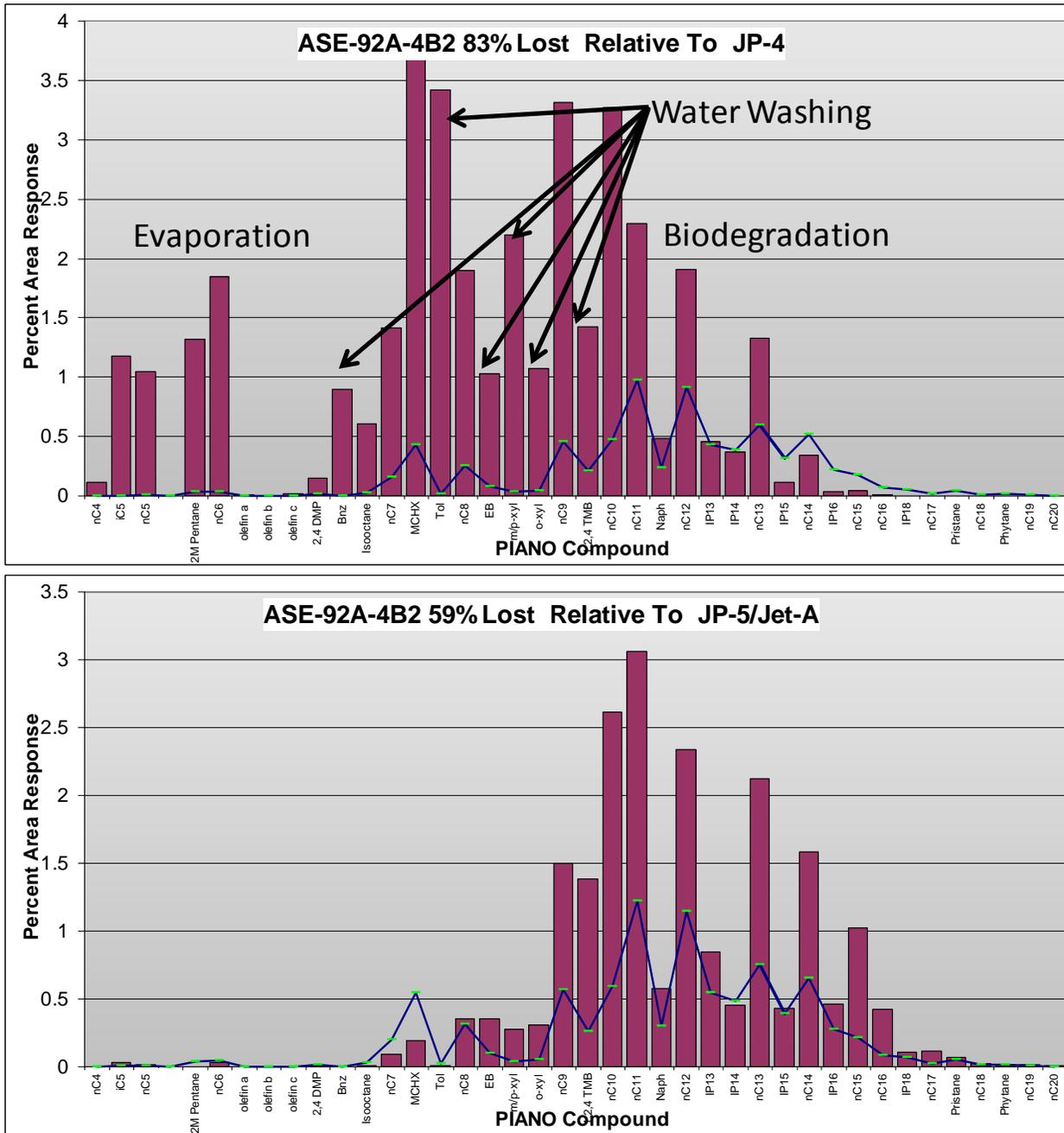


Figure 15. Percent NAPL depletion/lost plot for NAPL sample ASE-64A located north of area of interest (blue/green lines) relative to A) JP-4 (ASE-111B-5C2) and B) JP-5/Jet-A (NAPL sample ASE-67A-5C3).

