



June 28, 2011

CERTIFIED MAIL Return Receipt Requested
Receipt Number: 7010 1870 0000 7055 8115

Robin Thomas, Manager
Waste Permits Section, 4415A-1
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85007

Subject: Semi-Annual Groundwater Monitoring Report, June 2011, World Resources Company, Tolleson, Arizona

Dear Ms. Thomas:

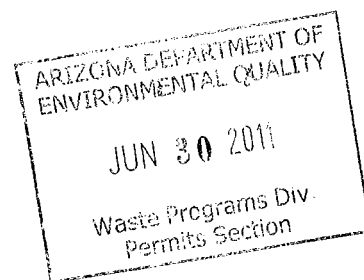
Please find enclosed two (2) copies of the Semi-Annual Groundwater Monitoring Report, June 2011 for World Resources Company in Tolleson, Arizona.

Should you have any questions regarding the report, please contact me at your convenience.

Sincerely,

Amanda Bugarin
Laboratory Manager
World Resources Company
(602) 233-9166 x2401

Enclosures





**SEMI-ANNUAL GROUNDWATER MONITORING
REPORT, JUNE 2011**

**WORLD RESOURCES COMPANY
TOLLESON, ARIZONA**

ATC PROJECT NO. 34.41558.0001

JUNE 24, 2011

Prepared by:

ATC Associates Inc.
9185 South Farmer Avenue, Suite 111
Tempe, Arizona 85284
Phone: (480) 894-2056
Fax: (480) 894-2497

Prepared for:

Ms. Amanda Bugarin
World Resources Company
8113 West Sherman Street
Tolleson, Arizona 85353-4025

June 24, 2011

World Resources Company
8113 West Sherman Street
Tolleson, Arizona 85353-4025
Attention: Ms. Amanda Bugarin

RE: Semi-Annual Groundwater Monitoring Report, June 2011
World Resources Company, Tolleson, Arizona
ATC Project No. 34.41558.0001

Dear Ms. Bugarin:

ATC Associates Inc. (ATC) is pleased to present the following semi-annual groundwater monitoring report to World Resources Company (WRC) for their facility located at 8113 West Sherman Street, Tolleson, Arizona (Site). ATC was contracted by WRC to conduct groundwater monitoring and reporting at the Site. This report is based on the Groundwater Detection Monitoring Program (DMP) as required by the Arizona Department of Environmental Quality (ADEQ). This report includes groundwater monitoring data and laboratory analyses.

ATC relied on the written DMP, ©1997-2005, by WORLD RESOURCES COMPANY (all rights reserved). Historical groundwater analytical results for the Site are depicted in the *Semi-Annual Groundwater Monitoring Report, December 2005, Tolleson, Arizona*, dated February 7, 2006, prepared by ARCADIS and in the *Semi-Annual Groundwater Monitoring Report, December 2010, World Resources Company, Tolleson, Arizona*, dated December 13, 2010, prepared by Valley Land Partners, LLC.

The DMP is required by the Code of Federal Regulations, Title 40, Part 264.91(a)(4) [40 CFR 264.91(a)(4)] and is described in the Resource Conservation and Recovery Act (RCRA) Facility Hazardous Permit Application Part B, dated May 1, 1997 (AZ HWMA RCRA PERMIT, EPA ID No. AZD980735500). As described in the DMP, subsequent to an initial 2-year phase of detection monitoring, an ongoing DMP will be implemented, in accordance with 40 CFR 264.98(h). The ongoing DMP involves those monitor wells most appropriately located at and downgradient of the Point of Compliance (POC).

An ATC representative conducted groundwater monitoring at the Site on May 10, 2011. During this investigation three monitor wells (MW-9, MW-10 and MW-11) contained sufficient groundwater for reliable samples. Laboratory analyses were performed on groundwater samples collected from MW-9, MW-10 and MW-11 as specified in the DMP. Groundwater sampling results are discussed below in Section 3.0.

1.0 Introduction

This report presents groundwater monitoring data collected on May 10, 2011 at the Site. The groundwater investigation was conducted based on the DMP. The Site is located in the SW ¼, SW ¼, Section 11, Township 1 North, Range 1 East, Gila and Salt River Meridian and Base Line in Maricopa County, Arizona. The approximate elevation of the Site is 1,010 feet above mean sea level. The Site is located approximately 1.5 miles south of Interstate 10 and 0.2 miles

east of 83rd Avenue in Tolleson, Arizona. The Site is bound to the north by Sherman Street. A Vicinity Map, depicting the Site, is included as Figure 1.

A total of 11 monitor wells have been installed at the Site. Six monitor wells (MW-1, MW-2, MW-3, MW-4, MW-5 and MW-8) have been abandoned. The remaining five monitor wells are depicted on Figure 2, Site Location and Potentiometric Map.

2.0 Field Activities

Semi-annual groundwater monitoring was conducted at the Site on May 10, 2011. Monitoring activities included measuring groundwater elevations in five groundwater monitor wells. Depth to groundwater was gauged in monitor wells MW-6, MW-7, MW-9, MW-10 and MW-11. Groundwater elevations decreased an average of 1.31 feet since the October 2010 monitoring event. The water level indicator was decontaminated between well measurements utilizing a solution of biodegradable, phosphate-free Alconox[®], rinse water and distilled water.

Water was encountered in monitor well MW-6 at a depth of 81.10 feet. The bottom of casing in well MW-6 is approximately 85 feet below ground surface (bgs). Therefore, MW-6 contained approximately 3.9 feet of water. Water was encountered in monitor well MW-7 at a depth of 84.21 feet. The bottom of casing in well MW-7 is approximately 90 feet bgs. Therefore, MW-7 contained approximately 5.8 feet of water.

Depth to groundwater measurements and groundwater elevations are depicted in Table 1. Groundwater elevations and potentiometric surface map are depicted on Figure 2. As depicted on Figure 2, groundwater elevations in wells MW-6 and MW-7 were not used to determine groundwater flow direction. The groundwater flow direction observed during this monitoring event is generally toward the north-northwest. Historically, the groundwater flow direction at the Site has been toward the north-northwest.

On May 10, 2011, subsequent to measuring static groundwater levels, ATC utilized a low-flow, adjustable, submersible, GRUNDFOS[®] 2-inch diameter pump to purge groundwater in wells MW-9, MW-10 and MW-11. Monitor wells MW-6 and MW-7 were not sampled since there was an insufficient amount of groundwater.

Groundwater was pumped from wells MW-9, MW-10 and MW-11 at an approximate rate of 400 milliliters per minute (mL/min). ATC measured the water quality parameters dissolved oxygen (D.O.), pH, color, odor, specific conductance, total dissolved solids and temperature during each purging event. Field Data Sheets are included in Appendix A. Subsequent to purging each well, groundwater samples were collected directly from the discharge tube. Groundwater samples were stored in laboratory supplied containers and placed in a cooler with ice.

One quality assurance/quality control (QA/QC) equipment blank and one blind duplicate groundwater sample were collected during the monitoring event. The equipment blank sample was collected by pumping distilled water through the sampling pump. The blind duplicate groundwater sample was collected from one of the three wells sampled and assigned a random number. The QA/QC samples were stored in laboratory supplied containers and placed in a cooler with ice. The groundwater samples and QA/QC samples were submitted chilled, under chain-of-custody procedures, to Trans West Analytical Services, LLC, dba XENCO Laboratories (XENCO) in Phoenix, Arizona for analyses. Based on the DMP, groundwater samples were analyzed for dissolved metals, total cyanide and other selected inorganic groundwater constituents. The laboratory filtered the samples for dissolved metals analyses.

The submersible pump was decontaminated between well sampling events utilizing a solution of biodegradable, phosphate-free Alconox[®], rinse water and distilled water. ATC set up three five-gallon buckets to perform decontamination. The pump was first set in a five-gallon bucket with

Alconox[®] solution and ran for approximately five minutes. The pump was then set in a five-gallon bucket with rinse water and ran for approximately five minutes. And last, the pump was set in a five-gallon bucket with distilled water and ran for approximately five minutes.

Monitor well purge water and decontamination water was placed in 55-gallon drums supplied by WRC. ATC understands that WRC treated the purge water and decontamination water on site in their wastewater treatment unit.

3.0 Groundwater Sampling Results

Laboratory analytical results of groundwater samples collected during this investigation indicate that no dissolved metals exceeded their respective AWQS. Nitrate (as N) constituents exceeded the AWQS. The other general chemistry analytes and total cyanide did not exceed their respective AWQS. Nitrate (as N) was reported at concentrations of 13.5 mg/L, 14.4 mg/L and 15.7 mg/L in monitor wells MW-9, MW-10 and MW-11, respectively. The AWQS for Nitrate (as N) is 10.0 mg/L. Elevated concentrations of Nitrate (as N) have been reported in previous investigations and were attributed to agricultural land in the general vicinity of the Property.

Analytical results for the MW-9, MW-10 and MW-11 groundwater samples plus the QA/QC samples are depicted in Table 2. A copy of the laboratory analytical report and chain-of-custody document is included in Appendix B.

4.0 Quality Assurance/Quality Control

On May 10, 2011 XENCO received five sets of groundwater samples collected at the Property. The five sets of groundwater samples included one equipment blank (ID EQUIP. BLANK), one blind field duplicate (ID DUP.) (collected from well MW-9), one sample from well MW-9 (ID MW-9), one sample from well MW-10 (ID MW-10) and one sample from well MW-11 (ID MW-11). XENCO reported their analyses on June 15, 2011 (Analytical Report 415938). A copy of the XENCO report is included in Appendix B.

ATC reviewed the report for the following Quality Assurance/Quality Control parameters:

- Holding times and errors
- Blank results and contamination
- Laboratory control sample (LCS) analysis
- Field duplicates and other quality control (QC)
- Duplicate sample, matrix spike/matrix spike duplicate (MS/MSD) analysis

Holding times were met for each analyte. No analytes were reported above their respective Practical Quantitation Limit (PQL) for the Equipment Blank. No critical data qualifiers were reported by the laboratory.

The laboratory sample duplicate results were below 20 percent RPD (Relative Percent Difference as defined in the laboratory report). The blind field duplicate (ID DUP) (collected from well MW-9) laboratory sample results were below 20 percent RPD, as depicted on Table 2.

5.0 Findings and Recommendations

Laboratory analytical results of groundwater samples collected during this investigation indicate analytes did not exceed AWQS, with the exception of Nitrate (as N). Elevated concentrations of Nitrate (as N) have been reported in previous investigations and were attributed to fertilizers used on agricultural land in the general vicinity of the Property. On behalf of WRC, ATC recommends to continue semi-annual groundwater monitoring at the Property.

6.0 Summary

ATC has prepared this semi-annual groundwater monitoring report for WRC and their facility located at 8113 West Sherman Street, Tolleson, Arizona. Our findings are based on field observations, points of investigation and results of laboratory tests performed by XENCO.

If additional information is required or if you have any questions regarding this report, please feel free to contact either David Howard at (480) 355-4659 or Phillip Schneider at (480) 355-4658.

Respectfully submitted,

ATC Associates Inc.

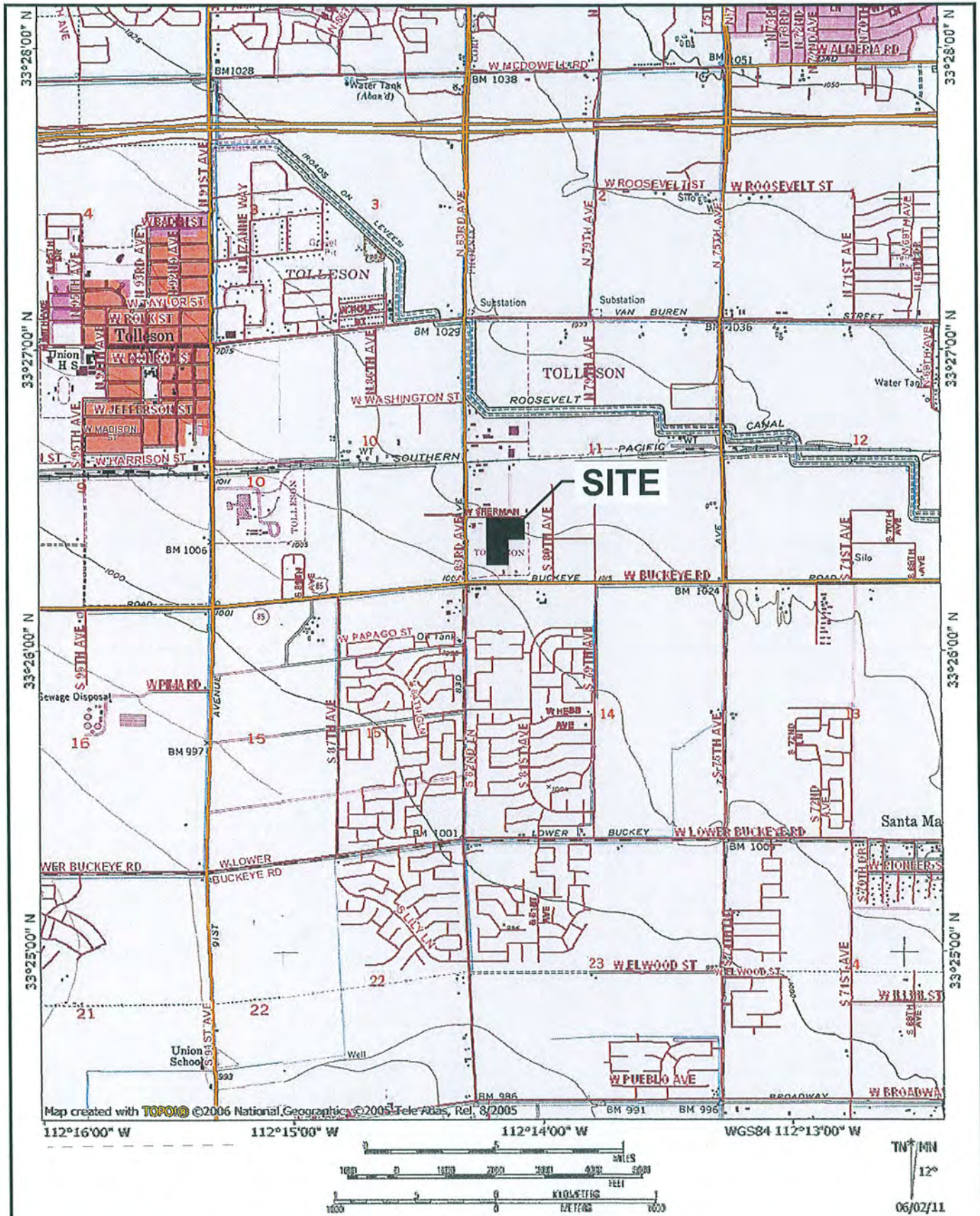


David B. Howard, P.E., R.G.
Senior Project Manager

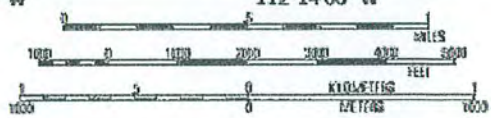
Phillip A. Schneider, P.E.
Branch Manager

Attachments, as stated.

FIGURES



Map created with TOPO © 2006 National Geographic, © 2005 Tele Atlas, Rel. 8/2005
 112°16'00" W 112°15'00" W 112°14'00" W WGS84 112°13'00" W



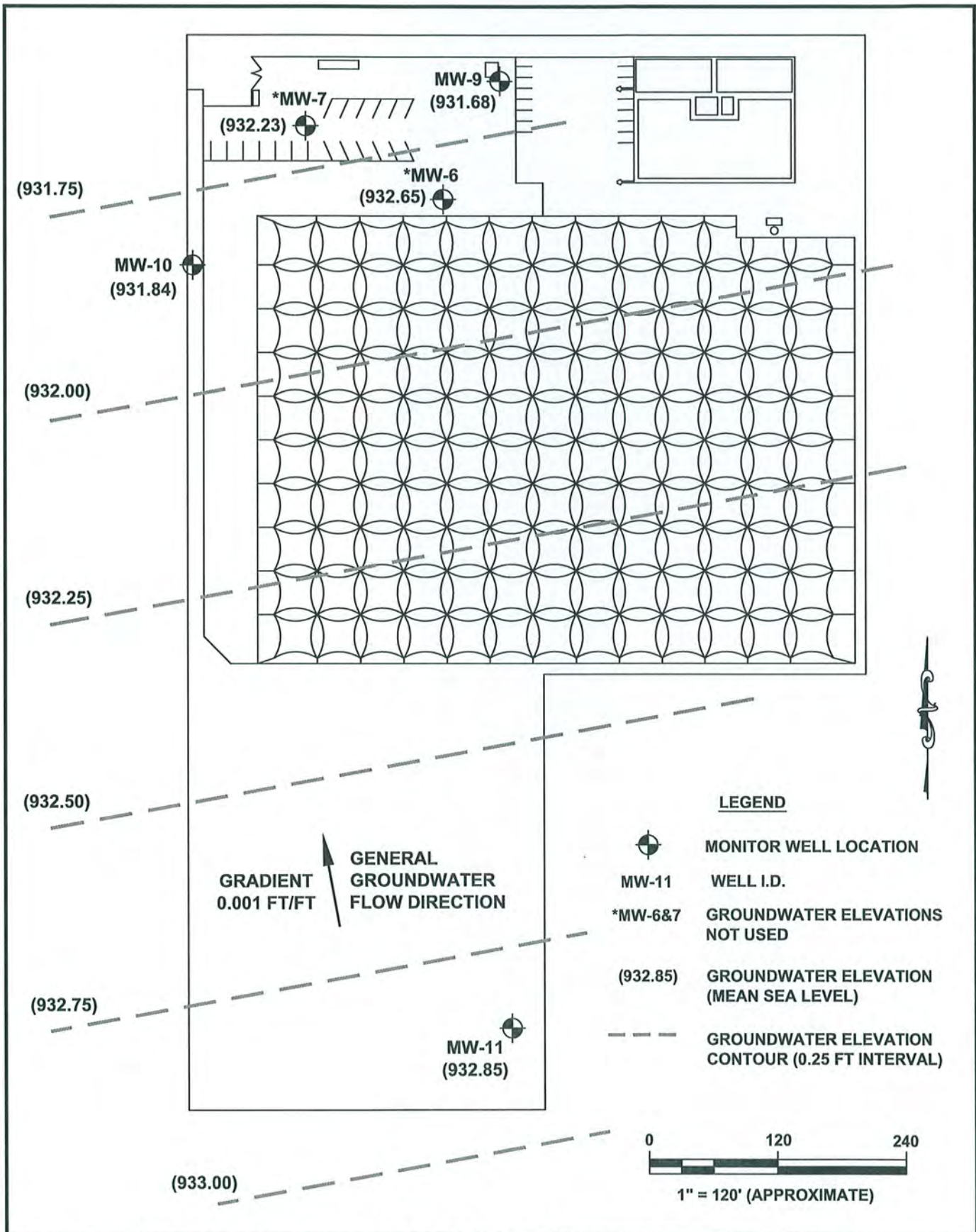
TIN MIN
 12°
 06/02/11

SITE VICINITY MAP

WORLD RESOURCES COMPANY
 8113 WEST SHERMAN STREET
 PHOENIX, ARIZONA

| | | |
|--------------------------------|----------------|--------|
| PROJECT NUMBER: 034.41558.0001 | DATE: 06/02/11 | FIGURE |
| APPROVED BY: DH | DRAWN BY: BL | 1 |

ATC ASSOCIATES INC. 9185 South Farmer Avenue, Suite 111
 Tempe, Arizona 85284



SITE LOCATION AND POTENTIOMETRIC SURFACE MAP (MAY 10, 2011)

WORLD RESOURCES COMPANY
8113 WEST SHERMAN STREET
PHOENIX, ARIZONA

| | | |
|--------------------------------|----------------|--------|
| PROJECT NUMBER: 034.41558.0001 | DATE: 06/02/11 | FIGURE |
| APPROVED BY: DH | DRAWN BY: BL | 2 |

VATC ASSOCIATES INC. 9185 South Farmer Avenue, Suite 111
Tempe, Arizona 85284

TABLES

Table 1
Groundwater Monitoring Data
World Resources Company
Tolleson, Arizona

| Monitoring Well I.D. | Wellhead Elevation MSL (ft) | Monitoring Date | Depth to Water (ft) | Groundwater Elevation MSL (ft) |
|-----------------------------|------------------------------------|------------------------|----------------------------|---------------------------------------|
| MW-6 | 1,013.75 | 05/10/11 | 81.10 | 932.65 |
| | | | | |
| | | | | |
| MW-7 | 1,016.44 | 05/10/11 | 84.21 | 932.23 |
| | | | | |
| | | | | |
| MW-9 | 1,016.94 | 05/10/11 | 85.26 | 931.68 |
| | | | | |
| | | | | |
| MW-10 | 1,013.24 | 05/10/11 | 81.40 | 931.84 |
| | | | | |
| | | | | |
| MW-11 | 1,010.74 | 05/10/11 | 77.89 | 932.85 |
| | | | | |
| | | | | |

*Monitor well top of casing elevations surveyed by Malcolm Pirnie
MSL = Mean Sea Level*

Table 2
Analytical Results for Inorganics in Groundwater (units are mg/l, except as noted)
World Resources Company
Tolleson, Arizona

| Analyte | Date | MW-9 | MW-10 | MW-11 | Duplicate (MW-9) | Equipment Blank | AWQS | Field Duplicate RPD |
|---|-----------|-------------|-------------|-------------|------------------|-----------------|-------|---------------------|
| <i>General Chemistry</i> | | | | | | | | |
| Chloride | 5/10/2011 | 425 | 446 | 501 | 425 | <1.00 | NP | 0.0% |
| Fluoride | 5/10/2011 | 1.37 | 1.22 | 1.56 | 1.34 | <0.500 | 4.0 | 2.2% |
| Sulfate | 5/10/2011 | 172 | 180 | 200 | 180 | <1.00 | NP | 4.5% |
| Nitrate (as N) | 5/10/2011 | 13.5 | 14.4 | 15.7 | 13.7 | <0.100 | 10.0 | 1.5% |
| Nitrite (as N) | 5/10/2011 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 1.0 | - |
| Phosphorus, Total (as P) | 5/10/2011 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | NP | - |
| Total Dissolved Solids (TDS) | 5/10/2011 | 1400 | 1540 | 1600 | 1460 | <10.0 | NP | 4.2% |
| Alkalinity, Bicarbonate (as CaCO ₃) | 5/10/2011 | 420 | 420 | 430 | 414 | <20.0 | NP | 1.4% |
| Alkalinity, Carbonate (as CaCO ₃) | 5/10/2011 | <20.0 | <20.0 | <20.0 | <20.0 | <20.0 | NP | - |
| Alkalinity, Hydroxide (as CaCO ₃) | 5/10/2011 | <20.0 | <20.0 | <20.0 | <20.0 | <20.0 | NP | - |
| Alkalinity, Total (as CaCO ₃) | 5/10/2011 | 420 | 420 | 430 | 414 | <20.0 | NP | 1.4% |
| Turbidity (units: NTU) | 5/10/2011 | 0.420 | 0.202 | 1.08 | 0.410 | 0.145 | 5.0 | 2.4% |
| <i>Total Cyanide</i> | | | | | | | | |
| Cyanide, Total | 5/10/2011 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | 0.200 | - |
| <i>Dissolved Metals</i> | | | | | | | | |
| Barium | 5/10/2011 | 0.0431 | 0.0446 | 0.0421 | 0.0421 | <0.0100 | 2.0 | 2.3% |
| Beryllium | 5/10/2011 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | 0.004 | - |
| Cadmium | 5/10/2011 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | 0.005 | - |
| Calcium | 5/10/2011 | 59.7 | 63.1 | 73.2 | 58.1 | <1.00 | NP | 2.7% |
| Chromium | 5/10/2011 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | 0.100 | - |
| Copper | 5/10/2011 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | NP | - |
| Iron | 5/10/2011 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | NP | - |
| Magnesium | 5/10/2011 | 33.9 | 33.7 | 43.2 | 33.2 | <1.00 | NP | 2.1% |
| Manganese | 5/10/2011 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | NP | - |
| Nickel | 5/10/2011 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | 0.100 | - |
| Potassium | 5/10/2011 | 8.00 | 9.48 | 7.91 | 7.30 | <2.00 | NP | 9.2% |
| Silver | 5/10/2011 | <0.00500 | <0.00500 | <0.00500 | <0.00500 | <0.00500 | NP | - |
| Sodium | 5/10/2011 | 398 | 394 | 405 | 406 | <2.00 | NP | 2.0% |
| Tin | 5/10/2011 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | NP | - |
| Zinc | 5/10/2011 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | <0.0500 | NP | - |
| Antimony | 5/10/2011 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | 0.006 | - |
| Arsenic | 5/10/2011 | <0.0100 | <0.0100 | 0.0111 | <0.0100 | <0.0100 | 0.050 | - |
| Lead | 5/10/2011 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | 0.050 | - |
| Mercury | 5/10/2011 | <0.000200 | <0.000200 | <0.000200 | 0.000245 | <0.000200 | 0.002 | - |
| Selenium | 5/10/2011 | <0.0250 | <0.0250 | <0.0250 | <0.0250 | <0.0250 | 0.050 | - |
| Thallium | 5/10/2011 | <0.000500 | <0.000500 | <0.000500 | <0.000500 | <0.000500 | 0.002 | - |

AWQS = Aquifer Water Quality Standard

RPD = Relative Percent Difference

NP=None Published

<0.020 = Less Than The Practical Quantitation Limit

Bold = Exceeds AWQS

Appendix A
Field Data Sheets



Field Report

FLD-100

Revision 0.0

| | | |
|--|---|---------------------------|
| ATC Branch: <u>TEMP</u> | Date: <u>5/10/11</u> | Page <u>1</u> of <u>1</u> |
| ATC Representative(s): <u>DRH</u> | Project: <u>World Resources Company</u> | |
| Role: | Location: <u>Telleson</u> | |
| Contact Information: | Project No: <u>34,41558,0001</u> | Task No: <u>00001</u> |
| Scope of Work: | Weather: | Temperature: |
| <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> Assessment <input type="checkbox"/> Remediation <input type="checkbox"/> Closure | Contractor: | |

| Time: | Comments: |
|-------|---|
| 06:30 | CHECKED IN VISITOR'S LOG, OBTAINED BADGE. SET UP DI CON. STATION, CLEANED PUMP, COLLECTED EQUIP. BENTONITE SAMPLE |
| 07:30 | MEASURED DEPTHS TO WATER |
| | MW-11 77.89' |
| | MW-10 81.40' |
| | MW-9 85.26' |
| | MW-6 81.10' |
| | MW-7 84.21' |
| 08:30 | Commenced low-flow purge of wells MW-9, MW-10 and MW-11 Collected DUP sample from MW-9. |
| 12:30 | Sampling complete. Signed out and returned badge |

| | | |
|--------------------------------|---------------------------|----------|
| Equipment Used: | | |
| Contractor Hours (per Person): | Staff / Technician Hours: | Mileage: |
| Copies To: | Project Manager: | |
| | Reviewed By: | |



Date 5/10/11

Field Data Sheet

| | | | |
|---------------|---------------|---------------|--------------|
| Project No. | 34.41558.0001 | Personnel | DH/KM |
| Site Name | WRC | Site Location | Tolleson, AZ |
| Site/Well No. | MW-9 | Sample ID | MW-9 |
| Weather | | Duplicate ID | DUP |

| | | | |
|--------------|-------------|-------------------|----------|
| MW TD | | MW TOC Elev. | |
| MW DTW | 85.26 | Casing Diam. | 4 inches |
| Purge Rate | 400 ml/min. | Water Level Elev. | |
| Purge Method | Low Flow | | |

| | | | |
|-------------------|------|------------------|------|
| Pump Time Start | 8:40 | Pump Time Stop | 9:20 |
| Sample Time Start | 9:05 | Sample Time Stop | 9:20 |

| Time | Appearance Color/Odor | mg/L D.O. | pH | EC mS/cm or uS/cm | Temp. (°C) | TDS mg/L Turb. | Sal. |
|------|--------------------------|--------------|------|----------------------|------------|-------------------|------|
| 8:45 | Clear/None | 6.30 | 7.31 | 2.61 | 22.5 | 1700 | 1.35 |
| 8:50 | Clear/None | 6.39 | 7.40 | 2.61 | 22.9 | 1692 | 1.34 |
| 8:55 | Clear/None | 5.83 | 7.48 | 2.63 | 24.3 | 1707 | 1.36 |
| 9:00 | Clear/None | 5.98 | 7.54 | 2.62 | 25.7 | 1706 | 1.35 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Sample Container Description

| Constituents | No. Bottles | Preservative |
|--|-------------|--------------------------------|
| Dissolved Metals (see COC): 500 ml poly | 1 | HNO ₃ |
| Alk, Cl, TDS, SO ₄ , NO ₃ , F, Turb.: 1-Liter poly | 1 | None |
| Phosphate, Backup NO ₃ : 500 ml poly | 1 | H ₂ SO ₄ |
| Cyanide: 500 ml poly | 1 | NaOH |



Date 5/10/11

Field Data Sheet

| | | | |
|---------------|---------------|---------------|--------------|
| Project No. | 34.41558.0001 | Personnel | DH/KM |
| Site Name | WRC | Site Location | Tolleson, AZ |
| Site/Well No. | MW-10 | Sample ID | MW-10 |
| Weather | | Duplicate ID | |

| | | | |
|--------------|-------------|-------------------|----------|
| MW TD | | MW TOC Elev. | |
| MW DTW | 81.40 | Casing Diam. | 4 inches |
| Purge Rate | 400 ml/min. | Water Level Elev. | |
| Purge Method | Low Flow | | |

| | | | |
|-------------------|-------|------------------|-------|
| Pump Time Start | 11:55 | Pump Time Stop | 12:25 |
| Sample Time Start | 12:15 | Sample Time Stop | 12:25 |

| Time | Appearance Color/Odor | (mg/L) D.O. | pH | EC mS/cm or uS/cm | Temp. (°C) | TDS (mg/L) Turb. | Sal. |
|-------|--------------------------|----------------|-----|----------------------|------------|------------------------|------|
| 12:00 | Clear/None | 5.0 | 7.4 | 2.69 | 25.8 | 1.749 | 1.39 |
| 12:05 | Clear/None | 4.9 | 7.5 | 2.70 | 25.8 | 1.760 | 1.40 |
| 12:10 | Clear/None | 4.7 | 7.6 | 2.73 | 26.7 | 1.771 | 1.40 |
| 12:15 | Clear/None | 4.7 | 7.7 | 2.74 | 27.1 | 1.782 | 1.41 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Sample Container Description

| Constituents | No. Bottles | Preservative |
|--|-------------|--------------------------------|
| Dissolved Metals (see COC): 500 ml poly | 1 | HNO ₃ |
| Alk, Cl, TDS, SO ₄ , NO ₃ , F, Turb.: 1-Liter poly | 1 | None |
| Phosphate, Backup NO ₃ : 500 ml poly | 1 | H ₂ SO ₄ |
| Cyanide: 500 ml poly | 1 | NaOH |



Date 5/10/11

Field Data Sheet

| | | | |
|---------------|---------------|---------------|--------------|
| Project No. | 34.41558.0001 | Personnel | DH/KM |
| Site Name | WRC | Site Location | Tolleson, AZ |
| Site/Well No. | MW-11 | Sample ID | MW-11 |
| Weather | | Duplicate ID | |

| | | | |
|--------------|-------------|-------------------|----------|
| MW TD | | MW TOC Elev. | |
| MW DTW | 77.89 | Casing Diam. | 4 inches |
| Purge Rate | 400 ml/min. | Water Level Elev. | |
| Purge Method | Low Flow | | |

| | | | |
|-------------------|-------|------------------|-------|
| Pump Time Start | 10:25 | Pump Time Stop | 11:00 |
| Sample Time Start | 10:50 | Sample Time Stop | 11:00 |

| Time | Appearance Color/Odor | (mg/L) | | EC mS/cm or uS/cm | Temp. (°C) | TDS Turb. | SAL |
|-------|--------------------------|--------|-----|----------------------|------------|--------------|------|
| | | D.O. | pH | | | | |
| 10:30 | Clear/None | 7.0 | 7.3 | 3.09 | 24.7 | 2006 | 1.61 |
| 10:35 | Clear/None | 6.6 | 7.4 | 3.02 | 25.0 | 1962 | 1.57 |
| 10:40 | Clear/None | 6.8 | 7.5 | 3.01 | 26.0 | 1958 | 1.56 |
| 10:45 | Clear/None | 6.7 | 7.6 | 2.98 | 28.2 | 1933 | 1.54 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Sample Container Description

| Constituents | No. Bottles | Preservative |
|--|-------------|--------------------------------|
| Dissolved Metals (see COC): 500 ml poly | 1 | HNO ₃ |
| Alk, Cl, TDS, SO ₄ , NO ₃ , F, Turb.: 1-Liter poly | 1 | None |
| Phosphate, Backup NO ₃ : 500 ml poly | 1 | H ₂ SO ₄ |
| Cyanide: 500 ml poly | 1 | NaOH |

Appendix B

Laboratory Groundwater Report and
Chain of Custody Document

Analytical Report 415938

for
ATC Associates

Project Manager: David Howard

World Resources Company

34.41558.0001

15-JUN-11

Collected By: Client



Trans West Analytical Services, LLC

Celebrating 20 Years of commitment to excellence in Environmental Testing Services

3725 E. Atlanta Ave, Phoenix, AZ 85040

Ph: (602) 437-0330

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



15-JUN-11

Project Manager: **David Howard**
ATC Associates
9185 S. Farmer Ave, Suite 107

Tempe, AZ 85284

Reference: XENCO Report No: **415938**
World Resources Company
Project Address:

David Howard :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 415938. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 415938 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Skip Harden
Project Manager

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



CASE NARRATIVE

Client Name: ATC Associates

Project Name: World Resources Company

Project ID: 34.41558.0001

Report Date: 15-JUN-11

Work Order Number: 415938

Date Received: 05/10/2011

Sample receipt non conformances and comments:

Dissolved Mercury analyzed by XENCO-Boca Raton, FL (AZ0761).

All dissolved metals were filtered and preserved at the lab.

6/15/2011

This report was revised to include the Dissolved Sodium results.

Sample receipt non conformances and comments per sample:

None

Flagging Criteria

Arizona Flags

All method blanks, laboratory spikes, and/or matrix spikes met quality control objectives for the parameters associated with this Work Order except as detailed below or on the Data Qualifier page of this report. Data Qualifiers used in this report are in accordance with ADEQ Arizona Data Qualifiers, Revision 3.0 9/20/2007. Data qualifiers (flags) contained within this analytical report have been issued to explain a quality control deficiency, and do not affect the quality (validity) of the data unless noted otherwise in the case narrative.

- D2 Sample required dilution due to high concentration of target analyte.
- M1 Matrix spike recovery was high; the associated blank spike recovery was acceptable.
- M2 Matrix spike recovery was low; the associated blank spike recovery was acceptable.
- M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The associated blank spike recovery was acceptable.



Sample Cross Reference 415938

ATC Associates, Tempe, AZ

World Resources Company

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|--------------|--------|-----------------|--------------|---------------|
| Equip. Blank | W | May-10-11 07:00 | | 415938-001 |
| MW-9 | W | May-10-11 09:05 | | 415938-002 |
| MW-10 | W | May-10-11 12:15 | | 415938-003 |
| MW-11 | W | May-10-11 10:50 | | 415938-004 |
| DUP. | W | May-10-11 12:00 | | 415938-005 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: Equip. Blank | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-001 | Date Collected: May-10-11 07:00 | |

Analytical Method: Alkalinity by SM 2320B
Tech: RLH
Analyst: RLH
Seq Number: 856419

% Moisture:

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|------------------------------------|------------|--------|------|-------|----------------|------|-----|
| Alkalinity, Total (CaCO3) | | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Bicarbonate (as CaCO3) | ALKCACO3 | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Carbonate (as CaCO3) | ALKCARB | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Hydroxide (as CaCO3) | | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |

Analytical Method: Anions by EPA 300.0
Tech: TNL
Analyst: TNL
Seq Number: 855853

Prep Method: E300P
% Moisture:

Date Prep: May-11-11 06:00

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|-------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | <1.00 | 1.00 | mg/L | 05/11/11 15:20 | | 1 |
| Fluoride | 16984-48-8 | <0.500 | 0.500 | mg/L | 05/11/11 15:20 | | 1 |
| Sulfate | 14808-79-8 | <1.00 | 1.00 | mg/L | 05/11/11 15:20 | | 1 |

Analytical Method: Total Cyanide by EPA 335.4
Tech: RGF
Analyst: RGF
Seq Number: 856934

% Moisture:

SUB: E86240

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------|------------|---------|--------|-------|----------------|------|-----|
| Cyanide, Total | 57-12-5 | <0.0100 | 0.0100 | mg/L | 05/20/11 15:00 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: Equip. Blank | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-001 | Date Collected: May-10-11 07:00 | |

| | |
|---|-----------------------------------|
| Analytical Method: Metals, Dissolved, by EPA 200.7 | Prep Method: E200.7P |
| Tech: JHO | % Moisture: |
| Analyst: MGR | Date Prep: May-12-11 11:00 |
| Seq Number: 856206 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|------------|----------|---------|-------|----------------|------|-----|
| Arsenic, Dissolved | 7440-38-2 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:37 | | 1 |
| Barium, Dissolved | 7440-39-3 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:37 | | 1 |
| Beryllium, Dissolved | 7440-41-7 | <0.00200 | 0.00200 | mg/L | 05/14/11 16:37 | | 1 |
| Cadmium, Dissolved | 7440-43-9 | <0.00300 | 0.00300 | mg/L | 05/14/11 16:37 | | 1 |
| Calcium, Dissolved | 7440-70-2 | <1.00 | 1.00 | mg/L | 05/14/11 16:37 | | 1 |
| Chromium, Dissolved | 7440-47-3 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:37 | | 1 |
| Copper, Dissolved | 7440-50-8 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:37 | | 1 |
| Iron, Dissolved | 7439-89-6 | <0.100 | 0.100 | mg/L | 05/14/11 16:37 | | 1 |
| Lead, Dissolved | 7439-92-1 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:37 | | 1 |
| Magnesium, Dissolved | 7439-95-4 | <1.00 | 1.00 | mg/L | 05/14/11 16:37 | | 1 |
| Manganese, Dissolved | 7439-96-5 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:37 | | 1 |
| Nickel, Dissolved | 7440-02-0 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:37 | | 1 |
| Potassium, Dissolved | 7440-09-7 | <2.00 | 2.00 | mg/L | 05/14/11 16:37 | | 1 |
| Selenium, Dissolved | 7782-49-2 | <0.0250 | 0.0250 | mg/L | 05/14/11 16:37 | | 1 |
| Silver, Dissolved | 7440-22-4 | <0.00500 | 0.00500 | mg/L | 05/14/11 16:37 | | 1 |
| Sodium, Dissolved | 7440-23-5 | <2.00 | 2.00 | mg/L | 05/14/11 16:37 | | 1 |
| Tin, Dissolved | 7440-31-5 | <0.0500 | 0.0500 | mg/L | 05/14/11 16:37 | | 1 |
| Zinc, Dissolved | 7440-66-6 | <0.0500 | 0.0500 | mg/L | 05/14/11 16:37 | | 1 |
| Hardness | 471-34-1 | 0 | 6.61 | mg/L | 05/14/11 16:37 | | 1 |

| | |
|---|--------------------|
| Analytical Method: Nitrite by SM 4500-NO2B | % Moisture: |
| Tech: KMD | |
| Analyst: KMD | |
| Seq Number: 855460 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|--------------|------------|---------|--------|-------|----------------|------|-----|
| Nitrite as N | 7727-37-9 | <0.0200 | 0.0200 | mg/L | 05/10/11 14:48 | | 1 |

| | |
|--|-----------------------------------|
| Analytical Method: Nitrate-Nitrite as N by E353.2 | Prep Method: E353.2P |
| Tech: KMD | % Moisture: |
| Analyst: KMD | Date Prep: May-13-11 13:00 |
| Seq Number: 856003 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------|------------|--------|-------|-------|----------------|------|-----|
| Nitrate | 84145-82-4 | <0.100 | 0.100 | mg/L | 05/13/11 13:00 | | 1 |
| Nitrate+Nitrite | 7727-37-9 | <0.100 | 0.100 | mg/L | 05/13/11 13:00 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: Equip. Blank | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-001 | Date Collected: May-10-11 07:00 | |

Analytical Method: Phosphorus, Total by EPA 365.4 **Prep Method:** E365.4_P
Tech: KMD **% Moisture:**
Analyst: KMD **Date Prep:** May-18-11 12:57
Seq Number: 856738

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-------------------------|------------|---------|--------|-------|----------------|------|-----|
| Total Phosphorus (as P) | 7723-14-0 | <0.0500 | 0.0500 | mg/L | 05/18/11 13:00 | | 1 |

Analytical Method: Total Dissolved Solids by SM 2540C **% Moisture:**
Tech: CPH
Analyst: CPH
Seq Number: 856224

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|------------------------|------------|--------|------|-------|----------------|------|-----|
| Total dissolved solids | TDS | <10.0 | 10.0 | mg/L | 05/16/11 14:39 | | 1 |

Analytical Method: Turbidity by EPA 180.1 **% Moisture:**
Tech: TNL
Analyst: TNL
Seq Number: 855728

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|-------|-------|----------------|------|-----|
| Turbidity | | 0.145 | 0.100 | NTU | 05/11/11 10:00 | | 1 |

Analytical Method: Dissolved Mercury by EPA 245.1 **Prep Method:** E245.1P
Tech: SOA **% Moisture:**
Analyst: SOA **Date Prep:** May-20-11 08:00
Seq Number: 856863 SUB: E86240

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|--------------------|------------|-----------|----------|-------|----------------|------|-----|
| Mercury, Dissolved | 7439-97-6 | <0.000200 | 0.000200 | mg/L | 05/20/11 12:23 | | 1 |

Analytical Method: Metals, Dissolved, by EPA 200.8 **Prep Method:** E200.8P
Tech: JHO **% Moisture:**
Analyst: MDD **Date Prep:** May-12-11 11:00
Seq Number: 856166

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---------------------|------------|-----------|----------|-------|----------------|------|-----|
| Antimony, Dissolved | 7440-36-0 | <0.00200 | 0.00200 | mg/L | 05/14/11 18:34 | | 1 |
| Thallium, Dissolved | 7440-28-0 | <0.000500 | 0.000500 | mg/L | 05/14/11 18:34 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: MW-9 | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-002 | Date Collected: May-10-11 09:05 | |

Analytical Method: Alkalinity by SM 2320B

Tech: RLH

Analyst: RLH

Seq Number: 856419

% Moisture:

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|------------------------------------|------------|--------|------|-------|----------------|------|-----|
| Alkalinity, Total (CaCO3) | | 420 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Bicarbonate (as CaCO3) | ALKCACO3 | 420 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Carbonate (as CaCO3) | ALKCARB | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Hydroxide (as CaCO3) | | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |

Analytical Method: Anions by EPA 300.0

Tech: TNL

Analyst: TNL

Seq Number: 855853

Prep Method: E300P

% Moisture:

Date Prep: May-11-11 06:00

Dilution Analysis:

Seq#: 855853 Date Analyzed: 11/05/11 16:01 Date Prep: 05/12/11 16:41

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|-------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 425 | 10.0 | mg/L | 11/05/11 16:01 | D2 | 10 |
| Fluoride | 16984-48-8 | 1.37 | 0.500 | mg/L | 05/11/11 15:40 | | 1 |
| Sulfate | 14808-79-8 | 172 | 10.0 | mg/L | 11/05/11 16:01 | D2 | 10 |

Analytical Method: Total Cyanide by EPA 335.4

Tech: RGF

Analyst: RGF

Seq Number: 856934

% Moisture:

SUB: E86240

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------|------------|---------|--------|-------|----------------|------|-----|
| Cyanide, Total | 57-12-5 | <0.0100 | 0.0100 | mg/L | 05/20/11 15:02 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: MW-9 | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-002 | Date Collected: May-10-11 09:05 | |

| | |
|---|-----------------------------------|
| Analytical Method: Metals, Dissolved, by EPA 200.7 | Prep Method: E200.7P |
| Tech: JHO | % Moisture: |
| Analyst: MGR | Date Prep: May-12-11 11:00 |
| Seq Number: 856206 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------|------------|---------------|---------|-------|----------------|------|-----|
| Arsenic, Dissolved | 7440-38-2 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:41 | | 1 |
| Barium, Dissolved | 7440-39-3 | 0.0431 | 0.0100 | mg/L | 05/14/11 16:41 | | 1 |
| Beryllium, Dissolved | 7440-41-7 | <0.00200 | 0.00200 | mg/L | 05/14/11 16:41 | | 1 |
| Cadmium, Dissolved | 7440-43-9 | <0.00300 | 0.00300 | mg/L | 05/14/11 16:41 | | 1 |
| Calcium, Dissolved | 7440-70-2 | 59.7 | 1.00 | mg/L | 05/14/11 16:41 | | 1 |
| Chromium, Dissolved | 7440-47-3 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:41 | | 1 |
| Copper, Dissolved | 7440-50-8 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:41 | | 1 |
| Iron, Dissolved | 7439-89-6 | <0.100 | 0.100 | mg/L | 05/14/11 16:41 | | 1 |
| Lead, Dissolved | 7439-92-1 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:41 | | 1 |
| Magnesium, Dissolved | 7439-95-4 | 33.9 | 1.00 | mg/L | 05/14/11 16:41 | | 1 |
| Manganese, Dissolved | 7439-96-5 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:41 | | 1 |
| Nickel, Dissolved | 7440-02-0 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:41 | | 1 |
| Potassium, Dissolved | 7440-09-7 | 8.00 | 2.00 | mg/L | 05/14/11 16:41 | | 1 |
| Selenium, Dissolved | 7782-49-2 | <0.0250 | 0.0250 | mg/L | 05/14/11 16:41 | | 1 |
| Silver, Dissolved | 7440-22-4 | <0.00500 | 0.00500 | mg/L | 05/14/11 16:41 | | 1 |
| Sodium, Dissolved | 7440-23-5 | 398 | 2.00 | mg/L | 05/14/11 16:41 | | 1 |
| Tin, Dissolved | 7440-31-5 | <0.0500 | 0.0500 | mg/L | 05/14/11 16:41 | | 1 |
| Zinc, Dissolved | 7440-66-6 | <0.0500 | 0.0500 | mg/L | 05/14/11 16:41 | | 1 |
| Hardness | 471-34-1 | 289 | 6.61 | mg/L | 05/14/11 16:41 | | 1 |

| | |
|---|--------------------|
| Analytical Method: Nitrite by SM 4500-NO2B | % Moisture: |
| Tech: KMD | |
| Analyst: KMD | |
| Seq Number: 855460 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|--------------|------------|---------|--------|-------|----------------|------|-----|
| Nitrite as N | 7727-37-9 | <0.0200 | 0.0200 | mg/L | 05/10/11 14:48 | | 1 |

| | |
|--|-----------------------------------|
| Analytical Method: Nitrate-Nitrite as N by E353.2 | Prep Method: E353.2P |
| Tech: KMD | % Moisture: |
| Analyst: KMD | Date Prep: May-13-11 13:01 |
| Seq Number: 856003 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------|------------|-------------|-------|-------|----------------|------|-----|
| Nitrate | 84145-82-4 | 13.5 | 0.100 | mg/L | 05/13/11 13:01 | | 1 |
| Nitrate+Nitrite | 7727-37-9 | 13.5 | 0.100 | mg/L | 05/13/11 13:01 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | | | | | | |
|--|--|---------------------------------------|-------------|-----------------------------|----------------------|-------------|------------|
| Sample Id: MW-9 | Matrix: Water | Date Received: May-10-11 14:20 | | | | | |
| Lab Sample Id: 415938-002 | Date Collected: May-10-11 09:05 | | | | | | |
| Analytical Method: Phosphorus, Total by EPA 365.4 | | Prep Method: E365.4_P | | | | | |
| Tech: KMD | | % Moisture: | | | | | |
| Analyst: KMD | | Date Prep: May-18-11 12:57 | | | | | |
| Seq Number: 856738 | | | | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Total Phosphorus (as P) | 7723-14-0 | <0.0500 | 0.0500 | mg/L | 05/18/11 13:01 | | 1 |
| Analytical Method: Total Dissolved Solids by SM 2540C | | | | % Moisture: | | | |
| Tech: CPH | | | | | | | |
| Analyst: CPH | | | | | | | |
| Seq Number: 856224 | | | | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Total dissolved solids | TDS | 1400 | 10.0 | mg/L | 05/16/11 14:39 | | 1 |
| Analytical Method: Turbidity by EPA 180.1 | | | | % Moisture: | | | |
| Tech: TNL | | | | | | | |
| Analyst: TNL | | | | | | | |
| Seq Number: 855728 | | | | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Turbidity | | 0.420 | 0.100 | NTU | 05/11/11 10:00 | | 1 |
| Analytical Method: Dissolved Mercury by EPA 245.1 | | | | Prep Method: E245.1P | | | |
| Tech: SOA | | | | % Moisture: | | | |
| Analyst: SOA | | Date Prep: May-20-11 08:00 | | | | | |
| Seq Number: 856863 | | | SUB: E86240 | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Mercury, Dissolved | 7439-97-6 | <0.000200 | 0.000200 | mg/L | 05/20/11 12:07 | | 1 |
| Analytical Method: Metals, Dissolved, by EPA 200.8 | | | | Prep Method: E200.8P | | | |
| Tech: JHO | | | | % Moisture: | | | |
| Analyst: MDD | | Date Prep: May-12-11 11:00 | | | | | |
| Seq Number: 856166 | | | | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Antimony, Dissolved | 7440-36-0 | <0.00200 | 0.00200 | mg/L | 05/14/11 17:50 | | 1 |
| Thallium, Dissolved | 7440-28-0 | <0.000500 | 0.000500 | mg/L | 05/14/11 17:50 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: MW-10 | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-003 | Date Collected: May-10-11 12:15 | |

Analytical Method: Alkalinity by SM 2320B
Tech: RLH
Analyst: RLH
Seq Number: 856419

% Moisture:

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|------------------------------------|------------|--------|------|-------|----------------|------|-----|
| Alkalinity, Total (CaCO3) | | 420 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Bicarbonate (as CaCO3) | ALKCACO3 | 420 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Carbonate (as CaCO3) | ALKCARB | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Hydroxide (as CaCO3) | | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |

Analytical Method: Anions by EPA 300.0
Tech: TNL
Analyst: TNL
Seq Number: 855853

Prep Method: E300P
% Moisture:

Date Prep: May-11-11 06:00

Dilution Analysis:
Seq#: 855853 Date Analyzed: 11/05/11 16:42 Date Prep: 05/12/11 16:41

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|-------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 446 | 10.0 | mg/L | 11/05/11 16:42 | D2 | 10 |
| Fluoride | 16984-48-8 | 1.22 | 0.500 | mg/L | 05/11/11 16:21 | | 1 |
| Sulfate | 14808-79-8 | 180 | 10.0 | mg/L | 11/05/11 16:42 | D2 | 10 |

Analytical Method: Total Cyanide by EPA 335.4
Tech: RGF
Analyst: RGF
Seq Number: 856934

% Moisture:

SUB: E86240

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------|------------|---------|--------|-------|----------------|------|-----|
| Cyanide, Total | 57-12-5 | <0.0100 | 0.0100 | mg/L | 05/20/11 15:04 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: MW-10 | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-003 | Date Collected: May-10-11 12:15 | |

Analytical Method: Metals, Dissolved, by EPA 200.7 **Prep Method:** E200.7P
Tech: JHO **% Moisture:**
Analyst: MGR **Date Prep:** May-12-11 11:00
Seq Number: 856206

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------|------------|---------------|---------|-------|----------------|------|-----|
| Arsenic, Dissolved | 7440-38-2 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:46 | | 1 |
| Barium, Dissolved | 7440-39-3 | 0.0446 | 0.0100 | mg/L | 05/14/11 16:46 | | 1 |
| Beryllium, Dissolved | 7440-41-7 | <0.00200 | 0.00200 | mg/L | 05/14/11 16:46 | | 1 |
| Cadmium, Dissolved | 7440-43-9 | <0.00300 | 0.00300 | mg/L | 05/14/11 16:46 | | 1 |
| Calcium, Dissolved | 7440-70-2 | 63.1 | 1.00 | mg/L | 05/14/11 16:46 | | 1 |
| Chromium, Dissolved | 7440-47-3 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:46 | | 1 |
| Copper, Dissolved | 7440-50-8 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:46 | | 1 |
| Iron, Dissolved | 7439-89-6 | <0.100 | 0.100 | mg/L | 05/14/11 16:46 | | 1 |
| Lead, Dissolved | 7439-92-1 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:46 | | 1 |
| Magnesium, Dissolved | 7439-95-4 | 33.7 | 1.00 | mg/L | 05/14/11 16:46 | | 1 |
| Manganese, Dissolved | 7439-96-5 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:46 | | 1 |
| Nickel, Dissolved | 7440-02-0 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:46 | | 1 |
| Potassium, Dissolved | 7440-09-7 | 9.48 | 2.00 | mg/L | 05/14/11 16:46 | | 1 |
| Selenium, Dissolved | 7782-49-2 | <0.0250 | 0.0250 | mg/L | 05/14/11 16:46 | | 1 |
| Silver, Dissolved | 7440-22-4 | <0.00500 | 0.00500 | mg/L | 05/14/11 16:46 | | 1 |
| Sodium, Dissolved | 7440-23-5 | 394 | 2.00 | mg/L | 05/14/11 16:46 | | 1 |
| Tin, Dissolved | 7440-31-5 | <0.0500 | 0.0500 | mg/L | 05/14/11 16:46 | | 1 |
| Zinc, Dissolved | 7440-66-6 | <0.0500 | 0.0500 | mg/L | 05/14/11 16:46 | | 1 |
| Hardness | 471-34-1 | 296 | 6.61 | mg/L | 05/14/11 16:46 | | 1 |

Analytical Method: Nitrite by SM 4500-NO2B **% Moisture:**
Tech: KMD
Analyst: KMD
Seq Number: 855460

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|--------------|------------|---------|--------|-------|----------------|------|-----|
| Nitrite as N | 7727-37-9 | <0.0200 | 0.0200 | mg/L | 05/10/11 14:48 | | 1 |

Analytical Method: Nitrate-Nitrite as N by E353.2 **Prep Method:** E353.2P
Tech: KMD **% Moisture:**
Analyst: KMD **Date Prep:** May-13-11 13:03
Seq Number: 856003

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------|------------|--------|-------|-------|----------------|------|-----|
| Nitrate | 84145-82-4 | 14.4 | 0.100 | mg/L | 05/13/11 13:03 | | 1 |
| Nitrate+Nitrite | 7727-37-9 | 14.4 | 0.100 | mg/L | 05/13/11 13:03 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: MW-10 | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-003 | Date Collected: May-10-11 12:15 | |

| | |
|--|-----------------------------------|
| Analytical Method: Phosphorus, Total by EPA 365.4 | Prep Method: E365.4_P |
| Tech: KMD | % Moisture: |
| Analyst: KMD | Date Prep: May-18-11 12:57 |
| Seq Number: 856738 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-------------------------|------------|---------|--------|-------|----------------|------|-----|
| Total Phosphorus (as P) | 7723-14-0 | <0.0500 | 0.0500 | mg/L | 05/18/11 13:03 | | 1 |

| | |
|--|--------------------|
| Analytical Method: Total Dissolved Solids by SM 2540C | % Moisture: |
| Tech: CPH | |
| Analyst: CPH | |
| Seq Number: 856224 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|------------------------|------------|--------|------|-------|----------------|------|-----|
| Total dissolved solids | TDS | 1540 | 10.0 | mg/L | 05/16/11 14:39 | | 1 |

| | |
|--|--------------------|
| Analytical Method: Turbidity by EPA 180.1 | % Moisture: |
| Tech: TNL | |
| Analyst: TNL | |
| Seq Number: 855728 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|-------|-------|----------------|------|-----|
| Turbidity | | 0.202 | 0.100 | NTU | 05/11/11 10:00 | | 1 |

| | |
|--|-----------------------------------|
| Analytical Method: Dissolved Mercury by EPA 245.1 | Prep Method: E245.1P |
| Tech: SOA | % Moisture: |
| Analyst: SOA | Date Prep: May-20-11 08:00 |
| Seq Number: 856863 | SUB: E86240 |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|--------------------|------------|-----------|----------|-------|----------------|------|-----|
| Mercury, Dissolved | 7439-97-6 | <0.000200 | 0.000200 | mg/L | 05/20/11 12:25 | | 1 |

| | |
|---|-----------------------------------|
| Analytical Method: Metals, Dissolved, by EPA 200.8 | Prep Method: E200.8P |
| Tech: JHO | % Moisture: |
| Analyst: MDD | Date Prep: May-12-11 11:00 |
| Seq Number: 856166 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---------------------|------------|-----------|----------|-------|----------------|------|-----|
| Antimony, Dissolved | 7440-36-0 | <0.00200 | 0.00200 | mg/L | 05/14/11 18:42 | | 1 |
| Thallium, Dissolved | 7440-28-0 | <0.000500 | 0.000500 | mg/L | 05/14/11 18:42 | | 1 |

Project: Phoenix XENCO - Master Project



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: MW-11 | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-004 | Date Collected: May-10-11 10:50 | |

Analytical Method: Alkalinity by SM 2320B

Tech: RLH

Analyst: RLH

Seq Number: 856419

% Moisture:

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|------------------------------------|------------|--------|------|-------|----------------|------|-----|
| Alkalinity, Total (CaCO3) | | 430 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Bicarbonate (as CaCO3) | ALKCACO3 | 430 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Carbonate (as CaCO3) | ALKCARB | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Hydroxide (as CaCO3) | | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |

Analytical Method: Anions by EPA 300.0

Tech: TNL

Analyst: TNL

Seq Number: 855853

Prep Method: E300P

% Moisture:

Date Prep: May-11-11 06:00

Dilution Analysis:

Seq#: 855853 Date Analyzed: 11/05/11 18:04 Date Prep: 05/12/11 16:41

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|-------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 501 | 10.0 | mg/L | 11/05/11 18:04 | D2 | 10 |
| Fluoride | 16984-48-8 | 1.56 | 0.500 | mg/L | 05/11/11 17:44 | | 1 |
| Sulfate | 14808-79-8 | 200 | 10.0 | mg/L | 11/05/11 18:04 | D2 | 10 |

Analytical Method: Total Cyanide by EPA 335.4

Tech: RGF

Analyst: RGF

Seq Number: 856934

% Moisture:

SUB: E86240

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------|------------|---------|--------|-------|----------------|------|-----|
| Cyanide, Total | 57-12-5 | <0.0100 | 0.0100 | mg/L | 05/20/11 15:06 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: MW-11 | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-004 | Date Collected: May-10-11 10:50 | |

Analytical Method: Metals, Dissolved, by EPA 200.7 **Prep Method:** E200.7P
Tech: JHO **% Moisture:**
Analyst: MGR **Date Prep:** May-12-11 11:00
Seq Number: 856206

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|------------|----------|---------|-------|----------------|------|-----|
| Arsenic, Dissolved | 7440-38-2 | 0.0111 | 0.0100 | mg/L | 05/14/11 16:50 | | 1 |
| Barium, Dissolved | 7440-39-3 | 0.0421 | 0.0100 | mg/L | 05/14/11 16:50 | | 1 |
| Beryllium, Dissolved | 7440-41-7 | <0.00200 | 0.00200 | mg/L | 05/14/11 16:50 | | 1 |
| Cadmium, Dissolved | 7440-43-9 | <0.00300 | 0.00300 | mg/L | 05/14/11 16:50 | | 1 |
| Calcium, Dissolved | 7440-70-2 | 73.2 | 1.00 | mg/L | 05/14/11 16:50 | | 1 |
| Chromium, Dissolved | 7440-47-3 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:50 | | 1 |
| Copper, Dissolved | 7440-50-8 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:50 | | 1 |
| Iron, Dissolved | 7439-89-6 | <0.100 | 0.100 | mg/L | 05/14/11 16:50 | | 1 |
| Lead, Dissolved | 7439-92-1 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:50 | | 1 |
| Magnesium, Dissolved | 7439-95-4 | 43.2 | 1.00 | mg/L | 05/14/11 16:50 | | 1 |
| Manganese, Dissolved | 7439-96-5 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:50 | | 1 |
| Nickel, Dissolved | 7440-02-0 | <0.0100 | 0.0100 | mg/L | 05/14/11 16:50 | | 1 |
| Potassium, Dissolved | 7440-09-7 | 7.91 | 2.00 | mg/L | 05/14/11 16:50 | | 1 |
| Selenium, Dissolved | 7782-49-2 | <0.0250 | 0.0250 | mg/L | 05/14/11 16:50 | | 1 |
| Silver, Dissolved | 7440-22-4 | <0.00500 | 0.00500 | mg/L | 05/14/11 16:50 | | 1 |
| Sodium, Dissolved | 7440-23-5 | 405 | 2.00 | mg/L | 05/14/11 16:50 | M3 | 1 |
| Tin, Dissolved | 7440-31-5 | <0.0500 | 0.0500 | mg/L | 05/14/11 16:50 | | 1 |
| Zinc, Dissolved | 7440-66-6 | <0.0500 | 0.0500 | mg/L | 05/14/11 16:50 | | 1 |
| Hardness | 471-34-1 | 360 | 6.61 | mg/L | 05/14/11 16:50 | | 1 |

Analytical Method: Nitrite by SM 4500-NO2B **% Moisture:**
Tech: KMD
Analyst: KMD
Seq Number: 855460

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|--------------|------------|---------|--------|-------|----------------|------|-----|
| Nitrite as N | 7727-37-9 | <0.0200 | 0.0200 | mg/L | 05/10/11 14:48 | | 1 |

Analytical Method: Nitrate-Nitrite as N by E353.2 **Prep Method:** E353.2P
Tech: KMD **% Moisture:**
Analyst: KMD **Date Prep:** May-13-11 13:04
Seq Number: 856003

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------|------------|--------|-------|-------|----------------|------|-----|
| Nitrate | 84145-82-4 | 15.7 | 0.100 | mg/L | 05/13/11 13:04 | | 1 |
| Nitrate+Nitrite | 7727-37-9 | 15.7 | 0.100 | mg/L | 05/13/11 13:04 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: MW-11 | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-004 | Date Collected: May-10-11 10:50 | |

Analytical Method: Phosphorus, Total by EPA 365.4 **Prep Method:** E365.4_P
Tech: KMD **% Moisture:**
Analyst: KMD **Date Prep:** May-18-11 12:57
Seq Number: 856738

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-------------------------|------------|---------|--------|-------|----------------|------|-----|
| Total Phosphorus (as P) | 7723-14-0 | <0.0500 | 0.0500 | mg/L | 05/18/11 13:04 | | 1 |

Analytical Method: Total Dissolved Solids by SM 2540C **% Moisture:**
Tech: CPH
Analyst: CPH
Seq Number: 856224

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|------------------------|------------|--------|------|-------|----------------|------|-----|
| Total dissolved solids | TDS | 1600 | 10.0 | mg/L | 05/16/11 14:39 | | 1 |

Analytical Method: Turbidity by EPA 180.1 **% Moisture:**
Tech: TNL
Analyst: TNL
Seq Number: 855728

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|-------|-------|----------------|------|-----|
| Turbidity | | 1.08 | 0.100 | NTU | 05/11/11 10:00 | | 1 |

Analytical Method: Dissolved Mercury by EPA 245.1 **Prep Method:** E245.1P
Tech: SOA **% Moisture:**
Analyst: SOA **Date Prep:** May-20-11 08:00
Seq Number: 856863 SUB: E86240

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|--------------------|------------|-----------|----------|-------|----------------|------|-----|
| Mercury, Dissolved | 7439-97-6 | <0.000200 | 0.000200 | mg/L | 05/20/11 12:27 | | 1 |

Analytical Method: Metals, Dissolved, by EPA 200.8 **Prep Method:** E200.8P
Tech: JHO **% Moisture:**
Analyst: MDD **Date Prep:** May-12-11 11:00
Seq Number: 856166

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|---------------------|------------|-----------|----------|-------|----------------|------|-----|
| Antimony, Dissolved | 7440-36-0 | <0.00200 | 0.00200 | mg/L | 05/14/11 18:50 | | 1 |
| Thallium, Dissolved | 7440-28-0 | <0.000500 | 0.000500 | mg/L | 05/14/11 18:50 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: DUP. | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-005 | Date Collected: May-10-11 12:00 | |

Analytical Method: Alkalinity by SM 2320B
Tech: RLH
Analyst: RLH
Seq Number: 856419

% Moisture:

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|------------------------------------|------------|--------|------|-------|----------------|------|-----|
| Alkalinity, Total (CaCO3) | | 414 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Bicarbonate (as CaCO3) | ALKCACO3 | 414 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Carbonate (as CaCO3) | ALKCARB | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |
| Alkalinity, Hydroxide (as CaCO3) | | <20.0 | 20.0 | mg/L | 05/17/11 15:00 | | 1 |

Analytical Method: Anions by EPA 300.0
Tech: TNL
Analyst: TNL
Seq Number: 855853

Prep Method: E300P
% Moisture:

Date Prep: May-11-11 06:00

Dilution Analysis:
Seq#: 855853 Date Analyzed: 11/05/11 18:46 Date Prep: 05/12/11 16:41

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|-------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 425 | 10.0 | mg/L | 11/05/11 18:46 | D2 | 10 |
| Fluoride | 16984-48-8 | 1.34 | 0.500 | mg/L | 05/11/11 18:25 | | 1 |
| Sulfate | 14808-79-8 | 180 | 10.0 | mg/L | 11/05/11 18:46 | D2 | 10 |

Analytical Method: Total Cyanide by EPA 335.4
Tech: RGF
Analyst: RGF
Seq Number: 856934

% Moisture:

SUB: E86240

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------|------------|---------|--------|-------|----------------|------|-----|
| Cyanide, Total | 57-12-5 | <0.0100 | 0.0100 | mg/L | 05/20/11 15:08 | | 1 |



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | |
|----------------------------------|--|---------------------------------------|
| Sample Id: DUP. | Matrix: Water | Date Received: May-10-11 14:20 |
| Lab Sample Id: 415938-005 | Date Collected: May-10-11 12:00 | |

| | |
|---|-----------------------------------|
| Analytical Method: Metals, Dissolved, by EPA 200.7 | Prep Method: E200.7P |
| Tech: JHO | % Moisture: |
| Analyst: MGR | Date Prep: May-12-11 11:00 |
| Seq Number: 856206 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------|------------|---------------|---------|-------|----------------|------|-----|
| Arsenic, Dissolved | 7440-38-2 | <0.0100 | 0.0100 | mg/L | 05/14/11 17:11 | | 1 |
| Barium, Dissolved | 7440-39-3 | 0.0421 | 0.0100 | mg/L | 05/14/11 17:11 | | 1 |
| Beryllium, Dissolved | 7440-41-7 | <0.00200 | 0.00200 | mg/L | 05/14/11 17:11 | | 1 |
| Cadmium, Dissolved | 7440-43-9 | <0.00300 | 0.00300 | mg/L | 05/14/11 17:11 | | 1 |
| Calcium, Dissolved | 7440-70-2 | 58.1 | 1.00 | mg/L | 05/14/11 17:11 | | 1 |
| Chromium, Dissolved | 7440-47-3 | <0.0100 | 0.0100 | mg/L | 05/14/11 17:11 | | 1 |
| Copper, Dissolved | 7440-50-8 | <0.0100 | 0.0100 | mg/L | 05/14/11 17:11 | | 1 |
| Iron, Dissolved | 7439-89-6 | <0.100 | 0.100 | mg/L | 05/14/11 17:11 | | 1 |
| Lead, Dissolved | 7439-92-1 | <0.0100 | 0.0100 | mg/L | 05/14/11 17:11 | | 1 |
| Magnesium, Dissolved | 7439-95-4 | 33.2 | 1.00 | mg/L | 05/14/11 17:11 | | 1 |
| Manganese, Dissolved | 7439-96-5 | <0.0100 | 0.0100 | mg/L | 05/14/11 17:11 | | 1 |
| Nickel, Dissolved | 7440-02-0 | <0.0100 | 0.0100 | mg/L | 05/14/11 17:11 | | 1 |
| Potassium, Dissolved | 7440-09-7 | 7.30 | 2.00 | mg/L | 05/14/11 17:11 | | 1 |
| Selenium, Dissolved | 7782-49-2 | <0.0250 | 0.0250 | mg/L | 05/14/11 17:11 | | 1 |
| Silver, Dissolved | 7440-22-4 | <0.00500 | 0.00500 | mg/L | 05/14/11 17:11 | | 1 |
| Sodium, Dissolved | 7440-23-5 | 406 | 2.00 | mg/L | 06/13/11 14:01 | | 1 |
| Tin, Dissolved | 7440-31-5 | <0.0500 | 0.0500 | mg/L | 05/14/11 17:11 | | 1 |
| Zinc, Dissolved | 7440-66-6 | <0.0500 | 0.0500 | mg/L | 05/14/11 17:11 | | 1 |
| Hardness | 471-34-1 | 282 | 6.61 | mg/L | 05/14/11 17:11 | | 1 |

| | |
|---|--------------------|
| Analytical Method: Nitrite by SM 4500-NO2B | % Moisture: |
| Tech: KMD | |
| Analyst: KMD | |
| Seq Number: 855460 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|--------------|------------|---------|--------|-------|----------------|------|-----|
| Nitrite as N | 7727-37-9 | <0.0200 | 0.0200 | mg/L | 05/10/11 14:48 | | 1 |

| | |
|--|-----------------------------------|
| Analytical Method: Nitrate-Nitrite as N by E353.2 | Prep Method: E353.2P |
| Tech: KMD | % Moisture: |
| Analyst: KMD | Date Prep: May-13-11 13:05 |
| Seq Number: 856003 | |

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------|------------|-------------|-------|-------|----------------|------|-----|
| Nitrate | 84145-82-4 | 13.7 | 0.100 | mg/L | 05/13/11 13:05 | | 1 |
| Nitrate+Nitrite | 7727-37-9 | 13.7 | 0.100 | mg/L | 05/13/11 13:05 | | 1 |

Project: Phoenix XENCO - Master Project



Certificate of Analytical Results 415938

ATC Associates, Tempe, AZ
World Resources Company

| | | | | | | | |
|--|--|---------------------------------------|-------------|-----------------------------------|----------------------|-------------|------------|
| Sample Id: DUP. | Matrix: Water | Date Received: May-10-11 14:20 | | | | | |
| Lab Sample Id: 415938-005 | Date Collected: May-10-11 12:00 | | | | | | |
| Analytical Method: Phosphorus, Total by EPA 365.4 | | Prep Method: E365.4_P | | | | | |
| Tech: KMD | | % Moisture: | | | | | |
| Analyst: KMD | | Date Prep: May-18-11 12:57 | | | | | |
| Seq Number: 856738 | | | | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Total Phosphorus (as P) | 7723-14-0 | <0.0500 | 0.0500 | mg/L | 05/18/11 13:06 | | 1 |
| Analytical Method: Total Dissolved Solids by SM 2540C | | | | % Moisture: | | | |
| Tech: CPH | | | | | | | |
| Analyst: CPH | | | | | | | |
| Seq Number: 856224 | | | | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Total dissolved solids | TDS | 1460 | 10.0 | mg/L | 05/16/11 14:39 | | 1 |
| Analytical Method: Turbidity by EPA 180.1 | | | | % Moisture: | | | |
| Tech: TNL | | | | | | | |
| Analyst: TNL | | | | | | | |
| Seq Number: 855728 | | | | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Turbidity | | 0.410 | 0.100 | NTU | 05/11/11 10:00 | | 1 |
| Analytical Method: Dissolved Mercury by EPA 245.1 | | | | Prep Method: E245.1P | | | |
| Tech: SOA | | | | % Moisture: | | | |
| Analyst: SOA | | | | Date Prep: May-20-11 08:00 | | | |
| Seq Number: 856863 | | | SUB: E86240 | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Mercury, Dissolved | 7439-97-6 | 0.000245 | 0.000200 | mg/L | 05/20/11 12:29 | | 1 |
| Analytical Method: Metals, Dissolved, by EPA 200.8 | | | | Prep Method: E200.8P | | | |
| Tech: JHO | | | | % Moisture: | | | |
| Analyst: MDD | | | | Date Prep: May-12-11 11:00 | | | |
| Seq Number: 856166 | | | | | | | |
| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
| Antimony, Dissolved | 7440-36-0 | <0.00200 | 0.00200 | mg/L | 05/14/11 18:59 | | 1 |
| Thallium, Dissolved | 7440-28-0 | <0.000500 | 0.000500 | mg/L | 05/14/11 18:59 | | 1 |



QC Summary **415938**

ATC Associates, Tempe, AZ
World Resources Company

Analytical Method: Alkalinity by SM 2320B

Seq Number: 856419 Matrix: Water
 MB Sample Id: 856419-1-BLK LCS Sample Id: 856419-1-BKS LCSD Sample Id: 856419-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---------------------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Alkalinity, Total (CaCO3) | <20.0 | 167 | 162 | 97 | 166 | 99 | 90-110 | 2 | 20 | mg/L | 05/17/11 15:00 | |

Analytical Method: Alkalinity by SM 2320B

Seq Number: 856419 Matrix: Water
 Parent Sample Id: 415938-003 MD Sample Id: 415938-003 D

| Parameter | Parent Result | MD Result | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---------------------------|---------------|-----------|------|-----------|-------|----------------|------|
| Alkalinity, Total (CaCO3) | 420 | 420 | 0 | 20 | mg/L | 05/17/11 15:00 | |

Analytical Method: Alkalinity by SM 2320B

Seq Number: 856419 Matrix: Water
 Parent Sample Id: 416296-001 MD Sample Id: 416296-001 D

| Parameter | Parent Result | MD Result | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---------------------------|---------------|-----------|------|-----------|-------|----------------|------|
| Alkalinity, Total (CaCO3) | 158 | 158 | 0 | 20 | mg/L | 05/17/11 15:00 | |

Analytical Method: Anions by EPA 300.0

Seq Number: 855853 Matrix: Water Prep Method: E300P
 MB Sample Id: 602638-1-BLK LCS Sample Id: 602638-1-BKS Date Prep: 05/11/2011
 LCSD Sample Id: 602638-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride | <1.00 | 25 | 25.7 | 103 | 25.6 | 102 | 90-110 | 0 | 20 | mg/L | 05/11/11 08:48 | |
| Fluoride | <0.500 | 10 | 10.7 | 107 | 10.7 | 107 | 90-110 | 0 | 20 | mg/L | 05/11/11 08:48 | |
| Sulfate | <1.00 | 25 | 25.7 | 103 | 25.1 | 100 | 90-110 | 2 | 20 | mg/L | 05/11/11 08:48 | |

Analytical Method: Anions by EPA 300.0

Seq Number: 855853 Matrix: Water Prep Method: E300P
 Parent Sample Id: 414804-026 MS Sample Id: 414804-026 S Date Prep: 05/11/2011
 MSD Sample Id: 414804-026 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride | <1.00 | 25 | 25.9 | 104 | 25.9 | 104 | 80-120 | 0 | 20 | mg/L | 05/11/11 09:50 | |
| Fluoride | <0.500 | 10 | 10.1 | 101 | 10.2 | 102 | 80-120 | 1 | 20 | mg/L | 05/11/11 09:50 | |
| Sulfate | 27.2 | 25 | 48.7 | 86 | 48.8 | 86 | 80-120 | 0 | 20 | mg/L | 05/11/11 09:50 | |



QC Summary **415938**

ATC Associates, Tempe, AZ
World Resources Company

Analytical Method: Anions by EPA 300.0
Seq Number: 855853
Parent Sample Id: 415556-001

Matrix: Ground Water
MS Sample Id: 415556-001 S

Prep Method: E300P
Date Prep: 05/11/2011
MSD Sample Id: 415556-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride | 265 | 125 | 398 | 106 | 397 | 106 | 80-120 | 0 | 20 | mg/L | 05/11/11 14:38 | |
| Fluoride | 7.61 | 25 | 58.8 | 205 | 58.7 | 204 | 80-120 | 0 | 20 | mg/L | 05/11/11 14:38 | M1 |
| Sulfate | 115 | 125 | 250 | 108 | 249 | 107 | 80-120 | 0 | 20 | mg/L | 05/11/11 14:38 | |

Analytical Method: Total Cyanide by EPA 335.4
Seq Number: 856934
MB Sample Id: 856934-1-BLK

Matrix: Water
LCS Sample Id: 856934-1-BKS

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | Limits | Units | Analysis Date | Flag |
|----------------|-----------|--------------|------------|----------|--------|-------|----------------|------|
| Cyanide, Total | <0.0100 | 0.2 | 0.213 | 107 | 90-110 | mg/L | 05/20/11 14:17 | |

Analytical Method: Total Cyanide by EPA 335.4
Seq Number: 856934
Parent Sample Id: 416224-008

Matrix: Water
MS Sample Id: 416224-008 S

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | Limits | Units | Analysis Date | Flag |
|----------------|---------------|--------------|-----------|---------|--------|-------|----------------|------|
| Cyanide, Total | 0.435 | 0.2 | 1.23 | 398 | 90-110 | mg/L | 05/20/11 15:14 | M1 |

Analytical Method: Total Cyanide by EPA 335.4
Seq Number: 856934
Parent Sample Id: 416403-001

Matrix: Waste Water
MS Sample Id: 416403-001 S

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | Limits | Units | Analysis Date | Flag |
|----------------|---------------|--------------|-----------|---------|--------|-------|----------------|------|
| Cyanide, Total | 0.0110 | 0.2 | 0.0895 | 39 | 90-110 | mg/L | 05/20/11 14:49 | M2 |

Analytical Method: Total Cyanide by EPA 335.4
Seq Number: 856934
Parent Sample Id: 416403-001

Matrix: Waste Water

MD Sample Id: 416403-001 D

| Parameter | Parent Result | MD Result | %RPD | RPD Limit | Units | Analysis Date | Flag |
|----------------|---------------|-----------|------|-----------|-------|----------------|------|
| Cyanide, Total | 0.0110 | 0.0122 | 10 | 10 | mg/L | 05/20/11 14:53 | |



QC Summary **415938**

ATC Associates, Tempe, AZ
World Resources Company

Analytical Method: Total Cyanide by EPA 335.4

Seq Number: 856934

Matrix: Water

Parent Sample Id: 416224-008

MD Sample Id: 416224-008 D

| Parameter | Parent Result | MD Result | %RPD | RPD Limit | Units | Analysis Date | Flag |
|----------------|---------------|-----------|------|-----------|-------|----------------|------|
| Cyanide, Total | 0.435 | 0.434 | 0 | 10 | mg/L | 05/20/11 14:25 | |

Analytical Method: Metals, Dissolved, by EPA 200.7

Seq Number: 856206

Matrix: Water

Prep Method: E200.7P

MB Sample Id: 602635-1-BLK

LCS Sample Id: 602635-1-BKS

Date Prep: 05/12/2011

LCSD Sample Id: 602635-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|----------------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Arsenic, Dissolved | <0.0100 | 0.5 | 0.550 | 110 | 0.558 | 112 | 85-115 | 1 | 20 | mg/L | 05/14/11 16:29 | |
| Barium, Dissolved | <0.0100 | 1 | 1.00 | 100 | 1.04 | 104 | 85-115 | 4 | 20 | mg/L | 05/14/11 16:29 | |
| Beryllium, Dissolved | <0.00200 | 0.5 | 0.508 | 102 | 0.527 | 105 | 85-115 | 4 | 20 | mg/L | 05/14/11 16:29 | |
| Cadmium, Dissolved | <0.00300 | 0.5 | 0.509 | 102 | 0.517 | 103 | 85-115 | 2 | 20 | mg/L | 05/14/11 16:29 | |
| Calcium, Dissolved | <1.00 | 25.5 | 26.0 | 102 | 27.0 | 106 | 85-115 | 4 | 20 | mg/L | 05/14/11 16:29 | |
| Chromium, Dissolved | <0.0100 | 0.5 | 0.502 | 100 | 0.512 | 102 | 85-115 | 2 | 20 | mg/L | 05/14/11 16:29 | |
| Copper, Dissolved | <0.0100 | 0.5 | 0.488 | 98 | 0.494 | 99 | 85-115 | 1 | 20 | mg/L | 05/14/11 16:29 | |
| Iron, Dissolved | <0.100 | 0.5 | 0.494 | 99 | 0.515 | 103 | 85-115 | 4 | 20 | mg/L | 05/14/11 16:29 | |
| Lead, Dissolved | <0.0100 | 0.5 | 0.526 | 105 | 0.534 | 107 | 85-115 | 2 | 20 | mg/L | 05/14/11 16:29 | |
| Magnesium, Dissolved | <1.00 | 25.5 | 25.7 | 101 | 27.2 | 107 | 85-115 | 6 | 20 | mg/L | 05/14/11 16:29 | |
| Manganese, Dissolved | <0.0100 | 0.5 | 0.511 | 102 | 0.540 | 108 | 85-115 | 6 | 20 | mg/L | 05/14/11 16:29 | |
| Nickel, Dissolved | <0.0100 | 0.5 | 0.524 | 105 | 0.530 | 106 | 85-115 | 1 | 20 | mg/L | 05/14/11 16:29 | |
| Potassium, Dissolved | <2.00 | 25 | 25.4 | 102 | 27.3 | 109 | 85-115 | 7 | 20 | mg/L | 05/14/11 16:29 | |
| Selenium, Dissolved | <0.0250 | 0.5 | 0.543 | 109 | 0.567 | 113 | 85-115 | 4 | 20 | mg/L | 05/14/11 16:29 | |
| Silver, Dissolved | <0.00500 | 0.075 | 0.0760 | 101 | 0.0779 | 104 | 85-115 | 2 | 20 | mg/L | 05/14/11 16:29 | |
| Sodium, Dissolved | <2.00 | 25 | 25.1 | 100 | 26.2 | 105 | 85-115 | 4 | 20 | mg/L | 05/14/11 16:29 | |
| Tin, Dissolved | <0.0500 | 0.5 | 0.520 | 104 | 0.525 | 105 | 85-115 | 1 | 20 | mg/L | 05/14/11 16:29 | |
| Zinc, Dissolved | <0.0500 | 0.5 | 0.534 | 107 | 0.559 | 112 | 85-115 | 5 | 20 | mg/L | 05/14/11 16:29 | |



QC Summary **415938**

ATC Associates, Tempe, AZ
World Resources Company

Analytical Method: Metals, Dissolved, by EPA 200.7
Seq Number: 856206
Parent Sample Id: 415938-004

Matrix: Water
MS Sample Id: 415938-004 S

Prep Method: E200.7P
Date Prep: 05/12/2011
MSD Sample Id: 415938-004 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|----------------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Arsenic, Dissolved | 0.0111 | 0.5 | 0.584 | 115 | 0.582 | 114 | 70-130 | 0 | 20 | mg/L | 05/14/11 16:55 | |
| Barium, Dissolved | 0.0421 | 1 | 1.05 | 101 | 1.06 | 102 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |
| Beryllium, Dissolved | <0.00200 | 0.5 | 0.513 | 103 | 0.511 | 102 | 70-130 | 0 | 20 | mg/L | 05/14/11 16:55 | |
| Cadmium, Dissolved | <0.00300 | 0.5 | 0.498 | 100 | 0.499 | 100 | 70-130 | 0 | 20 | mg/L | 05/14/11 16:55 | |
| Calcium, Dissolved | 73.2 | 25.5 | 97.9 | 97 | 97.8 | 96 | 70-130 | 0 | 20 | mg/L | 05/14/11 16:55 | |
| Chromium, Dissolved | <0.0100 | 0.5 | 0.498 | 100 | 0.502 | 100 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |
| Copper, Dissolved | <0.0100 | 0.5 | 0.530 | 106 | 0.535 | 107 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |
| Iron, Dissolved | <0.100 | 0.5 | 0.501 | 100 | 0.521 | 104 | 70-130 | 4 | 20 | mg/L | 05/14/11 16:55 | |
| Lead, Dissolved | <0.0100 | 0.5 | 0.534 | 107 | 0.536 | 107 | 70-130 | 0 | 20 | mg/L | 05/14/11 16:55 | |
| Magnesium, Dissolved | 43.2 | 25.5 | 68.3 | 98 | 69.1 | 102 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |
| Manganese, Dissolved | <0.0100 | 0.5 | 0.515 | 103 | 0.521 | 104 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |
| Nickel, Dissolved | <0.0100 | 0.5 | 0.553 | 111 | 0.552 | 110 | 70-130 | 0 | 20 | mg/L | 05/14/11 16:55 | |
| Potassium, Dissolved | 7.91 | 25 | 30.4 | 90 | 30.7 | 91 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |
| Selenium, Dissolved | <0.0250 | 0.5 | 0.552 | 110 | 0.555 | 111 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |
| Silver, Dissolved | <0.00500 | 0.075 | 0.0788 | 105 | 0.0798 | 106 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |
| Sodium, Dissolved | 405 | 25 | 415 | 40 | 409 | 16 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | M3 |
| Tin, Dissolved | <0.0500 | 0.5 | 0.508 | 102 | 0.504 | 101 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |
| Zinc, Dissolved | <0.0500 | 0.5 | 0.544 | 109 | 0.550 | 110 | 70-130 | 1 | 20 | mg/L | 05/14/11 16:55 | |

Analytical Method: Nitrite by SM 4500-NO2B

Seq Number: 855460
MB Sample Id: 855460-1-BLK

Matrix: Water
LCS Sample Id: 855460-1-BKS

LCSD Sample Id: 855460-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|--------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Nitrite as N | <0.0200 | 0.1 | 0.0975 | 98 | 0.0971 | 97 | 85-115 | 0 | 20 | mg/L | 05/10/11 14:43 | |

Analytical Method: Nitrite by SM 4500-NO2B

Seq Number: 855460
Parent Sample Id: 415832-001

Matrix: Waste Water
MS Sample Id: 415832-001 S

MSD Sample Id: 415832-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|--------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Nitrite as N | <0.0200 | 0.1 | 0.0962 | 96 | 0.103 | 103 | 40-132 | 7 | 20 | mg/L | 05/10/11 14:45 | |

Analytical Method: Nitrate-Nitrite as N by E353.2

Seq Number: 856003
MB Sample Id: 602752-1-BLK

Matrix: Water
LCS Sample Id: 602752-1-BKS

Prep Method: E353.2P
Date Prep: 05/13/2011
LCSD Sample Id: 602752-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Nitrate+Nitrite | <0.100 | 5 | 5.32 | 106 | 5.34 | 107 | 90-110 | 0 | 20 | mg/L | 05/13/11 12:46 | |



QC Summary

415938

ATC Associates, Tempe, AZ
World Resources Company

Analytical Method: Nitrate-Nitrite as N by E353.2
Seq Number: 856003
Parent Sample Id: 415832-001

Matrix: Waste Water
MS Sample Id: 415832-001 S

Prep Method: E353.2P
Date Prep: 05/13/2011
MSD Sample Id: 415832-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Nitrate+Nitrite | 0.593 | 5 | 5.80 | 104 | 5.80 | 104 | 90-110 | 0 | 20 | mg/L | 05/13/11 12:51 | |

Analytical Method: Nitrate-Nitrite as N by E353.2
Seq Number: 856003
Parent Sample Id: 415939-001

Matrix: Water
MS Sample Id: 415939-001 S

Prep Method: E353.2P
Date Prep: 05/13/2011
MSD Sample Id: 415939-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Nitrate+Nitrite | 1.30 | 5 | 6.81 | 110 | 6.69 | 108 | 90-110 | 2 | 20 | mg/L | 05/13/11 13:09 | |

Analytical Method: Phosphorus, Total by EPA 365.4
Seq Number: 856738
MB Sample Id: 603186-1-BLK

Matrix: Water
LCS Sample Id: 603186-1-BKS

Prep Method: E365.4_P
Date Prep: 05/18/2011
LCSD Sample Id: 603186-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-------------------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Total Phosphorus (as P) | <0.0500 | 0.5 | 0.503 | 101 | 0.516 | 103 | 90-110 | 3 | 20 | mg/L | 05/18/11 12:54 | |

Analytical Method: Phosphorus, Total by EPA 365.4
Seq Number: 856738
Parent Sample Id: 415939-001

Matrix: Water
MS Sample Id: 415939-001 S

Prep Method: E365.4_P
Date Prep: 05/18/2011
MSD Sample Id: 415939-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-------------------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Total Phosphorus (as P) | <0.0500 | 0.5 | 0.440 | 88 | 0.462 | 92 | 80-120 | 5 | 20 | mg/L | 05/18/11 13:11 | |

Analytical Method: Total Dissolved Solids by SM 2540C
Seq Number: 856224
MB Sample Id: 856224-1-BLK

Matrix: Water
LCS Sample Id: 856224-1-BKS

LCSD Sample Id: 856224-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|------------------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Total dissolved solids | <10.0 | 1000 | 996 | 100 | 1010 | 101 | 80-120 | 1 | 10 | mg/L | 05/16/11 14:39 | |

Analytical Method: Total Dissolved Solids by SM 2540C
Seq Number: 856224
Parent Sample Id: 415837-001

Matrix: Water

MD Sample Id: 415837-001 D

| Parameter | Parent Result | MD Result | %RPD | RPD Limit | Units | Analysis Date | Flag |
|------------------------|---------------|-----------|------|-----------|-------|----------------|------|
| Total dissolved solids | 2170 | 2280 | 5 | 10 | mg/L | 05/16/11 14:39 | |



QC Summary **415938**

ATC Associates, Tempe, AZ
World Resources Company

Analytical Method: Turbidity by EPA 180.1

Seq Number: 855728 Matrix: Water MD Sample Id: 415938-004 D
Parent Sample Id: 415938-004

| Parameter | Parent Result | MD Result | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|---------------|-----------|------|-----------|-------|----------------|------|
| Turbidity | 1.08 | 1.15 | 6 | 20 | NTU | 05/11/11 10:00 | |

Analytical Method: Dissolved Mercury by EPA 245.1

Seq Number: 856863 Matrix: Water Prep Method: E245.1P
MB Sample Id: 603206-1-BLK LCS Sample Id: 603206-1-BKS Date Prep: 05/20/2011

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | Limits | Units | Analysis Date | Flag |
|--------------------|-----------|--------------|------------|----------|--------|-------|----------------|------|
| Mercury, Dissolved | <0.000200 | 2 | 0.00197 | 99 | 85-115 | mg/L | 05/20/11 12:05 | |

Analytical Method: Dissolved Mercury by EPA 245.1

Seq Number: 856863 Matrix: Water Prep Method: E245.1P
Parent Sample Id: 415938-002 MS Sample Id: 415938-002 S Date Prep: 05/20/2011
MSD Sample Id: 415938-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|--------------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Mercury, Dissolved | <0.000200 | 0.002 | 0.00200 | 100 | 0.00202 | 101 | 70-130 | 1 | 20 | mg/L | 05/20/11 12:14 | |

Analytical Method: Metals, Dissolved, by EPA 200.8

Seq Number: 856166 Matrix: Water Prep Method: E200.8P
MB Sample Id: 602636-1-BLK LCS Sample Id: 602636-1-BKS Date Prep: 05/12/2011
LCSD Sample Id: 602636-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---------------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Antimony, Dissolved | <0.00200 | 0.05 | 0.0503 | 101 | 0.0519 | 104 | 85-115 | 3 | 20 | mg/L | 05/14/11 17:33 | |
| Thallium, Dissolved | <0.000500 | 0.05 | 0.0501 | 100 | 0.0511 | 102 | 85-115 | 2 | 20 | mg/L | 05/14/11 17:33 | |

Analytical Method: Metals, Dissolved, by EPA 200.8

Seq Number: 856166 Matrix: Water Prep Method: E200.8P
Parent Sample Id: 415938-002 MS Sample Id: 415938-002 S Date Prep: 05/12/2011
MSD Sample Id: 415938-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|---------------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Antimony, Dissolved | <0.00200 | 0.05 | 0.0507 | 101 | 0.0524 | 105 | 70-130 | 3 | 20 | mg/L | 05/14/11 17:58 | |
| Thallium, Dissolved | <0.000500 | 0.05 | 0.0524 | 105 | 0.0546 | 109 | 70-130 | 4 | 20 | mg/L | 05/14/11 17:58 | |

Container type: SE



Sample Receipt Checklist

Client Name: ATC/World Res Date and Time Received: 5/10/11 1420
 Work Order Number: 415938 Checked by: [Signature]
 Checklist completed by: [Signature] Date: 5/10/11 Logged In by: lm Date: 5/10/11
 Matrix: W Courier Name: Client Xenco Reviewed by: _____ Date: _____

| | | | |
|---|---|--|--|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Chain of custody agrees with sample labels? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | |
| Samples received same day of collection? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Where was the temperature reading taken at? | Sample <input type="checkbox"/> | Temp Blank <input checked="" type="checkbox"/> | Other: <u>3.4</u> |
| VOA Water – VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Water – Microbiological bottles have ≤ 2.5 cm headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Water – All sample pH's acceptable upon receipt? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> Checked by: <u>[Signature]</u> |
| If No, list all samples and bottle types that are not acceptable in Additional Comments section. Also state any correction actions. | | | |
| Sulfide Water – Bottles have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> (zero headspace ≤ than neck of bottle) |
| Dissolved Water Analytes – Field Filtered? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | N/A <input type="checkbox"/> |
| Are samples received deemed acceptable? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | If No then complete section below |

PC Notified Date: _____ Init: _____ PC Init: _____
 Client Notified Date: _____ Init: _____ L/M Date: _____ L/M Date: _____
 Contact Name: _____ Action to take: Analyze Cancel Hold Other: _____
 Changes/Comments made on original COC? Yes N/A Init: _____ Date: _____
 Changes made in LIMS? Yes N/A Init: _____ Date: _____

Additional Comments: _____

