



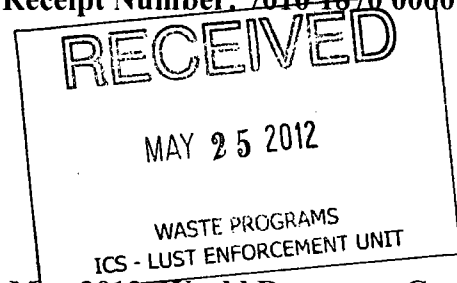
WORLD RESOURCES COMPANY

May, 23 2012

8113 West Sherman Street
Tolleson, Arizona 85353-4025

Tel: 602.233.9166
Fax: 623.936.9164

CERTIFIED MAIL Return Receipt Requested
Receipt Number: 7010 1870 0000 7055 8887



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

Subject: Semi-Annual Groundwater Monitoring Report, May 2012, World Resources Company, Tolleson, Arizona

To whom it may concern:

Please find enclosed two (2) copies of the Semi-Annual Groundwater Monitoring Report, May 2012 for World Resources Company in Tolleson, Arizona.

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

Sincerely,

Bryan Roberts
Laboratory Manager
World Resources Company
(602) 233-9166 x2401

Enclosures



May 10, 2012

World Resources Company
8113 West Sherman Street
Tolleson, Arizona 85353-4025
Attention: Mr. Bryan Roberts

ARIZONA DEPARTMENT OF
ENVIRONMENTAL QUALITY

MAY 25 2012

Waste Programs Div.
Permits Section

RECEIVED

MAY 25 2012

WASTE PROGRAMS
ICS - LUST ENFORCEMENT UNIT

RE: **Semiannual Groundwater Monitoring Report, April 2012**
World Resources Company, Tolleson, Arizona
ATC Project No. 34.41558.0001

Dear Mr. Roberts:

ATC Associates Inc. (ATC) is pleased to present the following semiannual 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 presented in the *Semi-Annual Groundwater Monitoring Report, December 2005, Tolleson, Arizona*, dated February 7, 2006, prepared by ARCADIS and 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.

An ATC representative conducted groundwater monitoring at the Site on October 18, 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 April 10, 2012 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, as depicted on Figure 1, Site Vicinity Map.

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 Surface Map (04/10/12).

2.0 Field Activities

Semiannual groundwater monitoring was conducted at the Site on April 10, 2012. Depth to groundwater was gauged in monitor wells MW-6, MW-9, MW-10 and MW-11. Monitoring activities included measuring groundwater elevations in these four groundwater monitor wells. Monitor well MW-7 was not assessed during this event. Groundwater elevations increased an average of 0.62 feet since the October 2011 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 84.86 feet. The bottom of casing in well MW-6 is approximately 85 feet below ground surface. Therefore, MW-6 contained approximately 0.14 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, the groundwater elevation in well MW-6 was not used to determine groundwater flow direction. The groundwater flow direction observed during this monitoring event is generally toward the north-northwest. Historically, groundwater flow direction at the Site has been toward the north-northwest.

On April 10, 2012, 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 well MW-6 was not sampled due to an insufficient volume of groundwater inside the well casing.

Groundwater was pumped from wells MW-9, MW-10 and MW-11 at an approximate rate of 400 milliliters per minute. ATC measured the water quality parameters dissolved oxygen, pH, color, odor, specific conductance, total dissolved solids, salinity 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 field 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. QA/QC samples were stored in laboratory supplied containers and placed in a cooler with ice. Groundwater samples and QA/QC samples were submitted chilled, under chain-of-custody procedures, to TestAmerica Laboratories Inc. (TestAmerica) 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 Aquifer Water Quality Standard. Nitrate (as N) constituents exceeded its AWQS. Other general chemistry analytes and total cyanide did not exceed their respective AWQS. Nitrate (as N) was reported at concentrations of 14 milligrams per Liter (mg/L), 12 mg/L and 13 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 Site.

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 April 10, 2012, TestAmerica received five sets of groundwater samples collected at the Site. 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). TestAmerica reported their analyses on April 23, 2012 (Analytical Report PVD0704). A copy of the TestAmerica 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 analysis
- Field duplicates and other QC
- Duplicate sample, matrix spike/matrix spike duplicate analysis

Holding times were met for each analyte. No analytes were reported above their respective Practical Quantitation Limit 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 in 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 Site. On behalf of WRC, ATC recommends to continue semiannual groundwater monitoring at the Site.

6.0 Summary

ATC has prepared this semiannual 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 TestAmerica.

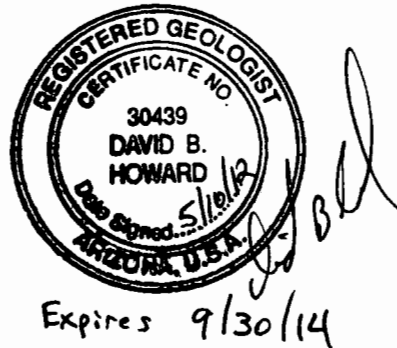
If additional information is required or if you have any questions regarding the information in this report, please feel free to contact David Howard at (480) 355-4659.

Respectfully submitted,

ATC Associates Inc.



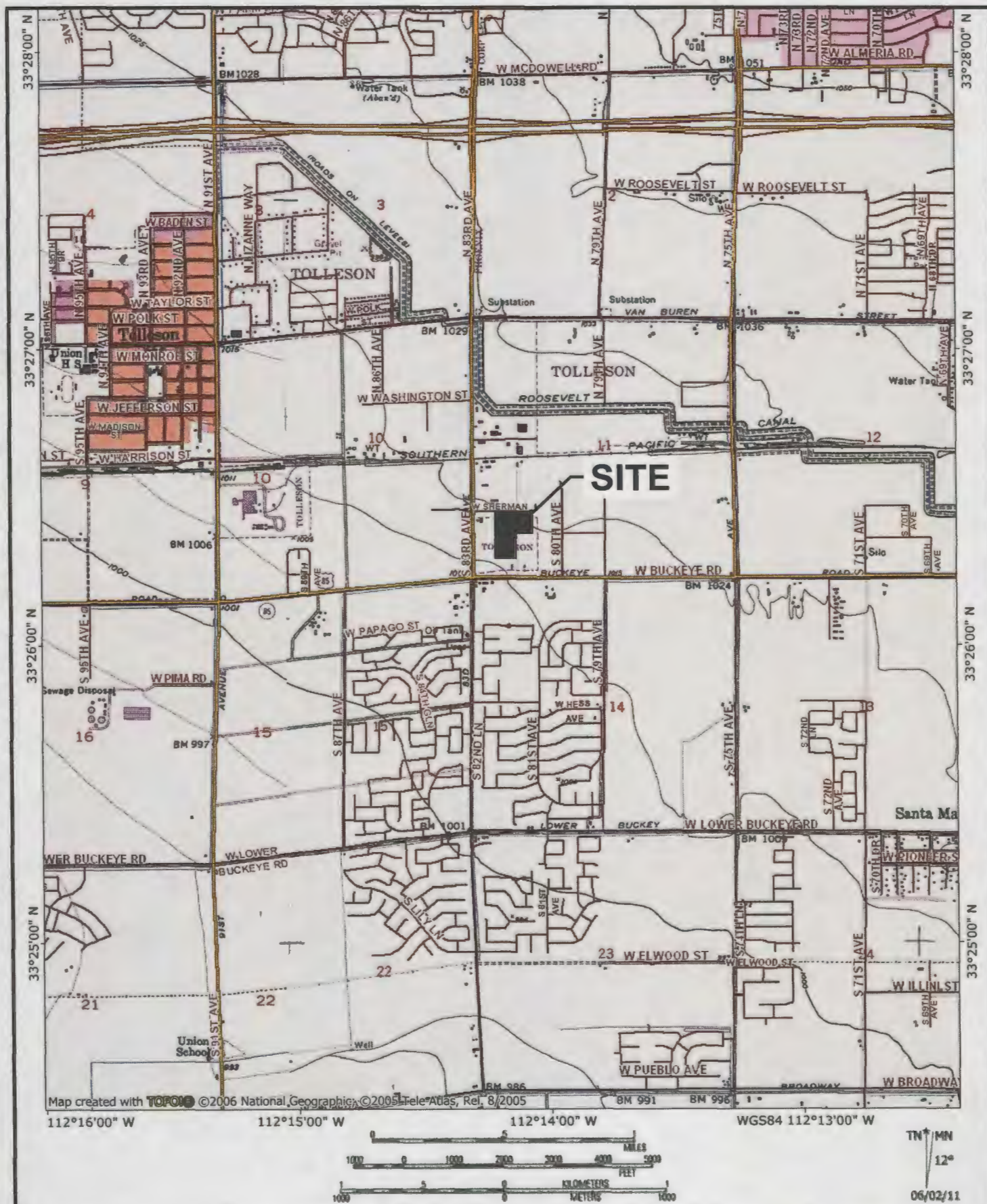
Jeremy Gniffke, RG *EXPIRES 12/31/13*
Senior Project Manager



Expires 9/30/14
David B. Howard, PE, RG
Senior Project Manager

Attachments, as stated.

FIGURES



SITE VICINITY MAP

WORLD RESOURCES COMPANY
8113 WEST SHERMAN STREET
PHOENIX, ARIZONA

PROJECT NUMBER: 034.41558.0001

DATE: 06/02/11

FIGURE

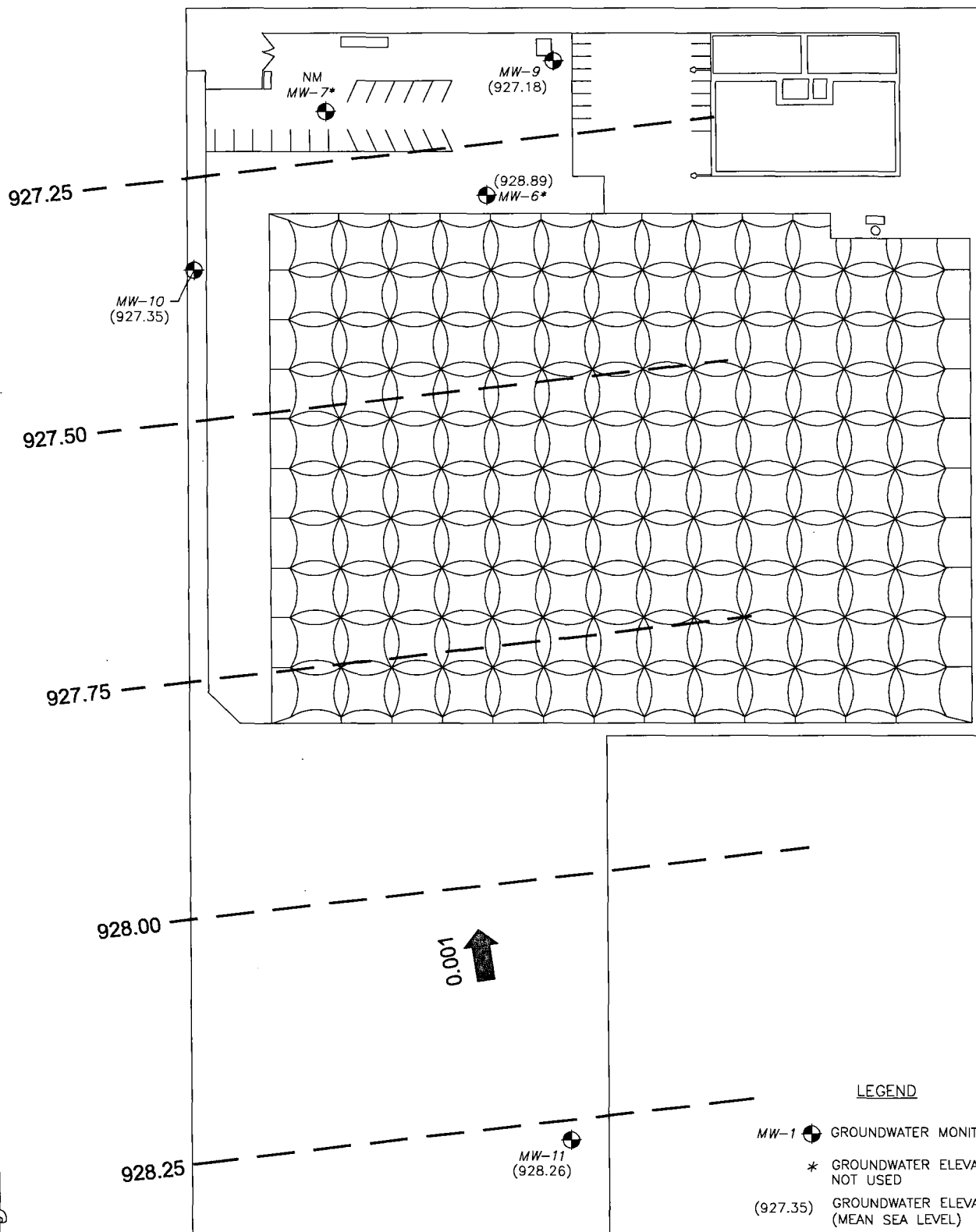
APPROVED BY: DH

DRAWN BY: BL

1



9185 South Farmer Avenue, Suite 111
Tempe, Arizona 85284



LEGEND

- MW-1 GROUNDWATER MONITOR WELL
- * GROUNDWATER ELEVATIONS NOT USED
- (927.35) GROUNDWATER ELEVATION, FT (MEAN SEA LEVEL)
- GROUNDWATER CONTOUR (0.25 FT INTERVAL)
- GROUNDWATER GRADIENT FLOW DIRECTION, FT/FT
- NM NOT MEASURED

0 120 240
SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

**SITE LOCATION AND POTENTIOMETRIC
SURFACE MAP (04/10/12)**
WORLD RESOURCES COMPANY
8113 W. SHERMAN STREET
PHOENIX, AZ

PROJECT NUMBER: 034.41558.0001

DATE: 5/4/12

FIGURE

APPROVED BY: DH

DRAWN BY: BL/BK

2



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
		10/18/11	84.83	928.92
		04/10/12	84.86	928.89
MW-7	1,016.44	05/10/11	84.21	932.23
		10/18/11	88.76	927.68
		04/10/12	-	-
MW-9	1,016.94	05/10/11	85.26	931.68
		10/18/11	90.37	926.57
		04/10/12	89.76	927.18
MW-10	1,013.24	05/10/11	81.40	931.84
		10/18/11	86.49	926.75
		04/10/12	85.89	927.35
MW-11	1,010.74	05/10/11	77.89	932.85
		10/18/11	83.12	927.62
		04/10/12	82.48	928.26

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	4/10/2012	480	480	480	480	<2.0	NP	0.0%
Fluoride	4/10/2012	1.6	1.4	1.7	1.5	<0.40	4.0	6.5%
Sulfate	4/10/2012	210	200	200	210	<2.0	NP	0.0%
Nitrate (as N)	4/10/2012	14	12	13	14	<0.20	10.0	0.0%
Nitrite (as N)	4/10/2012	<0.20	<0.20	<0.20	<0.20	<0.20	1.0	-
Phosphorus, Total (as P)	4/10/2012	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Total Dissolved Solids (TDS)	4/10/2012	1500	1400	1400	1500	<20	NP	0.0%
Alkalinity, Bicarbonate (as CaCO ₃)	4/10/2012	410	400	410	410	<6.0	NP	0.0%
Alkalinity, Carbonate (as CaCO ₃)	4/10/2012	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Hydroxide (as CaCO ₃)	4/10/2012	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Total (as CaCO ₃)	4/10/2012	410	400	410	410	<6.0	NP	0.0%
Turbidity (units: NTU)	4/10/2012	<0.20	0.33	0.27	<0.20	<0.20	5.0	-
<i>Total Cyanide</i>								
Cyanide, Total	4/10/2012	<0.050	<0.050	<0.050	<0.050	<0.050	0.200	-
<i>Dissolved Metals</i>								
Barium	4/10/2012	0.042	0.041	0.041	0.041	<0.010	2.0	2.4%
Beryllium	4/10/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.004	-
Cadmium	4/10/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	-
Calcium	4/10/2012	60	58	57	58	<2.0	NP	3.4%
Chromium	4/10/2012	<0.010	<0.010	<0.010	<0.010	<0.010	0.100	-
Copper	4/10/2012	<0.010	<0.010	<0.010	<0.010	<0.010	NP	-
Iron	4/10/2012	<0.050	<0.050	<0.050	<0.050	<0.050	NP	-
Magnesium	4/10/2012	34	31	33	34	<2.0	NP	0.0%
Manganese	4/10/2012	<0.010	<0.010	<0.010	<0.010	<0.010	NP	-
Nickel	4/10/2012	<0.010	0.012	<0.010	<0.010	<0.010	0.100	-
Potassium	4/10/2012	3.7	3.7	3.8	3.7	<2.0	NP	0.0%
Silver	4/10/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	NP	-
Sodium	4/10/2012	420	420	430	420	<2.0	NP	0.0%
Tin	4/10/2012	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Zinc	4/10/2012	0.083	<0.050	0.055	0.086	<0.050	NP	-
Antimony	4/10/2012	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.006	-
Arsenic	4/10/2012	0.0059	0.0053	0.0071	0.0059	<0.0010	0.050	0.0%
Lead	4/10/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.050	-
Mercury	4/10/2012	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.002	-
Selenium	4/10/2012	0.0027	0.0023	0.0024	0.0029	<0.0020	0.050	7.1%
Thallium	4/10/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	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

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-11)	Equipment Blank	AWQS	Field Duplicate RPD
<i>General Chemistry</i>								
Chloride	10/18/2011	490	500	420	420	<2.0	NP	0.0%
Fluoride	10/18/2011	1.3	1.1	1.5	1.5	<0.40	4.0	0.0%
Sulfate	10/18/2011	220	250	190	190	<2.0	NP	0.0%
Nitrate (as N)	10/18/2011	17	14	13	13	<0.20	10.0	0.0%
Nitrite (as N)	10/18/2011	<0.20	<0.20	<0.20	<0.20	<0.20	1.0	-
Phosphorus, Total (as P)	10/18/2011	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Total Dissolved Solids (TDS)	10/18/2011	1500	1600	1400	1400	<20	NP	0.0%
Alkalinity, Bicarbonate (as CaCO ₃)	10/18/2011	390	400	410	410	<6.0	NP	0.0%
Alkalinity, Carbonate (as CaCO ₃)	10/18/2011	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Hydroxide (as CaCO ₃)	10/18/2011	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Total (as CaCO ₃)	10/18/2011	390	400	410	410	<6.0	NP	0.0%
Turbidity (units: NTU)	10/18/2011	0.38	0.67	0.27	0.28	<0.20	5.0	3.6%
<i>Total Cyanide</i>								
Cyanide, Total	10/18/2011	<0.050	<0.050	<0.050	<0.050	<0.050	0.200	-
<i>Dissolved Metals</i>								
Barium	10/18/2011	0.036	0.044	0.038	0.036	<0.010	2.0	5.4%
Beryllium	10/18/2011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.004	-
Cadmium	10/18/2011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	-
Calcium	10/18/2011	55	65	55	54	<2.0	NP	1.8%
Chromium	10/18/2011	0.010	<0.010	<0.010	0.011	<0.010	0.100	-
Copper	10/18/2011	<0.010	<0.010	<0.010	<0.010	<0.010	NP	-
Iron	10/18/2011	<0.050	<0.050	<0.050	<0.050	<0.050	NP	-
Magnesium	10/18/2011	35	37	32	32	<2.0	NP	0.0%
Manganese	10/18/2011	<0.010	<0.010	<0.010	<0.010	<0.010	NP	-
Nickel	10/18/2011	<0.010	0.012	<0.010	<0.010	<0.010	0.100	-
Potassium	10/18/2011	3.3	3.7	3.5	3.4	<2.0	NP	2.9%
Silver	10/18/2011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	NP	-
Sodium	10/18/2011	420	430	390	400	<2.0	NP	2.5%
Tin	10/18/2011	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Zinc	10/18/2011	<0.050	<0.050	<0.050	<0.050	<0.050	NP	-
Antimony	10/18/2011	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.006	-
Arsenic	10/18/2011	0.0059	0.0051	0.0074	0.0072	<0.0010	0.050	2.7%
Lead	10/18/2011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.050	-
Mercury	10/18/2011	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.002	-
Selenium	10/18/2011	0.0043	0.0039	0.0027	0.0023	<0.0020	0.050	16.0%
Thallium	10/18/2011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	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

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

Date 4/10/2012

Field Data Sheet

Project No.	34.41558.0001	Personnel	DH/MD
Site Name	WRC	Site Location	Tolleson, AZ
Site/Well No.	MW-9	Sample ID	
Weather	Sunny	Duplicate ID	MW-9 @ 12:05

MW TD		MW TOC Elev.	
MW DTW	89.76	Casing Diam.	4 inches
Purge Rate	400 ml/min.	Water Level Elev.	
Purge Method	Low Flow		

Pump Time Start	11:30	Pump Time Stop	12:02
Sample Time Start	11:55	Sample Time Stop	12:00

Time	Appearance Color/Odor	% D.O.	pH	EC (mS/cm or uS/cm)	Temp. (°C)	TDS Turb.	
11:31	Clear/muc	65%	7.14	2390	23.96	—	—
11:35	↓	63.6%	7.10	2435	25.21	—	—
11:40	↓	57.0%	7.14	2486	25.58	1.53	1.26
11:45	↓	55.4%	7.15	2487	25.84	1.56	1.26
11:50	↓	59.6%	7.15	2482	26.82	1.54	1.26

Sample Container DescriptionConstituentsNo. BottlesPreservativeDissolved Metals (see COC): 500 ml poly

1

HNO₃Alk, Cl, TDS, SO₄, NO₃, F, Turb.: 1-Liter poly

1

NonePhosphate, Backup NO₃: 500 ml poly

1

H₂SO₄Cyanide: 500 ml poly

1

NaOH

Date 4/10/2012

Field Data Sheet

Project No.	34.41558.0001	Personnel	DH/MD
Site Name	WRC	Site Location	Tolleson, AZ
Site/Well No.	MW-10	Sample ID	
Weather	Partly Cloudy	Duplicate ID	n/a

MW TD		MW TOC Elev.	
MW DTW	85.89	Casing Diam.	4 inches
Purge Rate	400 ml/min.	Water Level Elev.	
Purge Method	Low Flow		

Pump Time Start	1:05	Pump Time Stop	13:43
Sample Time Start	13:40	Sample Time Stop	13:42

Time	Appearance Color/Odor	D.O.	pH	EC mS/cm or uS/cm	Temp. (°C)	TDS Furb.
13:10	clear	3.86	7.22	2350	25.0	1.55
13:15	clear	3.71	7.16	2396	25.55	1.54
13:20	clear	3.48	7.18	2395	26.11	1.55
13:25	clear	3.41	7.18	2459	26.27	1.55
13:30	clear	3.37	7.18	2456	26.32	1.53

526,
1.24
1.23
1.21
1.20
1.21Sample Container DescriptionConstituentsNo. BottlesPreservative

Dissolved Metals (see COC): 500 ml poly

1

HNO₃Alk, Cl, TDS, SO₄, NO₃, F, Turb.: 1-Liter poly

1

None

Phosphate, Backup NO₃: 500 ml poly

1

H₂SO₄

Cyanide: 500 ml poly

1

NaOH

Date 4-10-2012

Field Data Sheet

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

MW TD		MW TOC Elev.	
MW DTW	82.48	Casing Diam.	4 inches
Purge Rate	400 ml/min.	Water Level Elev.	
Purge Method	Low Flow		

Pump Time Start	2:10	Pump Time Stop	14:37
Sample Time Start	14:35	Sample Time Stop	14:37

Time	Appearance Color/Odor	mg/L D.O.	pH	EC (mS/cm) or uS/cm	Temp. (°C)	TDS Turb.
2:10	clear	5.51	7.09	2401	24.84	1.56
2:15	clear	4.95	6.79	2375	24.64	1.55
2:20	clear	4.63	6.93	2402	25.27	1.56
2:25	clear	4.49	7.01	2421	25.50	1.55
2:30	clear	4.56	7.05	2427	25.58	1.55
2:35	clear	4.70	7.07	2423	25.52	1.55

Sal.
1.22
1.22
1.23
1.23
1.22
1.22

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



Field Report

FLD-100

Revision 0.0

Jul-08

ATC Branch: <u>Tempe</u>	Date: <u>4-10-2012</u>	Page <u>1</u> of <u>2</u>
ATC Representative(s): <u>M. Donnelly</u>	Project: <u>World Resources</u>	
Role: <u>Field Tech.</u>	Location:	
Contact Information:	Project No:	Task No:
Scope of Work: ☒ Monitoring ☐ Assessment ☐ Remediation ☐ Closure	Weather: <u>Cloudy</u>	Temperature: <u>90°</u>
	Contractor: <u>n/a</u>	

Time:	Comments:
7:30	At office. Gathering + securing tools, equipment + sample supplies. Call PM
8:20	Report toward site. Stop @ Wal-Mart to obtain Decon water. Triple check truck +
8:45	Report for site.
9:45	Sign in at front desk. Move on to site. Review SOW, H+S meeting, organize tools, equipment
10:15	Gauge MW-6 - DTW = 84.86. did not sample
10:25	MW-7 difficult opening well vault, one bolt seized, will attempt to dislodge with hammer (gently). Unable to open MW-7
	One bolt is stripped, spinning and will not come out.
10:45	Move onto MW-9. DTW - 89.76. Prepare to purge well. Decon Pump.
	Collected Equipment Blank 4 Bottles
11:15	Pump lowered into MW-9. Start purge. Pump set at ~97 Bgs. Flow Rate 400 mL/min @ 11:35
11:55	Purge complete. Prepare to collect Sample
12:00	Sample MW-9 + Duplicate sample

Equipment Used: <u>Approximately 5 gals. total purged</u>	Staff / Technician Hours:	Mileage:
Contractor Hours (per Person):	Project Manager:	
Copies To:	Reviewed By:	



Field Report

FLD-100

Revision 0.0

Jul-08.

ATC Branch: <i>Tempe</i>	Date: <i>4-10-2012</i>	Page <i>2</i> of <i>2</i>
ATC Representative(s): <i>M. Donnelly</i>	Project: <i>World Reservoir</i>	
Role: <i>Sample</i>	Location:	
Contact Information:	Project No:	Task No:
Scope of Work: ☒ Monitoring ☐ Assessment ☐ Remediation ☐ Closure	Weather: <i>Cloudy</i>	Temperature: <i>90°</i>
	Contractor: <i>n/a</i>	

Time:	Comments:
<i>12:15</i>	<i>Decon Pump + Supply. Move onto MW-10</i>
<i>12:45</i>	<i>Setup on MW-10 DTW = 85.89</i>
	<i>Preparing to Purge. MW-10</i>
<i>1:05</i>	<i>Start Purge. 1:10 purge flow flow 400 ml/min</i>
	<i>Pump Set at approx ~ 96' Bgs.</i>
<i>1:30</i>	<i>Purge complete. Approx 5.5 gals.</i>
	<i>total purged.</i>
<i>2:00</i>	<i>Moved onto MW-11. Gauge TDW = 82.48</i>
	<i>Prepare to purge. Pump set at approximately</i>
	<i>92' Bgs. 400 ml/min at 2:05</i>
<i>2:35</i>	<i>Sampled MW-11. Deconed all equipment</i>
	<i>Secured samples, tools, etc for</i>
	<i>transport.</i>
<i>3:00</i>	<i>Samples, tools, etc. Secure + ready</i>
	<i>for transport. Call PM to report</i>
	<i>+ to complete Chain of Custody</i>
<i>3:10</i>	<i>Check out at front desk. Report to-</i>
	<i>Lab.</i>
<i>3:40</i>	<i>At Lab. drop samples. Depart to</i>
	<i>Drop Pump + Generator off.</i>
<i>5:30</i>	<i>Secure paperwork with PM.</i>

Equipment Used:

Contractor Hours (per Person):

Staff / Technician Hours:

Mileage:

Copies To:

Project Manager:

Reviewed By:

Appendix B

**Laboratory Groundwater Report and
Chain of Custody Document**

LABORATORY REPORT

Prepared For: ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project: World Resources 34.41558.0001

Sampled: 04/10/12
Received: 04/10/12
Issued: 04/23/12 16:15

NELAP #01109CA / AZ100001 Arizona DHS#AZ0728

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

LABORATORY ID

PVD0704-01
PVD0704-02
PVD0704-03
PVD0704-04
PVD0704-05

CLIENT ID

Equipment Blank
MW-9
MW-10
MW-11
Duplicated

MATRIX

Water
Water
Water
Water
Water

SAMPLE RECEIPT: Samples were received intact, at 3°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.
N1 - Dissolved Metals (ICP 200.7/ICPMS200.8 - PVD0704-01, 02, 03, 04 and 05 - Sample filtration for dissolved analytes was performed by laboratory. The regulatory requirement is filtration within fifteen minutes of sampling.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

Reviewed By:



Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

Report Number: PVD0704

Sampled: 04/10/12
Received: 04/10/12

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVD0704-01 (Equipment Blank - Water)								
Reporting Units: mg/l								
Barium	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Beryllium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Cadmium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Calcium	EPA 200.7	12D0555	2.0	ND	1	4/13/2012	4/14/2012	
Chromium	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Copper	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Iron	EPA 200.7	12D0555	0.050	ND	1	4/13/2012	4/14/2012	
Magnesium	EPA 200.7	12D0555	2.0	ND	1	4/13/2012	4/14/2012	
Manganese	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Mercury	EPA 245.1	12D0763	0.00020	ND	1	4/20/2012	4/20/2012	
Nickel	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Potassium	EPA 200.7	12D0555	2.0	ND	1	4/13/2012	4/14/2012	
Sodium	EPA 200.7	12D0555	2.0	ND	1	4/13/2012	4/17/2012	
Tin	EPA 200.7	12D0555	0.10	ND	1	4/13/2012	4/14/2012	
Zinc	EPA 200.7	12D0555	0.050	ND	1	4/13/2012	4/14/2012	

Sample ID: PVD0704-02 (MW-9 - Water)

Reporting Units: mg/l

Barium	EPA 200.7	12D0555	0.010	0.042	1	4/13/2012	4/14/2012	
Beryllium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Cadmium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Calcium	EPA 200.7	12D0555	2.0	60	1	4/13/2012	4/14/2012	
Chromium	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Copper	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Iron	EPA 200.7	12D0555	0.050	ND	1	4/13/2012	4/14/2012	
Magnesium	EPA 200.7	12D0555	2.0	34	1	4/13/2012	4/14/2012	
Manganese	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Mercury	EPA 245.1	12D0763	0.00020	ND	1	4/20/2012	4/20/2012	
Nickel	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Potassium	EPA 200.7	12D0555	2.0	3.7	1	4/13/2012	4/14/2012	
Sodium	EPA 200.7	12D0555	2.0	420	1	4/13/2012	4/14/2012	
Tin	EPA 200.7	12D0555	0.10	ND	1	4/13/2012	4/14/2012	
Zinc	EPA 200.7	12D0555	0.050	0.083	1	4/13/2012	4/14/2012	

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

Report Number: PVD0704

Sampled: 04/10/12

Received: 04/10/12

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVD0704-03 (MW-10 - Water)								
Reporting Units: mg/l								
Barium	EPA 200.7	12D0555	0.010	0.041	1	4/13/2012	4/14/2012	
Beryllium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Cadmium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Calcium	EPA 200.7	12D0555	2.0	58	1	4/13/2012	4/14/2012	
Chromium	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Copper	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Iron	EPA 200.7	12D0555	0.050	ND	1	4/13/2012	4/14/2012	
Magnesium	EPA 200.7	12D0555	2.0	31	1	4/13/2012	4/14/2012	
Manganese	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Mercury	EPA 245.1	12D0763	0.00020	ND	1	4/20/2012	4/20/2012	
Nickel	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Potassium	EPA 200.7	12D0555	2.0	3.7	1	4/13/2012	4/14/2012	
Sodium	EPA 200.7	12D0555	2.0	420	1	4/13/2012	4/14/2012	
Tin	EPA 200.7	12D0555	0.10	ND	1	4/13/2012	4/14/2012	
Zinc	EPA 200.7	12D0555	0.050	ND	1	4/13/2012	4/14/2012	

Sample ID: PVD0704-04 (MW-11 - Water)

Reporting Units: mg/l

Barium	EPA 200.7	12D0555	0.010	0.041	1	4/13/2012	4/14/2012	
Beryllium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Cadmium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Calcium	EPA 200.7	12D0555	2.0	57	1	4/13/2012	4/14/2012	
Chromium	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Copper	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Iron	EPA 200.7	12D0555	0.050	ND	1	4/13/2012	4/14/2012	
Magnesium	EPA 200.7	12D0555	2.0	33	1	4/13/2012	4/14/2012	
Manganese	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Mercury	EPA 245.1	12D0763	0.00020	ND	1	4/20/2012	4/20/2012	
Nickel	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Potassium	EPA 200.7	12D0555	2.0	3.8	1	4/13/2012	4/14/2012	
Sodium	EPA 200.7	12D0555	2.0	430	1	4/13/2012	4/14/2012	
Tin	EPA 200.7	12D0555	0.10	ND	1	4/13/2012	4/14/2012	
Zinc	EPA 200.7	12D0555	0.050	0.055	1	4/13/2012	4/14/2012	

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

Report Number: PVD0704

Sampled: 04/10/12
Received: 04/10/12

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVD0704-05 (Duplicated - Water)								
Reporting Units: mg/l								
Barium	EPA 200.7	12D0555	0.010	0.041	1	4/13/2012	4/14/2012	
Beryllium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Cadmium	EPA 200.7	12D0555	0.0010	ND	1	4/13/2012	4/14/2012	
Calcium	EPA 200.7	12D0555	2.0	58	1	4/13/2012	4/14/2012	
Chromium	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Copper	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Iron	EPA 200.7	12D0555	0.050	ND	1	4/13/2012	4/14/2012	
Magnesium	EPA 200.7	12D0555	2.0	34	1	4/13/2012	4/14/2012	
Manganese	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Mercury	EPA 245.1	12D0763	0.00020	ND	1	4/20/2012	4/20/2012	
Nickel	EPA 200.7	12D0555	0.010	ND	1	4/13/2012	4/14/2012	
Potassium	EPA 200.7	12D0555	2.0	3.7	1	4/13/2012	4/14/2012	
Sodium	EPA 200.7	12D0555	2.0	420	1	4/13/2012	4/14/2012	
Tin	EPA 200.7	12D0555	0.10	ND	1	4/13/2012	4/14/2012	
Zinc	EPA 200.7	12D0555	0.050	0.086	1	4/13/2012	4/14/2012	

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

Report Number: PVD0704

Sampled: 04/10/12
Received: 04/10/12

DISSOLVED METALS BY ICP/MS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVD0704-01 (Equipment Blank - Water)								N1
Reporting Units: mg/l								
Antimony	EPA 200.8	12D0569	0.0030	ND	1	4/13/2012	4/18/2012	
Arsenic	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Lead	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Selenium	EPA 200.8	12D0569	0.0020	ND	1	4/13/2012	4/18/2012	
Silver	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/19/2012	
Thallium	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Sample ID: PVD0704-02 (MW-9 - Water)								N1
Reporting Units: mg/l								
Antimony	EPA 200.8	12D0569	0.0030	ND	1	4/13/2012	4/18/2012	
Arsenic	EPA 200.8	12D0569	0.0010	0.0059	1	4/13/2012	4/18/2012	
Lead	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Selenium	EPA 200.8	12D0569	0.0020	0.0027	1	4/13/2012	4/18/2012	
Silver	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/19/2012	
Thallium	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Sample ID: PVD0704-03 (MW-10 - Water)								N1
Reporting Units: mg/l								
Antimony	EPA 200.8	12D0569	0.0030	ND	1	4/13/2012	4/18/2012	
Arsenic	EPA 200.8	12D0569	0.0010	0.0053	1	4/13/2012	4/18/2012	
Lead	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Selenium	EPA 200.8	12D0569	0.0020	0.0023	1	4/13/2012	4/18/2012	
Silver	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/19/2012	
Thallium	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Sample ID: PVD0704-04 (MW-11 - Water)								N1
Reporting Units: mg/l								
Antimony	EPA 200.8	12D0569	0.0030	ND	1	4/13/2012	4/18/2012	
Arsenic	EPA 200.8	12D0569	0.0010	0.0071	1	4/13/2012	4/18/2012	
Lead	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Selenium	EPA 200.8	12D0569	0.0020	0.0024	1	4/13/2012	4/18/2012	
Silver	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/19/2012	
Thallium	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Sample ID: PVD0704-05 (Duplicated - Water)								N1
Reporting Units: mg/l								
Antimony	EPA 200.8	12D0569	0.0030	ND	1	4/13/2012	4/18/2012	
Arsenic	EPA 200.8	12D0569	0.0010	0.0059	1	4/13/2012	4/18/2012	
Lead	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	
Selenium	EPA 200.8	12D0569	0.0020	0.0029	1	4/13/2012	4/18/2012	
Silver	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/19/2012	
Thallium	EPA 200.8	12D0569	0.0010	ND	1	4/13/2012	4/18/2012	

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

Report Number: PVD0704

Sampled: 04/10/12
Received: 04/10/12

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVD0704-01 (Equipment Blank - Water)								
Reporting Units: mg/l								
Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Bicarbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Carbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Chloride	EPA 300.0	12D0460	2.0	ND	1	4/11/2012	4/11/2012	
Cyanide, Total	SM 4500CN-E	12D0680	0.050	ND	1	4/17/2012	4/17/2012	
Fluoride	EPA 300.0	12D0460	0.40	ND	1	4/11/2012	4/11/2012	
Hydroxide Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Nitrate-N	EPA 300.0	12D0460	0.20	ND	1	4/11/2012	4/11/2012	
Nitrite-N	EPA 300.0	12D0460	0.20	ND	1	4/11/2012	4/11/2012	
Phosphorus, Total - P	SM 4500-P B, E	12D0780	0.10	ND	1	4/19/2012	4/23/2012	
Sulfate	EPA 300.0	12D0460	2.0	ND	1	4/11/2012	4/11/2012	
Total Dissolved Solids	SM 2540C	12D0511	20	ND	1	4/12/2012	4/12/2012	
Alkalinity, Phenolphthalein	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	

Sample ID: PVD0704-01 (Equipment Blank - Water)
Reporting Units: NTU

Turbidity	EPA 180.1	12D0450	0.20	ND	1	4/11/2012	4/11/2012	
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Sample ID: PVD0704-02 (MW-9 - Water)
Reporting Units: mg/l

Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	410	1	4/12/2012	4/13/2012	
Bicarbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	410	1	4/12/2012	4/13/2012	
Carbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Chloride	EPA 300.0	12D0460	20	480	10	4/11/2012	4/12/2012	
Cyanide, Total	SM 4500CN-E	12D0680	0.050	ND	1	4/17/2012	4/17/2012	
Fluoride	EPA 300.0	12D0460	0.40	1.6	1	4/11/2012	4/11/2012	
Hydroxide Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Nitrate-N	EPA 300.0	12D0460	0.20	14	1	4/11/2012	4/11/2012	
Nitrite-N	EPA 300.0	12D0460	0.20	ND	1	4/11/2012	4/11/2012	
Phosphorus, Total - P	SM 4500-P B, E	12D0780	0.10	ND	1	4/19/2012	4/23/2012	
Sulfate	EPA 300.0	12D0460	20	210	10	4/11/2012	4/12/2012	
Total Dissolved Solids	SM 2540C	12D0511	20	1500	1	4/12/2012	4/12/2012	
Alkalinity, Phenolphthalein	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	

Sample ID: PVD0704-02 (MW-9 - Water)
Reporting Units: NTU

Turbidity	EPA 180.1	12D0450	0.20	ND	1	4/11/2012	4/11/2012	
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TestAmerica Phoenix
Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

Report Number: PVD0704

Sampled: 04/10/12

Received: 04/10/12

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVD0704-03 (MW-10 - Water)								
Reporting Units: mg/l								
Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	400	1	4/12/2012	4/13/2012	
Bicarbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	400	1	4/12/2012	4/13/2012	
Carbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Chloride	EPA 300.0	12D0460	20	480	10	4/11/2012	4/12/2012	
Cyanide, Total	SM 4500CN-E	12D0680	0.050	ND	1	4/17/2012	4/17/2012	
Fluoride	EPA 300.0	12D0460	0.40	1.4	1	4/11/2012	4/11/2012	
Hydroxide Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Nitrate-N	EPA 300.0	12D0460	0.20	12	1	4/11/2012	4/11/2012	
Nitrite-N	EPA 300.0	12D0460	0.20	ND	1	4/11/2012	4/11/2012	
Phosphorus, Total - P	SM 4500-P B, E	12D0780	0.10	ND	1	4/19/2012	4/23/2012	
Sulfate	EPA 300.0	12D0460	20	200	10	4/11/2012	4/12/2012	
Total Dissolved Solids	SM 2540C	12D0511	20	1400	1	4/12/2012	4/12/2012	
Alkalinity, Phenolphthalein	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	

Sample ID: PVD0704-03 (MW-10 - Water)

Reporting Units: NTU

Turbidity	EPA 180.1	12D0450	0.20	0.33	1	4/11/2012	4/11/2012	
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Sample ID: PVD0704-04 (MW-11 - Water)

Reporting Units: mg/l

Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	410	1	4/12/2012	4/13/2012	
Bicarbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	410	1	4/12/2012	4/13/2012	
Carbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Chloride	EPA 300.0	12D0460	20	480	10	4/11/2012	4/12/2012	
Cyanide, Total	SM 4500CN-E	12D0680	0.050	ND	1	4/17/2012	4/17/2012	
Fluoride	EPA 300.0	12D0460	0.40	1.7	1	4/11/2012	4/11/2012	
Hydroxide Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Nitrate-N	EPA 300.0	12D0460	0.20	13	1	4/11/2012	4/11/2012	
Nitrite-N	EPA 300.0	12D0460	0.20	ND	1	4/11/2012	4/11/2012	
Phosphorus, Total - P	SM 4500-P B, E	12D0780	0.10	ND	1	4/19/2012	4/23/2012	
Sulfate	EPA 300.0	12D0460	20	200	10	4/11/2012	4/12/2012	
Total Dissolved Solids	SM 2540C	12D0511	20	1400	1	4/12/2012	4/12/2012	
Alkalinity, Phenolphthalein	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	

Sample ID: PVD0704-04 (MW-11 - Water)

Reporting Units: NTU

Turbidity	EPA 180.1	12D0450	0.20	0.27	1	4/11/2012	4/11/2012	
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TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

Report Number: PVD0704

Sampled: 04/10/12
Received: 04/10/12

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVD0704-05 (Duplicated - Water)								
Reporting Units: mg/l								
Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	410	1	4/12/2012	4/13/2012	
Bicarbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	410	1	4/12/2012	4/13/2012	
Carbonate Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Chloride	EPA 300.0	12D0460	20	480	10	4/11/2012	4/12/2012	
Cyanide, Total	SM 4500CN-E	12D0680	0.050	ND	1	4/17/2012	4/17/2012	
Fluoride	EPA 300.0	12D0460	0.40	1.5	1	4/11/2012	4/11/2012	
Hydroxide Alkalinity as CaCO ₃	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	
Nitrate-N	EPA 300.0	12D0460	0.20	14	1	4/11/2012	4/11/2012	
Nitrite-N	EPA 300.0	12D0460	0.20	ND	1	4/11/2012	4/11/2012	
Phosphorus, Total - P	SM 4500-P B, E	12D0780	0.10	ND	1	4/19/2012	4/23/2012	
Sulfate	EPA 300.0	12D0460	20	210	10	4/11/2012	4/12/2012	
Total Dissolved Solids	SM 2540C	12D0511	20	1500	1	4/12/2012	4/12/2012	
Alkalinity, Phenolphthalein	SM 2320B	12D0521	6.0	ND	1	4/12/2012	4/13/2012	

Sample ID: PVD0704-05 (Duplicated - Water)

Reporting Units: NTU

Turbidity	EPA 180.1	12D0450	0.20	ND	1	4/11/2012	4/11/2012	
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TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

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Sampled: 04/10/12

Received: 04/10/12

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: Equipment Blank (PVD0704-01) - Water					
EPA 180.1	2	04/10/2012 11:10	04/10/2012 16:00	04/11/2012 09:30	04/11/2012 10:00
EPA 300.0	2	04/10/2012 11:10	04/10/2012 16:00	04/11/2012 09:45	04/11/2012 13:42
Sample ID: MW-9 (PVD0704-02) - Water					
EPA 180.1	2	04/10/2012 12:00	04/10/2012 16:00	04/11/2012 09:30	04/11/2012 10:00
EPA 300.0	2	04/10/2012 12:00	04/10/2012 16:00	04/11/2012 09:45	04/11/2012 15:06
Sample ID: MW-10 (PVD0704-03) - Water					
EPA 180.1	2	04/10/2012 13:40	04/10/2012 16:00	04/11/2012 09:30	04/11/2012 10:00
EPA 300.0	2	04/10/2012 13:40	04/10/2012 16:00	04/11/2012 09:45	04/11/2012 15:34
Sample ID: MW-11 (PVD0704-04) - Water					
EPA 180.1	2	04/10/2012 14:35	04/10/2012 16:00	04/11/2012 09:30	04/11/2012 10:00
EPA 300.0	2	04/10/2012 14:35	04/10/2012 16:00	04/11/2012 09:45	04/11/2012 16:02
Sample ID: Duplicated (PVD0704-05) - Water					
EPA 180.1	2	04/10/2012 08:00	04/10/2012 16:00	04/11/2012 09:30	04/11/2012 10:00
EPA 300.0	2	04/10/2012 08:00	04/10/2012 16:00	04/11/2012 09:45	04/11/2012 16:30

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

Report Number: PVD0704

Sampled: 04/10/12
Received: 04/10/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0555 Extracted: 04/13/12										
Blank Analyzed: 04/14/2012 (12D0555-BLK1)										
Barium	ND	0.010	mg/l							
Beryllium	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Calcium	ND	2.0	mg/l							
Chromium	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Iron	ND	0.050	mg/l							
Magnesium	ND	2.0	mg/l							
Manganese	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Potassium	ND	2.0	mg/l							
Sodium	ND	2.0	mg/l							
Tin	ND	0.10	mg/l							
Zinc	ND	0.050	mg/l							

Blank Analyzed: 04/14/2012 (12D0555-BLK2)										
Barium	ND	0.010	mg/l							
Beryllium	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Calcium	ND	2.0	mg/l							
Chromium	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Iron	ND	0.050	mg/l							
Magnesium	ND	2.0	mg/l							
Manganese	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Potassium	ND	2.0	mg/l							
Sodium	ND	2.0	mg/l							
Tin	ND	0.10	mg/l							
Zinc	ND	0.050	mg/l							

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

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Report Number: PVD0704

Sampled: 04/10/12
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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0555 Extracted: 04/13/12										
LCS Analyzed: 04/14/2012 (12D0555-BS1)										
Barium	0.979	0.010	mg/l	1.00		98	85-115			
Beryllium	0.951	0.0010	mg/l	1.00		95	85-115			
Cadmium	0.962	0.0010	mg/l	1.00		96	85-115			
Calcium	20.9	2.0	mg/l	21.0		100	85-115			
Chromium	0.967	0.010	mg/l	1.00		97	85-115			
Copper	0.917	0.010	mg/l	1.00		92	85-115			
Iron	0.992	0.050	mg/l	1.00		99	85-115			
Magnesium	20.4	2.0	mg/l	21.0		97	85-115			
Manganese	0.967	0.010	mg/l	1.00		97	85-115			
Nickel	0.955	0.010	mg/l	1.00		96	85-115			
Potassium	19.6	2.0	mg/l	20.0		98	85-115			
Sodium	19.2	2.0	mg/l	20.0		96	85-115			
Tin	1.03	0.10	mg/l	1.00		103	85-115			
Zinc	1.02	0.050	mg/l	1.00		102	85-115			
LCS Dup Analyzed: 04/14/2012 (12D0555-BS1)										
Barium	0.972	0.010	mg/l	1.00		97	85-115	0.7	20	
Beryllium	0.940	0.0010	mg/l	1.00		94	85-115	1	20	
Cadmium	0.957	0.0010	mg/l	1.00		96	85-115	0.6	20	
Calcium	20.8	2.0	mg/l	21.0		99	85-115	0.5	20	
Chromium	0.959	0.010	mg/l	1.00		96	85-115	0.9	20	
Copper	0.907	0.010	mg/l	1.00		91	85-115	1	20	
Iron	0.971	0.050	mg/l	1.00		97	85-115	2	20	
Magnesium	20.1	2.0	mg/l	21.0		96	85-115	1	20	
Manganese	0.954	0.010	mg/l	1.00		95	85-115	1	20	
Nickel	0.947	0.010	mg/l	1.00		95	85-115	0.8	20	
Potassium	19.3	2.0	mg/l	20.0		97	85-115	1	20	
Sodium	19.0	2.0	mg/l	20.0		95	85-115	1	20	
Tin	1.01	0.10	mg/l	1.00		101	85-115	1	20	
Zinc	1.02	0.050	mg/l	1.00		102	85-115	0.1	20	

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

Project ID: World Resources 34.41558.0001

Report Number: PVD0704

Sampled: 04/10/12
Received: 04/10/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0555 Extracted: 04/13/12										
Matrix Spike Analyzed: 04/14/2012-04/17/2012 (12D0555-MS1)					Source: PVD0601-01					
Barium	2.01	0.010	mg/l	1.00	1.12	89	70-130			
Beryllium	0.925	0.0010	mg/l	1.00	ND	93	70-130			
Cadmium	1.02	0.0010	mg/l	1.00	ND	102	70-130			
Calcium	502	2.0	mg/l	21.0	507	-23	70-130			M3
Chromium	0.972	0.010	mg/l	1.00	0.0356	94	70-130			
Copper	1.01	0.010	mg/l	1.00	0.00648	101	70-130			
Iron	1.08	0.050	mg/l	1.00	0.127	95	70-130			
Magnesium	250	2.0	mg/l	21.0	245	24	70-130			M3
Manganese	0.940	0.010	mg/l	1.00	ND	94	70-130			
Nickel	0.907	0.010	mg/l	1.00	ND	91	70-130			
Potassium	32.0	2.0	mg/l	20.0	12.0	100	70-130			
Sodium	941	20	mg/l	20.0	928	66	70-130			M4
Tin	0.991	0.10	mg/l	1.00	ND	99	70-130			
Zinc	0.959	0.050	mg/l	1.00	0.00939	95	70-130			

Matrix Spike Dup Analyzed: 04/14/2012-04/17/2012 (12D0555-MSD1)					Source: PVD0601-01					
Barium	2.01	0.010	mg/l	1.00	1.12	89	70-130	0.1	20	
Beryllium	0.928	0.0010	mg/l	1.00	ND	93	70-130	0.3	20	
Cadmium	1.03	0.0010	mg/l	1.00	ND	103	70-130	0.8	20	
Calcium	500	2.0	mg/l	21.0	507	-32	70-130	0.4	20	M3
Chromium	0.976	0.010	mg/l	1.00	0.0356	94	70-130	0.4	20	
Copper	1.02	0.010	mg/l	1.00	0.00648	101	70-130	0.7	20	
Iron	1.09	0.050	mg/l	1.00	0.127	96	70-130	1	20	
Magnesium	252	2.0	mg/l	21.0	245	33	70-130	0.8	20	M3
Manganese	0.944	0.010	mg/l	1.00	ND	94	70-130	0.4	20	
Nickel	0.924	0.010	mg/l	1.00	ND	92	70-130	2	20	
Potassium	32.3	2.0	mg/l	20.0	12.0	101	70-130	0.9	20	
Sodium	917	20	mg/l	20.0	928	-55	70-130	3	20	M4
Tin	0.994	0.10	mg/l	1.00	ND	99	70-130	0.2	20	
Zinc	0.959	0.050	mg/l	1.00	0.00939	95	70-130	0.03	20	

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

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Sampled: 04/10/12
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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0763 Extracted: 04/20/12										
Blank Analyzed: 04/20/2012 (12D0763-BLK1)										
Mercury	ND	0.00020	mg/l							
LCS Analyzed: 04/20/2012 (12D0763-BS1)										
Mercury	0.00866	0.00020	mg/l	0.0100		87	85-115			
LCS Dup Analyzed: 04/20/2012 (12D0763-BSD1)										
Mercury	0.00863	0.00020	mg/l	0.0100		86	85-115	0.3	20	
Matrix Spike Analyzed: 04/20/2012 (12D0763-MS1)										
Mercury	0.00891	0.00020	mg/l	0.0100	ND	89	70-130			
Matrix Spike Dup Analyzed: 04/20/2012 (12D0763-MSD1)										
Mercury	0.00926	0.00020	mg/l	0.0100	ND	93	70-130	4	20	

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
Attention: David Howard

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METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0569 Extracted: 04/13/12										
Blank Analyzed: 04/18/2012-04/19/2012 (12D0569-BLK1)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Selenium	ND	0.0020	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
Blank Analyzed: 04/18/2012-04/19/2012 (12D0569-BLK2)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Selenium	ND	0.0020	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
LCS Analyzed: 04/18/2012-04/19/2012 (12D0569-BS1)										
Antimony	0.108	0.0030	mg/l	0.100		108	85-115			
Arsenic	0.101	0.0010	mg/l	0.100		101	85-115			
Lead	0.104	0.0010	mg/l	0.100		104	85-115			
Selenium	0.105	0.0020	mg/l	0.100		105	85-115			
Silver	0.107	0.0010	mg/l	0.100		107	85-115			
Thallium	0.105	0.0010	mg/l	0.100		105	85-115			
LCS Dup Analyzed: 04/18/2012-04/19/2012 (12D0569-BSD1)										
Antimony	0.109	0.0030	mg/l	0.100		109	85-115	0.9	20	
Arsenic	0.102	0.0010	mg/l	0.100		102	85-115	0.9	20	
Lead	0.102	0.0010	mg/l	0.100		102	85-115	2	20	
Selenium	0.104	0.0020	mg/l	0.100		104	85-115	0.6	20	
Silver	0.108	0.0010	mg/l	0.100		108	85-115	1	20	
Thallium	0.106	0.0010	mg/l	0.100		106	85-115	0.9	20	

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
9185 S. Farmer Ave., Suite 111
Tempe, AZ 85284
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METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0569 Extracted: 04/13/12										
Matrix Spike Analyzed: 04/18/2012-04/19/2012 (12D0569-MS1)					Source: PVD0836-01					
Antimony	0.113	0.0030	mg/l	0.100	ND	113	70-130			
Arsenic	0.106	0.0010	mg/l	0.100	0.00404	102	70-130			
Lead	0.100	0.0010	mg/l	0.100	0.0000670	100	70-130			
Selenium	0.120	0.0020	mg/l	0.100	0.0116	108	70-130			
Silver	0.0212	0.0010	mg/l	0.100	ND	21	70-130			M2
Thallium	0.0967	0.0010	mg/l	0.100	ND	97	70-130			
Matrix Spike Dup Analyzed: 04/18/2012-04/19/2012 (12D0569-MSD1)					Source: PVD0836-01					
Antimony	0.114	0.0030	mg/l	0.100	ND	114	70-130	0.6	20	
Arsenic	0.107	0.0010	mg/l	0.100	0.00404	103	70-130	0.9	20	
Lead	0.103	0.0010	mg/l	0.100	0.0000670	103	70-130	3	20	
Selenium	0.121	0.0020	mg/l	0.100	0.0116	109	70-130	0.6	20	
Silver	0.0198	0.0010	mg/l	0.100	ND	20	70-130	7	20	M2
Thallium	0.0931	0.0010	mg/l	0.100	ND	93	70-130	4	20	

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Linda Eshelman
Project Manager

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0450 Extracted: 04/11/12										
Blank Analyzed: 04/11/2012 (12D0450-BLK1)										
Turbidity	ND	0.20	NTU							
LCS Analyzed: 04/11/2012 (12D0450-BS1)										
Turbidity	19.1	0.20	NTU	20.0		96	90-110			
LCS Dup Analyzed: 04/11/2012 (12D0450-BSD1)										
Turbidity	18.9	0.20	NTU	20.0		94	90-110	1	20	
Duplicate Analyzed: 04/11/2012 (12D0450-DUP1)										
Turbidity	7.02	0.20	NTU		Source: PVD0696-01 6.98			0.6	20	
Batch: 12D0460 Extracted: 04/11/12										
Blank Analyzed: 04/11/2012 (12D0460-BLK1)										
Chloride	ND	2.0	mg/l							
Fluoride	ND	0.40	mg/l							
Nitrate-N	ND	0.20	mg/l							
Nitrite-N	ND	0.20	mg/l							
Sulfate	ND	2.0	mg/l							
LCS Analyzed: 04/11/2012 (12D0460-BS1)										
Chloride	21.5	2.0	mg/l	20.0		107	90-110			
Fluoride	4.29	0.40	mg/l	4.00		107	90-110			
Nitrate-N	4.29	0.20	mg/l	4.00		107	90-110			
Nitrite-N	4.30	0.20	mg/l	4.00		107	90-110			
Sulfate	21.6	2.0	mg/l	20.0		108	90-110			

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Linda Eshelman
Project Manager

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0460 Extracted: 04/11/12										
LCS Dup Analyzed: 04/11/2012 (12D0460-BS01)										
Chloride	21.5	2.0	mg/l	20.0		107	90-110	0.05	15	
Fluoride	4.30	0.40	mg/l	4.00		108	90-110	0.2	20	
Nitrate-N	4.30	0.20	mg/l	4.00		108	90-110	0.3	15	
Nitrite-N	4.31	0.20	mg/l	4.00		108	90-110	0.4	15	
Sulfate	21.6	2.0	mg/l	20.0		108	90-110	0.3	15	
Duplicate Analyzed: 04/12/2012 (12D0460-DUP1)										
Chloride	3.64	2.0	mg/l		3.62			0.4	20	
Fluoride	0.0620	0.40	mg/l		0.0600			3	20	
Nitrate-N	0.0770	0.20	mg/l		0.0760			1	20	
Nitrite-N	ND	0.20	mg/l		ND				20	
Sulfate	2.52	2.0	mg/l		2.47			2	15	
Matrix Spike Analyzed: 04/11/2012 (12D0460-MS1)										
Chloride	23.3	2.0	mg/l	20.0	0.351	115	80-120			
Fluoride	4.62	0.40	mg/l	4.00	0.0560	114	80-120			
Nitrate-N	4.64	0.20	mg/l	4.00	ND	116	80-120			
Nitrite-N	4.37	0.20	mg/l	4.00	ND	109	80-120			
Sulfate	23.4	2.0	mg/l	20.0	ND	117	80-120			
Matrix Spike Dup Analyzed: 04/11/2012 (12D0460-MSD1)										
Chloride	23.1	2.0	mg/l	20.0	0.351	114	80-120	1	15	
Fluoride	4.57	0.40	mg/l	4.00	0.0560	113	80-120	1	20	
Nitrate-N	4.59	0.20	mg/l	4.00	ND	115	80-120	1	15	
Nitrite-N	4.33	0.20	mg/l	4.00	ND	108	80-120	0.8	15	
Sulfate	22.9	2.0	mg/l	20.0	ND	114	80-120	2	15	

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Linda Eshelman
Project Manager

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits RPD	RPD Limit	Data Qualifiers
Batch: 12D0511 Extracted: 04/12/12									
Blank Analyzed: 04/12/2012 (12D0511-BLK1)									
Total Dissolved Solids	ND	20	mg/l						
LCS Analyzed: 04/12/2012 (12D0511-BS1)									
Total Dissolved Solids	984	20	mg/l	1000		98	80-115		
LCS Dup Analyzed: 04/12/2012 (12D0511-BSD1)									
Total Dissolved Solids	980	20	mg/l	1000		98	80-115	0.4	10
Duplicate Analyzed: 04/12/2012 (12D0511-DUP1)									
Total Dissolved Solids	1380	20	mg/l		Source: PVD0701-01 1400			2	10
Duplicate Analyzed: 04/12/2012 (12D0511-DUP2)									
Total Dissolved Solids	2620	40	mg/l		Source: PVD0829-01 2690			3	10
Batch: 12D0521 Extracted: 04/12/12									
Blank Analyzed: 04/13/2012 (12D0521-BLK1)									
Alkalinity as CaCO3	ND	6.0	mg/l						
Bicarbonate Alkalinity as CaCO3	ND	6.0	mg/l						
Carbonate Alkalinity as CaCO3	ND	6.0	mg/l						
Hydroxide Alkalinity as CaCO3	ND	6.0	mg/l						
Alkalinity, Phenolphthalein	ND	6.0	mg/l						
LCS Analyzed: 04/13/2012 (12D0521-BS2)									
Alkalinity as CaCO3	250	6.0	mg/l	250		100	90-110		
LCS Dup Analyzed: 04/13/2012 (12D0521-BSD2)									
Alkalinity as CaCO3	252	6.0	mg/l	250		101	90-110	0.7	20

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Linda Eshelman
Project Manager

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0521 Extracted: 04/12/12										
Duplicate Analyzed: 04/13/2012 (12D0521-DUP1)					Source: PVD0678-02					
Alkalinity as CaCO ₃	272	6.0	mg/l		271			0.4	20	
Bicarbonate Alkalinity as CaCO ₃	272	6.0	mg/l		271			0.4	20	
Carbonate Alkalinity as CaCO ₃	ND	6.0	mg/l		ND				20	
Hydroxide Alkalinity as CaCO ₃	ND	6.0	mg/l		ND				20	
Alkalinity, Phenolphthalein	ND	6.0	mg/l		ND				20	
Duplicate Analyzed: 04/13/2012 (12D0521-DUP2)					Source: PVD0696-01					
Alkalinity as CaCO ₃	77.6	6.0	mg/l		77.0			0.8	20	
Bicarbonate Alkalinity as CaCO ₃	65.7	6.0	mg/l		65.3			0.5	20	
Carbonate Alkalinity as CaCO ₃	11.9	6.0	mg/l		11.6			2	20	
Hydroxide Alkalinity as CaCO ₃	ND	6.0	mg/l		ND				20	
Alkalinity, Phenolphthalein	ND	6.0	mg/l		ND				20	
Batch: 12D0680 Extracted: 04/17/12										
Blank Analyzed: 04/17/2012 (12D0680-BLK1)										
Cyanide, Total	ND	0.050	mg/l							
LCS Analyzed: 04/17/2012 (12D0680-BS1)										
Cyanide, Total	0.103	0.050	mg/l	0.100		103	90-110			
LCS Dup Analyzed: 04/17/2012 (12D0680-BSD1)										
Cyanide, Total	0.101	0.050	mg/l	0.100		101	90-110	2	20	
Matrix Spike Analyzed: 04/17/2012 (12D0680-MS1)										
Cyanide, Total	0.108	0.050	mg/l	0.100	ND	108	80-120			

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Project Manager

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12D0680 Extracted: 04/17/12										
Matrix Spike Dup Analyzed: 04/17/2012 (12D0680-MSD1)					Source: PVD0672-01					
Cyanide, Total	0.105	0.050	mg/l	0.100	ND	105	80-120	2	20	
Batch: 12D0780 Extracted: 04/19/12										
Blank Analyzed: 04/23/2012 (12D0780-BLK1)										
Phosphorus, Total - P	ND	0.10	mg/l							
LCS Analyzed: 04/23/2012 (12D0780-BS1)										
Phosphorus, Total - P	0.300	0.10	mg/l	0.300		100	90-110			
LCS Dup Analyzed: 04/23/2012 (12D0780-BSD1)										
Phosphorus, Total - P	0.293	0.10	mg/l	0.300		98	90-110	2	20	
Matrix Spike Analyzed: 04/23/2012 (12D0780-MS1)					Source: PVD0827-01					
Phosphorus, Total - P	0.334	0.10	mg/l	0.300	0.0210	104	80-120			
Matrix Spike Dup Analyzed: 04/23/2012 (12D0780-MSD1)					Source: PVD0827-01					
Phosphorus, Total - P	0.330	0.10	mg/l	0.300	0.0210	103	80-120	1	20	

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Project Manager

ATC Associates - Tempe
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DATA QUALIFIERS AND DEFINITIONS

- 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 the spike level. The associated blank spike recovery was acceptable.
- M4** The analysis of the spiked sample required a dilution such that the spike recovery calculation does not provide useful information. The associated blank spike recovery was acceptable.
- N1** See case narrative.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

TestAmerica Phoenix

Linda Eshelman
Project Manager

ATC Associates - Tempe
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Tempe, AZ 85284
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Certification Summary

TestAmerica Phoenix

Method	Matrix	Nelac	Arizona
EPA 180.1	Water		X
EPA 200.7	Water		X
EPA 200.8	Water		X
EPA 245.1	Water		X
EPA 300.0	Water		X
SM 2320B	Water		X
SM 2540C	Water		X
SM 4500CN-E	Water		X
SM 4500-P B, E	Water		X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Phoenix

Linda Eshelman
Project Manager



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Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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