

May 2, 2014

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

RE: Semiannual Groundwater Monitoring Report, April 2014
World Resources Company, Tolleson, Arizona
Cardno ATC Project No. 34.41558.0001



Dear Mr. Roberts:

Cardno 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). Cardno 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.

Cardno 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 (CFR), 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 two-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.

A Cardno ATC representative conducted groundwater monitoring at the Site on April 10, 2014. During this investigation, three monitor wells (MW-9, MW-10 and MW-11) contained sufficient groundwater for reliable samples, consistent with previous monitoring events. Laboratory analyses were performed on groundwater samples collected at monitor wells 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, 2014 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 mile east of 83rd Avenue in Tolleson, Arizona. The Site is bound to the north by Sherman Street, as depicted on attached Figure 1, Site Vicinity Map.

A total of 11 monitor wells (MW-1 through MW-11) 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 attached Figure 2, Site Location and Potentiometric Surface Map (04/10/14).

2.0 Field Activities

Semiannual groundwater monitoring was conducted at the Site on April 10, 2014. Depth to groundwater was gauged at monitor wells MW-6, MW-7, MW-9, MW-10 and MW-11. Monitoring activities included measuring depth to groundwater at these five groundwater monitor wells. Groundwater elevations at monitor wells MW-9, MW-10 and MW-11 increased an average of 1.67 feet since the October 2, 2013 monitoring event. The water level indicator was decontaminated between well measurements utilizing a solution of biodegradable, phosphate-free Liquinox[®], rinse water and distilled water.

Total depth was measured at monitor well MW-6 at a depth of 85.25 feet below top of casing (TOC). No groundwater was encountered at monitor well MW-6.

Total depth was measured at monitor well MW-7 at a depth of 90.30 feet below TOC. No groundwater was encountered at monitor well MW-7.

Depth to groundwater measurements and groundwater elevations are depicted in attached Table 1, Groundwater Monitoring Data. Groundwater elevations and potentiometric surface map are depicted on Figure 2. The groundwater flow direction observed during this monitoring event is generally toward the north. Historically, groundwater flow direction at the Site has been toward the north-northwest.

On April 10, 2014, subsequent to measuring static groundwater levels, Cardno ATC utilized a low-flow, adjustable, submersible, GRUNDFOS[®] two-inch diameter pump to purge groundwater at monitor wells MW-9, MW-10 and MW-11. Monitor wells MW-6 and MW-7 were not sampled due to insufficient volumes of groundwater inside the well casings.

Groundwater was pumped from wells MW-9, MW-10 and MW-11 at an approximate rate of 400 milliliters per minute. Cardno ATC measured water quality parameters (dissolved oxygen, pH, color, odor, conductivity, oxidation-reduction potential and temperature) during each purging event. Field Data Sheets are included in attached Appendix A. Subsequent to purging each well and stabilization of the water quality parameters, groundwater samples were collected directly from the pump 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 field duplicate groundwater sample were collected during the monitoring event. The equipment blank sample was collected by pumping distilled water through the sampling pump following the final sample collection at the last monitor well. The duplicate groundwater sample was collected at monitor well MW-10 and was designated as "MW-10 DUP." 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 a chain-of-custody document, 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 Liquinox[®], rinse water and distilled water. Cardno ATC set up three five-gallon buckets to perform decontamination. The pump was first set in a five-gallon bucket with Liquinox[®] solution and run for approximately five minutes. The pump was then set in a five-gallon bucket with rinse water and run for approximately five minutes. Lastly, the pump was set in a five-gallon bucket with distilled water and run for approximately five minutes.

Monitor well purge water and decontamination water was placed in 55-gallon drums supplied by WRC. Cardno 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 (AWQS). Nitrate (as N) equaled its AWQS. Other general chemistry analytes and total cyanide did not exceed their respective AWQS. Nitrate (as N) was reported at a concentration of 10 milligrams per liter (mg/L) at monitor wells MW-9, MW-10 and MW-11, respectively (attached Table 2, Analytical Results for Inorganics in Groundwater). 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 use 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 attached Appendix B.

4.0 Quality Assurance/Quality Control

On April 10, 2014, TestAmerica received five sets of groundwater samples collected at the Site. The five sets of groundwater samples included one equipment blank (ID EQUIP), one field duplicate (ID MW-10 DUP; collected at well MW-10), one sample collected at well MW-9 (ID MW-9), one sample collected at well MW-10 (ID MW-10) and one sample collected at well MW-11 (ID MW-11). TestAmerica reported their analyses on April 24, 2014 (Job ID: 550-22739-1). A copy of the TestAmerica report is included in Appendix B.

Cardno 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 TestAmerica.

The laboratory sample duplicate results were below 20 percent Relative Percent Difference (RPD; as defined in the laboratory report). The field duplicate (ID MW-10 DUP; collected at well MW-10) laboratory sample results were below 20 percent RPD, as depicted in Table 2.

5.0 Findings and Recommendations

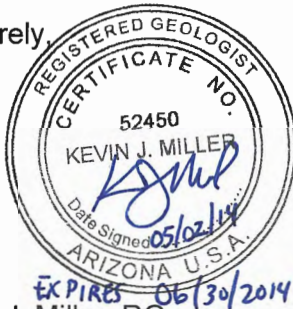
Laboratory analytical results of groundwater samples collected during this investigation indicate analytes did not equal or exceed ADEQ established AWQS, with the exception of nitrate (as N). Elevated concentrations of nitrate (as N) have been reported in previous investigations and were attributed to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

6.0 Summary

Cardno 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 Ric Morgan at (480) 355-4613.

Sincerely,



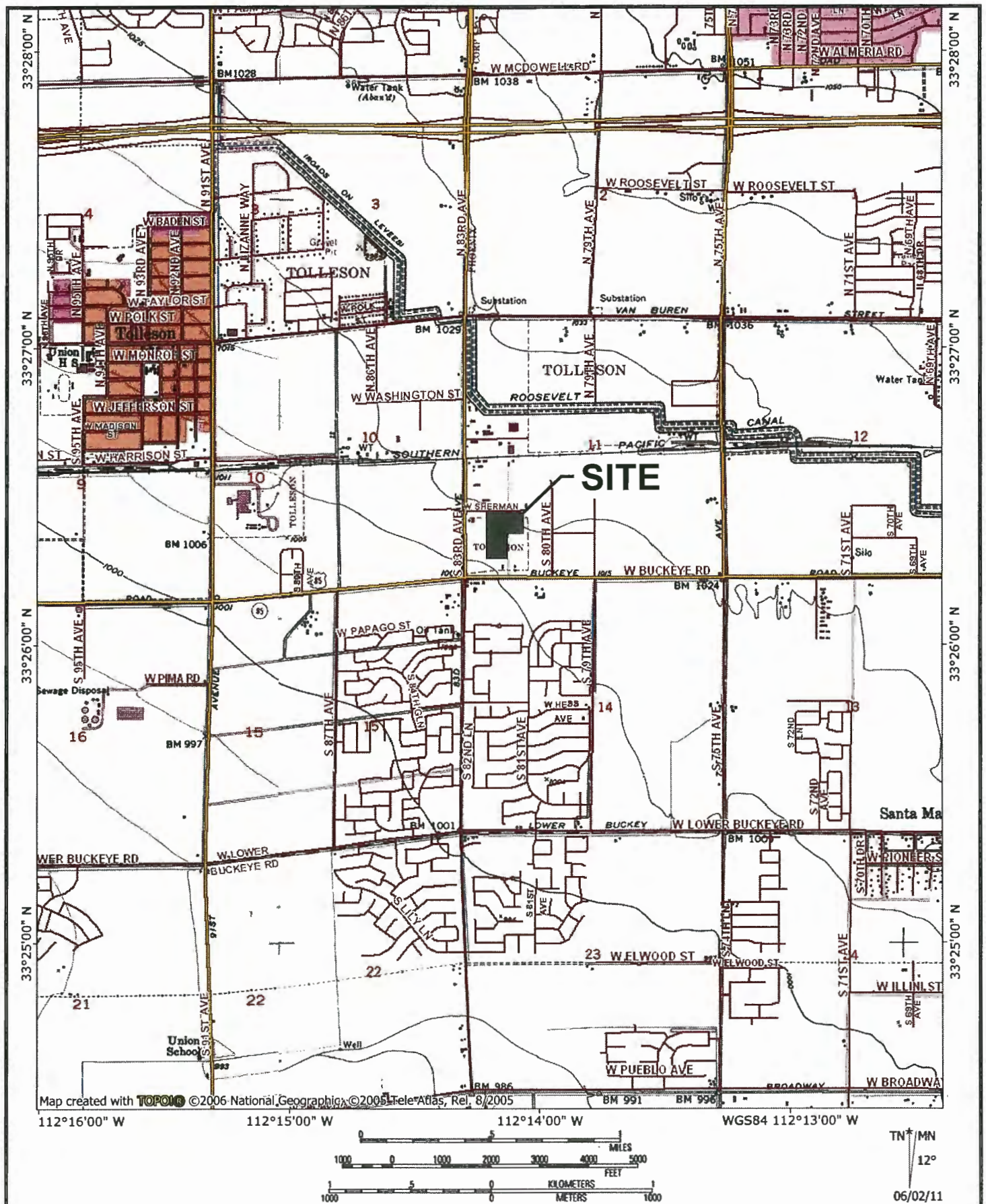
Kevin J. Miller, RG
Project Manager
for Cardno ATC
Direct Line +1 480 355 4655
Email: kevin.miller@cardno.com



Girard E. Morgan, RG
Principal Geologist
for Cardno ATC
Direct Line +1 480 355 4613
Email: ric.morgan@cardno.com

Attachments: As stated.

FIGURES



SITE VICINITY MAP

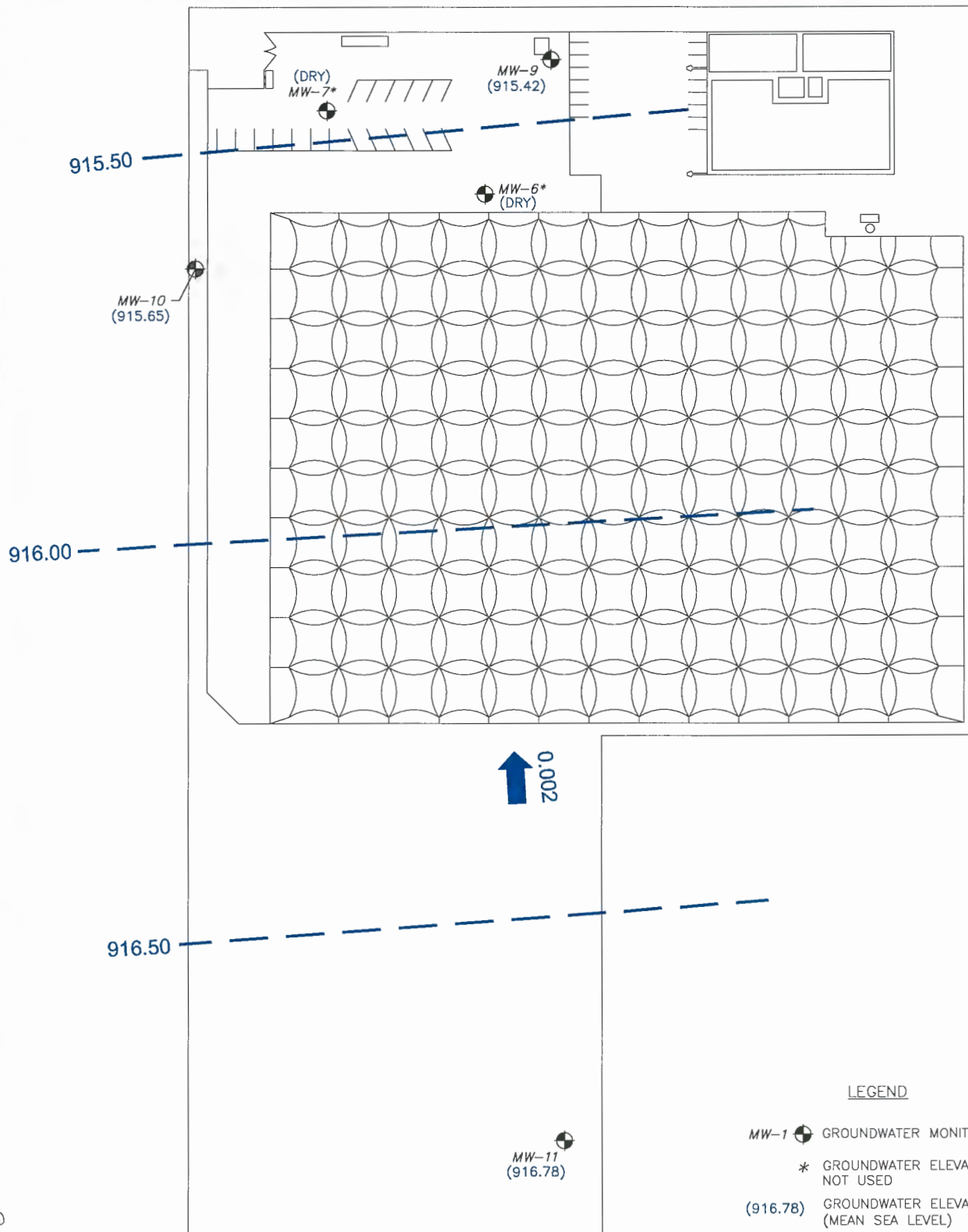
WORLD RESOURCES COMPANY
8113 W. SHERMAN STREET
TOLLESON, AZ

PROJECT NUMBER: 34.41558.0001 DATE: 11/2/12 FIGURE

APPROVED BY: KM DRAWN BY: BK 1



9185 S. Farmer Ave., Ste. #111
Tempe, Arizona 85284-2912
Ph: (480) 894-2056 *** Fax: (480) 894-2497



LEGEND

- MW-1 GROUNDWATER MONITOR WELL
- * GROUNDWATER ELEVATIONS NOT USED
- (916.78) GROUNDWATER ELEVATION, FT (MEAN SEA LEVEL)
- GROUNDWATER CONTOUR (0.50 FT INTERVAL)
- GROUNDWATER GRADIENT FLOW DIRECTION, FT/FT

0 120 240
SCALE, FT

NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

SITE LOCATION AND POTENTIOMETRIC SURFACE MAP (04/10/14)

WORLD RESOURCES COMPANY
8113 WEST SHERMAN STREET
TOLLESON, ARIZONA 85353

PROJECT NUMBER: 34.41558.0001

DATE: 4/30/14

FIGURE

APPROVED BY: KM

DRAWN BY: BK

2



6185 S. Farmer Ave., Ste. #111
Tempe, Arizona 85284-2912
Ph: (480) 894-2056 *** Fax: (480) 894-2497

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
		10/04/12	Dry	Dry
		04/23/13	Dry	Dry
		10/02/13	Dry	Dry
		04/10/14	Dry	Dry
MW-7	1,016.44	05/10/11	84.21	932.23
		10/18/11	88.76	927.68
		04/10/12	-	-
		10/04/12	-	-
		04/23/13	Dry	Dry
		10/02/13	Dry	Dry
		04/10/14	Dry	Dry
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
		10/04/12	94.63	922.31
		04/23/13	96.36	920.58
		10/02/13	103.17	913.77
		04/10/14	101.52	915.42
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
		10/04/12	90.82	922.42
		04/23/13	92.49	920.75
		10/02/13	99.11	914.13
		04/10/14	97.59	915.65
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
		10/04/12	87.58	923.16
		04/23/13	88.95	921.79
		10/02/13	95.80	914.94
		04/10/14	93.96	916.78

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-10)	Equipment Blank	AWQS	Field Duplicate RPD
<i>General Chemistry</i>								
Chloride	4/10/2014	430	440	440	440	<2.0	NP	0.0%
Fluoride	4/10/2014	1.3	1.3	1.3	1.3	<0.40	4.0	0.0%
Sulfate	4/10/2014	180	180	180	180	<2.0	NP	0.0%
Nitrate (as N)	4/10/2014	10	10	10	10	<0.10	10.0	0.0%
Nitrite (as N)	4/10/2014	<0.10	<0.10	<0.10	<0.10	<0.10	1.0	-
Phosphorus, Total (as P)	4/10/2014	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Total Dissolved Solids (TDS)	4/10/2014	1500	1400	1400	1400	<20	NP	0.0%
Alkalinity, Bicarbonate (as CaCO ₃)	4/10/2014	380	370	380	370	<6.0	NP	0.0%
Alkalinity, Carbonate (as CaCO ₃)	4/10/2014	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Hydroxide (as CaCO ₃)	4/10/2014	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Total (as CaCO ₃)	4/10/2014	380	370	380	370	<6.0	NP	0.0%
Turbidity (units: NTU)	4/10/2014	<0.20	<0.20	0.44	<0.20	<0.20	5.0	-
<i>Total Cyanide</i>								
Cyanide, Total	4/10/2014	<0.050	<0.050	<0.050	<0.050	<0.050	0.200	-
<i>Dissolved Metals</i>								
Barium	4/10/2014	0.039	0.039	0.039	0.039	<0.010	2.0	0.0%
Beryllium	4/10/2014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.004	-
Cadmium	4/10/2014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	-
Calcium	4/10/2014	55	56	57	55	<2.0	NP	1.8%
Chromium	4/10/2014	<0.010	<0.010	<0.010	<0.010	<0.010	0.100	-
Copper	4/10/2014	<0.010	<0.010	<0.010	<0.010	<0.010	1.3	-
Iron	4/10/2014	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Magnesium	4/10/2014	31	29	31	29	<2.0	NP	0.0%
Manganese	4/10/2014	<0.010	<0.010	<0.010	<0.010	<0.010	0.980	-
Nickel	4/10/2014	<0.010	<0.010	<0.010	<0.010	<0.010	0.210	-
Potassium	4/10/2014	3.3	3.4	3.6	3.4	<2.0	NP	0.0%
Silver	4/10/2014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.035	-
Sodium	4/10/2014	400	400	410	390	<2.0	NP	2.5%
Tin	4/10/2014	<0.20	<0.20	<0.20	<0.20	<0.20	NP	-
Zinc	4/10/2014	<0.050	<0.050	<0.050	<0.050	<0.050	2.1	-
Antimony	4/10/2014	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.006	-
Arsenic	4/10/2014	0.0044	0.0045	0.0052	0.0042	<0.0030	0.010	6.9%
Lead	4/10/2014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.015	-
Mercury	4/10/2014	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.002	-
Selenium	4/10/2014	0.0023	0.0021	0.0025	0.0022	<0.0020	0.050	-
Thallium	4/10/2014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.002	-

mg/L = Milligrams per liter (equivalent to parts per million).

AWQS = Aquifer Water Quality Standard

RPD = Relative Percent Difference

NP=None published.

<2.0 = 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	10/2/2013	440	450	440	440	<2.0	NP	0.0%
Fluoride	10/2/2013	1.5	1.3	1.5	1.5	<0.40	4.0	0.0%
Sulfate	10/2/2013	180	180	180	180	<2.0	NP	0.0%
Nitrate (as N)	10/2/2013	11	10	10	11	<0.20	10.0	0.0%
Nitrite (as N)	10/2/2013	<0.20	<0.20	<0.20	<0.20	<0.20	1.0	-
Phosphorus, Total (as P)	10/2/2013	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Total Dissolved Solids (TDS)	10/2/2013	1400	1400	1400	1400	<20	NP	0.0%
Alkalinity, Bicarbonate (as CaCO ₃)	10/2/2013	390	380	390	390	<6.0	NP	0.0%
Alkalinity, Carbonate (as CaCO ₃)	10/2/2013	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Hydroxide (as CaCO ₃)	10/2/2013	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Total (as CaCO ₃)	10/2/2013	390	380	390	390	<6.0	NP	0.0%
Turbidity (units: NTU)	10/2/2013	0.20	<0.20	1.1	<0.20	0.50	5.0	-
<i>Total Cyanide</i>								
Cyanide, Total	10/2/2013	<0.050	<0.050	<0.050	<0.050	<0.050	0.200	-
<i>Dissolved Metals</i>								
Barium	10/2/2013	0.039	0.040	0.039	0.042	<0.010	2.0	7.4%
Beryllium	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.004	-
Cadmium	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	-
Calcium	10/2/2013	54	56	57	59	<2.0	NP	8.8%
Chromium	10/2/2013	<0.010	<0.010	<0.010	<0.010	<0.010	0.100	-
Copper	10/2/2013	<0.010	<0.010	<0.010	<0.010	<0.010	1.3	-
Iron	10/2/2013	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Magnesium	10/2/2013	30	29	31	33	<2.0	NP	9.5%
Manganese	10/2/2013	<0.010	<0.010	<0.010	<0.010	<0.010	0.980	-
Nickel	10/2/2013	<0.010	<0.010	<0.010	<0.010	<0.010	0.210	-
Potassium	10/2/2013	3.3	3.6	3.6	3.7	<2.0	NP	11.4%
Silver	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.035	-
Sodium	10/2/2013	390	410	420	430	<2.0	NP	9.8%
Tin	10/2/2013	<0.20	<0.20	<0.20	<0.20	<0.20	NP	-
Zinc	10/2/2013	<0.050	<0.050	<0.050	<0.050	<0.050	2.1	-
Antimony	10/2/2013	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.006	-
Arsenic	10/2/2013	0.0053	0.0050	0.0055	0.0054	<0.0030	0.010	1.9%
Lead	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.015	-
Mercury	10/2/2013	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.002	-
Selenium	10/2/2013	<0.0020	0.0020	0.0020	0.0020	<0.0020	0.050	-
Thallium	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.002	-

mg/L = Milligrams per liter (equivalent to parts per million).

AWQS = Aquifer Water Quality Standard

RPD = Relative Percent Difference

NP=None published.

<2.0 = 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	4/23/2013	440	450	450	450	<2.0	NP	0.0%
Fluoride	4/23/2013	1.4	1.4	1.5	1.5	<0.40	4.0	0.0%
Sulfate	4/23/2013	190	180	190	180	<2.0	NP	5.4%
Nitrate (as N)	4/23/2013	11	11	11	11	<0.20	10.0	0.0%
Nitrite (as N)	4/23/2013	<0.20	<0.20	<0.20	<0.20	<0.20	1.0	-
Phosphorus, Total (as P)	4/23/2013	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Total Dissolved Solids (TDS)	4/23/2013	1400	1400	1400	1400	<20	NP	0.0%
Alkalinity, Bicarbonate (as CaCO ₃)	4/23/2013	400	380	390	390	<6.0	NP	0.0%
Alkalinity, Carbonate (as CaCO ₃)	4/23/2013	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Hydroxide (as CaCO ₃)	4/23/2013	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Total (as CaCO ₃)	4/23/2013	400	380	390	390	<6.0	NP	0.0%
Turbidity (units: NTU)	4/23/2013	0.87	<0.20	0.33	0.28	<0.20	5.0	16.4%
<i>Total Cyanide</i>								
Cyanide, Total	4/23/2013	<0.050	<0.050	<0.050	<0.050	<0.050	0.200	-
<i>Dissolved Metals</i>								
Barium	4/23/2013	<0.10	<0.10	<0.10	<0.10	<0.010	2.0	-
Beryllium	4/23/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.004	-
Cadmium	4/23/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	-
Calcium	4/23/2013	58	56	59	56	<2.0	NP	5.2%
Chromium	4/23/2013	<0.010	<0.010	<0.010	<0.010	<0.010	0.100	-
Copper	4/23/2013	<0.010	<0.010	<0.010	<0.010	<0.010	1.3	-
Iron	4/23/2013	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Magnesium	4/23/2013	32	30	32	31	<2.0	NP	3.2%
Manganese	4/23/2013	<0.010	<0.010	<0.010	<0.010	<0.010	0.980	-
Nickel	4/23/2013	<0.010	<0.010	<0.010	<0.010	<0.010	0.210	-
Potassium	4/23/2013	3.5	3.5	3.7	3.6	<2.0	NP	2.7%
Silver	4/23/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.035	-
Sodium	4/23/2013	420	410	430	410	<2.0	NP	4.8%
Tin	4/23/2013	<0.20	<0.20	<0.20	<0.20	<0.20	NP	-
Zinc	4/23/2013	<0.050	<0.050	<0.050	<0.050	<0.050	2.1	-
Antimony	4/23/2013	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.006	-
Arsenic	4/23/2013	0.0045	0.0036	0.0054	0.0052	<0.0030	0.010	3.8%
Lead	4/23/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.015	-
Mercury	4/23/2013	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.002	-
Selenium	4/23/2013	0.0027	0.0022	0.0025	0.0025	<0.0020	0.050	0.0%
Thallium	4/23/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.002	-

mg/L = Milligrams per liter (equivalent to parts per million).

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-10)	Equipment Blank	AWQS	Field Duplicate RPD
<i>General Chemistry</i>								
Chloride	10/4/2012	450	450	450	450	<2.0	NP	0.0%
Fluoride	10/4/2012	1.4	1.3	1.4	1.3	<0.40	4.0	0.0%
Sulfate	10/4/2012	190	190	190	190	<2.0	NP	0.0%
Nitrate (as N)	10/4/2012	12	11	12	11	<0.20	10.0	0.0%
Nitrite (as N)	10/4/2012	<0.20	<0.20	<0.20	<0.20	<0.20	1.0	-
Phosphorus, Total (as P)	10/4/2012	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Total Dissolved Solids (TDS)	10/4/2012	1400	1400	1400	1400	<20	NP	0.0%
Alkalinity, Bicarbonate (as CaCO ₃)	10/4/2012	390	380	390	380	<6.0	NP	0.0%
Alkalinity, Carbonate (as CaCO ₃)	10/4/2012	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Hydroxide (as CaCO ₃)	10/4/2012	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Total (as CaCO ₃)	10/4/2012	390	380	390	380	<6.0	NP	0.0%
Turbidity (units: NTU)	10/4/2012	0.49	0.25	3.4	0.24	<0.20	5.0	-
<i>Total Cyanide</i>								
Cyanide, Total	10/4/2012	<0.050	<0.050	<0.050	<0.050	<0.050	0.200	-
<i>Dissolved Metals</i>								
Barium	10/4/2012	0.042	0.041	0.042	0.039	<0.010	2.0	5.0%
Beryllium	10/4/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.004	-
Cadmium	10/4/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	-
Calcium	10/4/2012	58	57	56	55	<2.0	NP	3.6%
Chromium	10/4/2012	<0.010	<0.010	<0.010	<0.010	<0.010	0.100	-
Copper	10/4/2012	<0.010	<0.010	<0.010	<0.010	<0.010	1.3	-
Iron	10/4/2012	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Magnesium	10/4/2012	33	30	31	29	<2.0	NP	3.4%
Manganese	10/4/2012	<0.010	<0.010	<0.010	<0.010	<0.010	0.980	-
Nickel	10/4/2012	<0.010	<0.010	0.012	<0.010	<0.010	0.210	-
Potassium	10/4/2012	3.6	3.7	3.8	3.7	<2.0	NP	0.0%
Silver	10/4/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.035	-
Sodium	10/4/2012	400	400	390	390	<2.0	NP	2.5%
Tin	10/4/2012	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Zinc	10/4/2012	<0.050	<0.050	<0.050	<0.050	<0.050	2.1	-
Antimony	10/4/2012	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.006	-
Arsenic	10/4/2012	0.0056	0.0052	0.0064	0.0062	<0.0010	0.010	17.5%
Lead	10/4/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.015	-
Mercury	10/4/2012	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.002	-
Selenium	10/4/2012	0.0022	0.0021	0.0023	0.0025	<0.0020	0.050	17.4%
Thallium	10/4/2012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.002	-

mg/L = Milligrams per liter (equivalent to parts per million).

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	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	-

mg/L = Milligrams per liter (equivalent to parts per million).

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	-

mg/L = Milligrams per liter (equivalent to parts per million).

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	-

mg/L = Milligrams per liter (equivalent to parts per million).

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 _____

Project No.	34.41558.0001	Personnel	
Site Name	WRC	Site Location	Tolleson, AZ
Site/Well No.	MW-6	Sample ID	
Weather		Duplicate ID	

Pump Time Start		Pump Time Stop	
Sample Time Start		Sample Time Stop	

Sample Container Description

<u>Constituents</u>	<u>No. Bottles</u>	<u>Preservative</u>
Dissolved Metals (see COC): 500 ml poly	1	None
Wet Chem. (Alk, Cl, TDS, SO ₄ , NO ₃ , F, Turb.): 1-	1	None
Phosphate, Backup NO ₃ : 500 ml poly	1	H ₂ SO ₄
Cyanide: 500 ml poly	1	NaOH



4/10/14

Project No.	34.41558.0001	Personnel	
Site Name	WRC	Site Location	Tolleson, AZ
Site/Well No.	NW-7	Sample ID	NA
Weather		Duplicate ID	

Pump Time Start		Pump Time Stop	
Sample Time Start		Sample Time Stop	

Sample Container Description

<u>Constituents</u>	<u>No. Bottles</u>	<u>Preservative</u>
Dissolved Metals (see COC): 500 ml poly	1	None
Wet Chem. (Alk, Cl, TDS, SO ₄ , NO ₃ , F, Turb.): 1-	1	None
Phosphate, Backup NO ₃ : 500 ml poly	1	H ₂ SO ₄
Cyanide: 500 ml poly	1	NaOH

Date 4/10/14

Field Data Sheet

Project No.	34.41558.0001	Personnel	
Site Name	WRC	Site Location	Tolleson, AZ
Site/Well No.	MW-9	Sample ID	MW-9
Weather	Clear 90°	Duplicate ID	

MW TD		MW TOC Elev.	
MW DTW	161.52	Casing Diam.	4 inches
Purge Rate	400 ml/min.	Water Level Elev.	
Purge Method	Low Flow		

Pump Time Start	1145	Pump Time Stop	1208
Sample Time Start	1159	Sample Time Stop	1208

Time	Appearance Color/Odor	D.O. mg/L	pH	EC mS/cm or uS/cm	Temp. (°C)	ORP
1145	Clr/No	9.77	7.08	1958	27.04	96
1148	Clr/No	9.11	7.14	1978	26.11	102
1151	Clr/No	7.20	7.15	1987	25.08	100
1154	Clr/No	7.26	7.14	1989	25.08	98
1157	Clr/No	7.29	7.14	1990	25.06	99
		7.20	7.15	1987		

Sample Container Description

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

Date 4/10/14

Field Data Sheet

Project No.	34.41558.0001	Personnel	JN/A
Site Name	WRC	Site Location	Tolleson, AZ
Site/Well No.	MW-10	Sample ID	MW-10
Weather	Clear 85°	Duplicate ID	MW-10 DUP

MW TD		MW TOC Elev.	
MW DTW	91.59	Casing Diam.	4 inches
Purge Rate	400 ml/min.	Water Level Elev.	
Purge Method	Low Flow		

Pump Time Start	1047	Pump Time Stop	
Sample Time Start	1108	Sample Time Stop	1128

Time	Appearance Color/Odor	D.O. mg/L	pH	EC mS/cm or <u>uS/cm</u>	Temp. (°C)	ORP
1047	Clear/NA	7.55	7.10	1942	25.01	67
1050	Clear/NA	7.96	7.01	1927	24.73	56
1053	Clear/NA	7.60	7.08	1935	26.24	59
1056	Clear/NA	7.70	7.08	1938	26.81	50
1059	Clear/NA	7.75	7.08	1936	26.79	54
1102	Clear/NA	7.73	7.08	1935	26.81	55
1105	Clear/NA	7.71	7.08	1932	26.81	57

← observe
bubbles in
Tubing

Sample Container Description

Constituents

No. Bottles

Preservative

Dissolved Metals (see COC): 500 ml poly

1

None

Wet Chem. (Alk, Cl, TDS, SO₄, NO₃, F, Turb.): 1-

1

None

Phosphate, Backup NO₃: 500 ml poly

1

H₂SO₄

Cyanide: 500 ml poly

1

NaOH

Set Pump @ 107 BTOC

Approx 2.0 Gallons Put in holding drum

Date 4/10/14

Field Data Sheet

Project No.	34.41558.0001	Personnel <u>Jim</u>	
Site Name	WRC	Site Location	Tolleson, AZ
Site/Well No.	MW-11	Sample ID	MW-11
Weather	Clear 85°	Duplicate ID	NA

MW TD		MW TOC Elev.	
MW DTW	93.96	Casing Diam.	4 inches
Purge Rate	400 ml/min.	Water Level Elev.	
Purge Method	Low Flow		

Pump Time Start	0926	Pump Time Stop	0951
Sample Time Start	0945	Sample Time Stop	0951

Time	Appearance Color/Odor	D.O. mg/L	pH	EC mS/cm or (uS/cm)	Temp. (°C)	ORP
0926	ND	6.19	7.10	1776	23.45	118.7
0929	NO	6.33	7.08	1797	24.43	118.1
0932	NO	6.24	7.05	1802	24.76	110.1
0935	NO	6.27	7.06	18.10	24.78	111.4
0938	NO	6.21	7.07	18.09	24.75	110.9
0941	NO	6.22	7.06	18.11	24.79	110.12

← observe
bubbles
in tubing

Sample Container Description

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

Set Pump intake @ 103 BTOC

Approx 2.5 Gallons Part in holding drum

Appendix B

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Phoenix

4625 East Cotton Ctr Blvd

Suite 189

Phoenix, AZ 85040

Tel: (602)437-3340

TestAmerica Job ID: 550-22739-1

TestAmerica Sample Delivery Group: WRC

Client Project/Site: WRC - Groundwater Monitoring

For:

Cardno ATC

9185 S Farmer Ave

Suite 107

Tempe, Arizona 85284

Attn: Mr. Kevin Miller



Authorized for release by:

4/24/2014 1:20:36 PM

Carlene McCutcheon, Project Manager II

(602)659-7612

carlene.mccutcheon@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?

**Ask
The
Expert**

Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Sample Summary	5
Client Sample Results	6
QC Sample Results	11
Lab Chronicle	22
Certification Summary	25
Method Summary	26
Chain of Custody	27
Receipt Checklists	29

Definitions/Glossary

Client: Cardno ATC

Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1

SDG: WRC

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Job ID: 550-22739-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-22739-1

Comments

No additional comments.

Receipt

The samples were received on 4/10/2014 2:17 PM; the samples arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 2.1° C.

HPLC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

Method(s) Filtration: The following samples requested dissolved metals and were not filtered in the field: EQB (550-22739-5), MW-10 (550-22739-2), MW-10 Dup (550-22739-3), MW-11 (550-22739-1), MW-9 (550-22739-4). These samples were filtered and preserved upon receipt to the laboratory.

No other analytical or quality issues were noted.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Cardno ATC

TestAmerica Job ID: 550-22739-1

Project/Site: WRC - Groundwater Monitoring

SDG: WRC

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-22739-1	MW-11	Water	04/10/14 09:45	04/10/14 14:17
550-22739-2	MW-10	Water	04/10/14 11:08	04/10/14 14:17
550-22739-3	MW-10 Dup	Water	04/10/14 11:08	04/10/14 14:17
550-22739-4	MW-9	Water	04/10/14 11:59	04/10/14 14:17
550-22739-5	EQB	Water	04/10/14 12:30	04/10/14 14:17

Client Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Client Sample ID: MW-11

Lab Sample ID: 550-22739-1

Date Collected: 04/10/14 09:45

Matrix: Water

Date Received: 04/10/14 14:17

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	10		0.10	mg/L			04/11/14 04:20	1
Nitrite as N	ND		0.10	mg/L			04/11/14 04:20	1
Nitrate Nitrite as N	10		0.10	mg/L			04/11/14 04:20	1
Fluoride	1.3		0.40	mg/L			04/11/14 04:20	1
Chloride	440		20	mg/L			04/11/14 04:48	10
Sulfate	180		2.0	mg/L			04/11/14 04:20	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium, Dissolved	0.039		0.010	mg/L		04/14/14 07:33	04/15/14 16:31	1
Beryllium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:31	1
Cadmium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:31	1
Calcium, Dissolved	57		2.0	mg/L		04/14/14 07:33	04/15/14 16:31	1
Chromium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:31	1
Copper, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:31	1
Iron, Dissolved	ND		0.10	mg/L		04/14/14 07:33	04/15/14 16:31	1
Magnesium, Dissolved	31		2.0	mg/L		04/14/14 07:33	04/15/14 16:31	1
Manganese, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:31	1
Nickel, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:31	1
Potassium, Dissolved	3.6		2.0	mg/L		04/14/14 07:33	04/15/14 16:31	1
Sodium, Dissolved	410		2.0	mg/L		04/14/14 07:33	04/15/14 16:31	1
Zinc, Dissolved	ND		0.050	mg/L		04/14/14 07:33	04/15/14 16:31	1
Tin, Dissolved	ND		0.20	mg/L		04/14/14 07:33	04/15/14 16:31	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 14:03	1
Arsenic, Dissolved	0.0052		0.0030	mg/L		04/14/14 13:56	04/15/14 14:03	1
Lead, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:03	1
Selenium, Dissolved	0.0025		0.0020	mg/L		04/14/14 13:56	04/15/14 14:03	1
Silver, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:03	1
Thallium, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:03	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	mg/L		04/18/14 17:50	04/21/14 15:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	0.44		0.20	NTU			04/11/14 10:55	1
Alkalinity as CaCO3	380		6.0	mg/L			04/16/14 21:14	1
Bicarbonate Alkalinity as CaCO3	380		6.0	mg/L			04/16/14 21:14	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:14	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/16/14 21:14	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:14	1
Total Dissolved Solids	1400		20	mg/L			04/14/14 13:40	1
Cyanide, Total	ND		0.050	mg/L		04/21/14 16:35	04/22/14 12:04	1
Total Phosphorus	ND		0.10	mg/L		04/11/14 11:00	04/11/14 16:42	1

Client Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Client Sample ID: MW-10

Lab Sample ID: 550-22739-2

Date Collected: 04/10/14 11:08

Matrix: Water

Date Received: 04/10/14 14:17

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	10		0.10	mg/L			04/11/14 05:16	1
Nitrite as N	ND		0.10	mg/L			04/11/14 05:16	1
Nitrate Nitrite as N	10		0.10	mg/L			04/11/14 05:16	1
Fluoride	1.3		0.40	mg/L			04/11/14 05:16	1
Chloride	440		20	mg/L			04/11/14 05:44	10
Sulfate	180		2.0	mg/L			04/11/14 05:16	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium, Dissolved	0.039		0.010	mg/L		04/14/14 07:33	04/15/14 16:35	1
Beryllium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:35	1
Cadmium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:35	1
Calcium, Dissolved	56		2.0	mg/L		04/14/14 07:33	04/15/14 16:35	1
Chromium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:35	1
Copper, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:35	1
Iron, Dissolved	ND		0.10	mg/L		04/14/14 07:33	04/15/14 16:35	1
Magnesium, Dissolved	29		2.0	mg/L		04/14/14 07:33	04/15/14 16:35	1
Manganese, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:35	1
Nickel, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:35	1
Potassium, Dissolved	3.4		2.0	mg/L		04/14/14 07:33	04/15/14 16:35	1
Sodium, Dissolved	400		2.0	mg/L		04/14/14 07:33	04/15/14 16:35	1
Zinc, Dissolved	ND		0.050	mg/L		04/14/14 07:33	04/15/14 16:35	1
Tin, Dissolved	ND		0.20	mg/L		04/14/14 07:33	04/15/14 16:35	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 14:05	1
Arsenic, Dissolved	0.0045		0.0030	mg/L		04/14/14 13:56	04/15/14 14:05	1
Lead, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:05	1
Selenium, Dissolved	0.0021		0.0020	mg/L		04/14/14 13:56	04/15/14 14:05	1
Silver, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:05	1
Thallium, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:05	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	mg/L		04/18/14 17:50	04/21/14 15:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.20	NTU			04/11/14 10:55	1
Alkalinity as CaCO3	370		6.0	mg/L			04/16/14 21:27	1
Bicarbonate Alkalinity as CaCO3	370		6.0	mg/L			04/16/14 21:27	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:27	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/16/14 21:27	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:27	1
Total Dissolved Solids	1400		20	mg/L			04/14/14 13:40	1
Cyanide, Total	ND		0.050	mg/L		04/21/14 16:35	04/22/14 12:04	1
Total Phosphorus	ND		0.10	mg/L		04/11/14 11:00	04/11/14 16:42	1

Client Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Client Sample ID: MW-10 Dup

Lab Sample ID: 550-22739-3

Date Collected: 04/10/14 11:08

Matrix: Water

Date Received: 04/10/14 14:17

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	10		0.10	mg/L			04/11/14 07:36	1
Nitrite as N	ND		0.10	mg/L			04/11/14 07:36	1
Nitrate Nitrite as N	10		0.10	mg/L			04/11/14 07:36	1
Fluoride	1.3		0.40	mg/L			04/11/14 07:36	1
Chloride	440		20	mg/L			04/11/14 08:04	10
Sulfate	180		2.0	mg/L			04/11/14 07:36	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium, Dissolved	0.039		0.010	mg/L		04/14/14 07:33	04/15/14 16:38	1
Beryllium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:38	1
Cadmium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:38	1
Calcium, Dissolved	55		2.0	mg/L		04/14/14 07:33	04/15/14 16:38	1
Chromium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:38	1
Copper, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:38	1
Iron, Dissolved	ND		0.10	mg/L		04/14/14 07:33	04/15/14 16:38	1
Magnesium, Dissolved	29		2.0	mg/L		04/14/14 07:33	04/15/14 16:38	1
Manganese, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:38	1
Nickel, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:38	1
Potassium, Dissolved	3.4		2.0	mg/L		04/14/14 07:33	04/15/14 16:38	1
Sodium, Dissolved	390		2.0	mg/L		04/14/14 07:33	04/15/14 16:38	1
Zinc, Dissolved	ND		0.050	mg/L		04/14/14 07:33	04/15/14 16:38	1
Tin, Dissolved	ND		0.20	mg/L		04/14/14 07:33	04/15/14 16:38	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 14:08	1
Arsenic, Dissolved	0.0042		0.0030	mg/L		04/14/14 13:56	04/15/14 14:08	1
Lead, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:08	1
Selenium, Dissolved	0.0022		0.0020	mg/L		04/14/14 13:56	04/15/14 14:08	1
Silver, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:08	1
Thallium, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:08	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	mg/L		04/18/14 17:50	04/21/14 15:03	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.20	NTU			04/11/14 10:55	1
Alkalinity as CaCO3	370		6.0	mg/L			04/16/14 21:39	1
Bicarbonate Alkalinity as CaCO3	370		6.0	mg/L			04/16/14 21:39	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:39	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/16/14 21:39	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:39	1
Total Dissolved Solids	1400		20	mg/L			04/14/14 13:40	1
Cyanide, Total	ND		0.050	mg/L		04/21/14 16:35	04/22/14 12:04	1
Total Phosphorus	ND		0.10	mg/L		04/11/14 11:00	04/11/14 16:42	1

TestAmerica Phoenix

Client Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Client Sample ID: MW-9

Lab Sample ID: 550-22739-4

Date Collected: 04/10/14 11:59

Matrix: Water

Date Received: 04/10/14 14:17

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	10		0.10	mg/L			04/11/14 08:32	1
Nitrite as N	ND		0.10	mg/L			04/11/14 08:32	1
Nitrate Nitrite as N	10		0.10	mg/L			04/11/14 08:32	1
Fluoride	1.3		0.40	mg/L			04/11/14 08:32	1
Chloride	430		20	mg/L			04/11/14 09:00	10
Sulfate	180		2.0	mg/L			04/11/14 08:32	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium, Dissolved	0.039		0.010	mg/L		04/14/14 07:33	04/15/14 16:41	1
Beryllium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:41	1
Cadmium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:41	1
Calcium, Dissolved	55		2.0	mg/L		04/14/14 07:33	04/15/14 16:41	1
Chromium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:41	1
Copper, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:41	1
Iron, Dissolved	ND		0.10	mg/L		04/14/14 07:33	04/15/14 16:41	1
Magnesium, Dissolved	31		2.0	mg/L		04/14/14 07:33	04/15/14 16:41	1
Manganese, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:41	1
Nickel, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:41	1
Potassium, Dissolved	3.3		2.0	mg/L		04/14/14 07:33	04/15/14 16:41	1
Sodium, Dissolved	400		2.0	mg/L		04/14/14 07:33	04/15/14 16:41	1
Zinc, Dissolved	ND		0.050	mg/L		04/14/14 07:33	04/15/14 16:41	1
Tin, Dissolved	ND		0.20	mg/L		04/14/14 07:33	04/15/14 16:41	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 14:10	1
Arsenic, Dissolved	0.0044		0.0030	mg/L		04/14/14 13:56	04/15/14 14:10	1
Lead, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:10	1
Selenium, Dissolved	0.0023		0.0020	mg/L		04/14/14 13:56	04/15/14 14:10	1
Silver, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:10	1
Thallium, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:10	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	mg/L		04/18/14 17:50	04/21/14 15:05	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.20	NTU			04/11/14 10:55	1
Alkalinity as CaCO3	380		6.0	mg/L			04/16/14 21:51	1
Bicarbonate Alkalinity as CaCO3	380		6.0	mg/L			04/16/14 21:51	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:51	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/16/14 21:51	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:51	1
Total Dissolved Solids	1500		20	mg/L			04/14/14 13:40	1
Cyanide, Total	ND		0.050	mg/L		04/21/14 16:35	04/22/14 12:04	1
Total Phosphorus	ND		0.10	mg/L		04/11/14 11:00	04/11/14 16:42	1

TestAmerica Phoenix

Client Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Client Sample ID: EQB

Lab Sample ID: 550-22739-5

Date Collected: 04/10/14 12:30

Matrix: Water

Date Received: 04/10/14 14:17

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	mg/L			04/11/14 12:58	1
Nitrite as N	ND		0.10	mg/L			04/11/14 12:58	1
Nitrate Nitrite as N	ND		0.10	mg/L			04/11/14 12:58	1
Fluoride	ND		0.40	mg/L			04/11/14 12:58	1
Chloride	ND		2.0	mg/L			04/11/14 12:58	1
Sulfate	ND		2.0	mg/L			04/11/14 12:58	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:44	1
Beryllium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:44	1
Cadmium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:44	1
Calcium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:44	1
Chromium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:44	1
Copper, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:44	1
Iron, Dissolved	ND		0.10	mg/L		04/14/14 07:33	04/15/14 16:44	1
Magnesium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:44	1
Manganese, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:44	1
Nickel, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:44	1
Potassium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:44	1
Sodium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:44	1
Zinc, Dissolved	ND		0.050	mg/L		04/14/14 07:33	04/15/14 16:44	1
Tin, Dissolved	ND		0.20	mg/L		04/14/14 07:33	04/15/14 16:44	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 14:12	1
Arsenic, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 14:12	1
Lead, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:12	1
Selenium, Dissolved	ND		0.0020	mg/L		04/14/14 13:56	04/15/14 14:12	1
Silver, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:12	1
Thallium, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 14:12	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	mg/L		04/18/14 17:50	04/21/14 15:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.20	NTU			04/11/14 10:55	1
Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:59	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:59	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:59	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/16/14 21:59	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/16/14 21:59	1
Total Dissolved Solids	ND		20	mg/L			04/14/14 13:40	1
Cyanide, Total	ND		0.050	mg/L		04/21/14 16:35	04/22/14 12:04	1
Total Phosphorus	ND		0.10	mg/L		04/11/14 11:00	04/11/14 16:42	1

TestAmerica Phoenix

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-32208/2

Matrix: Water

Analysis Batch: 32208

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	mg/L			04/10/14 10:28	1
Nitrite as N	ND		0.10	mg/L			04/10/14 10:28	1
Nitrate Nitrite as N	ND		0.10	mg/L			04/10/14 10:28	1
Fluoride	ND		0.40	mg/L			04/10/14 10:28	1
Chloride	ND		2.0	mg/L			04/10/14 10:28	1
Sulfate	ND		2.0	mg/L			04/10/14 10:28	1

Lab Sample ID: LCS 550-32208/5

Matrix: Water

Analysis Batch: 32208

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	4.00	3.96		mg/L		99	90 - 110
Nitrite as N	4.00	3.92		mg/L		98	90 - 110
Nitrate Nitrite as N	8.00	7.88		mg/L		99	90 - 110
Fluoride	4.00	3.93		mg/L		98	90 - 110
Chloride	20.0	19.3		mg/L		96	90 - 110
Sulfate	20.0	19.7		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-32208/6

Matrix: Water

Analysis Batch: 32208

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	4.00	3.95		mg/L		99	90 - 110	0	20
Nitrite as N	4.00	3.93		mg/L		98	90 - 110	0	20
Nitrate Nitrite as N	8.00	7.88		mg/L		99	90 - 110	0	20
Fluoride	4.00	3.94		mg/L		98	90 - 110	0	20
Chloride	20.0	19.2		mg/L		96	90 - 110	0	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	1	20

Lab Sample ID: 550-22667-E-3 MS

Matrix: Water

Analysis Batch: 32208

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	4.6		4.00	8.46		mg/L		96	80 - 120
Nitrite as N	ND		4.00	4.40		mg/L		110	80 - 120
Nitrate Nitrite as N	4.6		8.00	12.9		mg/L		103	80 - 120
Fluoride	0.61		4.00	4.45		mg/L		96	80 - 120
Chloride	360	E2 M3	20.0	357	E2 M3	mg/L		9	80 - 120
Sulfate	140	M3	20.0	151	M3	mg/L		74	80 - 120

Lab Sample ID: 550-22667-E-3 MSD

Matrix: Water

Analysis Batch: 32208

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	4.6		4.00	8.55		mg/L		98	80 - 120	1	20

TestAmerica Phoenix

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-22667-E-3 MSD

Matrix: Water

Analysis Batch: 32208

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	ND		4.00	4.44		mg/L		111	80 - 120	1	20
Nitrate Nitrite as N	4.6		8.00	13.0		mg/L		105	80 - 120	1	20
Fluoride	0.61		4.00	4.50		mg/L		97	80 - 120	1	20
Chloride	360	E2 M3	20.0	359	E2 M3	mg/L		17	80 - 120	0	20
Sulfate	140	M3	20.0	152	M3	mg/L		79	80 - 120	1	20

Lab Sample ID: MB 550-32214/2

Matrix: Water

Analysis Batch: 32214

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	mg/L			04/11/14 10:12	1
Nitrite as N	ND		0.10	mg/L			04/11/14 10:12	1
Nitrate Nitrite as N	ND		0.10	mg/L			04/11/14 10:12	1
Fluoride	ND		0.40	mg/L			04/11/14 10:12	1
Chloride	ND		2.0	mg/L			04/11/14 10:12	1
Sulfate	ND		2.0	mg/L			04/11/14 10:12	1

Lab Sample ID: LCS 550-32214/5

Matrix: Water

Analysis Batch: 32214

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	4.00	4.17		mg/L		104	90 - 110
Nitrite as N	4.00	4.10		mg/L		103	90 - 110
Nitrate Nitrite as N	8.00	8.27		mg/L		103	90 - 110
Fluoride	4.00	4.17		mg/L		104	90 - 110
Chloride	20.0	21.5		mg/L		108	90 - 110
Sulfate	20.0	20.9		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-32214/6

Matrix: Water

Analysis Batch: 32214

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	4.00	4.18		mg/L		104	90 - 110	0	20
Nitrite as N	4.00	4.18		mg/L		105	90 - 110	2	20
Nitrate Nitrite as N	8.00	8.36		mg/L		105	90 - 110	1	20
Fluoride	4.00	4.16		mg/L		104	90 - 110	0	20
Chloride	20.0	21.5		mg/L		108	90 - 110	0	20
Sulfate	20.0	20.9		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-22733-A-1 MS

Matrix: Water

Analysis Batch: 32214

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.61		4.00	4.88		mg/L		107	80 - 120
Nitrite as N	ND	M1	4.00	5.82	M1	mg/L		145	80 - 120

TestAmerica Phoenix

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-22733-A-1 MS

Matrix: Water

Analysis Batch: 32214

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	0.61	M1	8.00	10.7	M1	mg/L		126	80 - 120
Fluoride	4.2		4.00	8.30		mg/L		103	80 - 120
Chloride	390	E2 M3	20.0	385	E2 M3	mg/L		-15	80 - 120
Sulfate	110	E2 M3	20.0	125	E2 M3	mg/L		69	80 - 120

Lab Sample ID: 550-22733-A-1 MSD

Matrix: Water

Analysis Batch: 32214

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	0.61		4.00	4.89		mg/L		107	80 - 120	0	20
Nitrite as N	ND	M1	4.00	5.48	M1	mg/L		137	80 - 120	6	20
Nitrate Nitrite as N	0.61	M1	8.00	10.4	M1	mg/L		122	80 - 120	3	20
Fluoride	4.2		4.00	8.28		mg/L		103	80 - 120	0	20
Chloride	390	E2 M3	20.0	385	E2 M3	mg/L		-14	80 - 120	0	20
Sulfate	110	E2 M3	20.0	125	E2 M3	mg/L		69	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-32312/1-A

Matrix: Water

Analysis Batch: 32557

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 32312

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:06	1
Beryllium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:06	1
Cadmium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:06	1
Calcium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:06	1
Chromium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:06	1
Copper, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:06	1
Iron, Dissolved	ND		0.10	mg/L		04/14/14 07:33	04/15/14 16:06	1
Magnesium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:06	1
Manganese, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:06	1
Nickel, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:06	1
Potassium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:06	1
Sodium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:06	1
Zinc, Dissolved	ND		0.050	mg/L		04/14/14 07:33	04/15/14 16:06	1
Tin, Dissolved	ND		0.20	mg/L		04/14/14 07:33	04/15/14 16:06	1

Lab Sample ID: LCS 550-32312/3-A

Matrix: Water

Analysis Batch: 32557

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 32312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium, Dissolved	1.00	0.997		mg/L		100	85 - 115
Beryllium, Dissolved	1.00	0.995		mg/L		99	85 - 115
Cadmium, Dissolved	1.00	1.01		mg/L		101	85 - 115
Calcium, Dissolved	21.0	20.8		mg/L		99	85 - 115
Chromium, Dissolved	1.00	1.00		mg/L		100	85 - 115

TestAmerica Phoenix

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-32312/3-A

Matrix: Water

Analysis Batch: 32557

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 32312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper, Dissolved	1.00	0.974		mg/L		97	85 - 115
Iron, Dissolved	1.00	0.981		mg/L		98	85 - 115
Magnesium, Dissolved	21.0	20.7		mg/L		98	85 - 115
Manganese, Dissolved	1.00	0.988		mg/L		99	85 - 115
Nickel, Dissolved	1.00	1.01		mg/L		101	85 - 115
Potassium, Dissolved	20.0	19.1		mg/L		96	85 - 115
Sodium, Dissolved	20.0	19.2		mg/L		96	85 - 115
Zinc, Dissolved	1.00	1.05		mg/L		105	85 - 115
Tin, Dissolved	1.00	1.02		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-32312/4-A

Matrix: Water

Analysis Batch: 32557

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 32312

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium, Dissolved	1.00	1.01		mg/L		101	85 - 115	1	20
Beryllium, Dissolved	1.00	1.01		mg/L		101	85 - 115	2	20
Cadmium, Dissolved	1.00	1.02		mg/L		102	85 - 115	1	20
Calcium, Dissolved	21.0	21.2		mg/L		101	85 - 115	2	20
Chromium, Dissolved	1.00	1.02		mg/L		102	85 - 115	1	20
Copper, Dissolved	1.00	0.980		mg/L		98	85 - 115	1	20
Iron, Dissolved	1.00	1.02		mg/L		102	85 - 115	4	20
Magnesium, Dissolved	21.0	20.9		mg/L		100	85 - 115	1	20
Manganese, Dissolved	1.00	1.00		mg/L		100	85 - 115	1	20
Nickel, Dissolved	1.00	1.03		mg/L		103	85 - 115	1	20
Potassium, Dissolved	20.0	19.5		mg/L		97	85 - 115	2	20
Sodium, Dissolved	20.0	19.5		mg/L		97	85 - 115	1	20
Zinc, Dissolved	1.00	1.07		mg/L		107	85 - 115	2	20
Tin, Dissolved	1.00	1.03		mg/L		103	85 - 115	1	20

Lab Sample ID: MB 550-32273/1-B

Matrix: Water

Analysis Batch: 32557

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 32312

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:09	1
Beryllium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:09	1
Cadmium, Dissolved	ND		0.0010	mg/L		04/14/14 07:33	04/15/14 16:09	1
Calcium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:09	1
Chromium, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:09	1
Copper, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:09	1
Iron, Dissolved	ND		0.10	mg/L		04/14/14 07:33	04/15/14 16:09	1
Magnesium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:09	1
Manganese, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:09	1
Nickel, Dissolved	ND		0.010	mg/L		04/14/14 07:33	04/15/14 16:09	1
Potassium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:09	1
Sodium, Dissolved	ND		2.0	mg/L		04/14/14 07:33	04/15/14 16:09	1
Zinc, Dissolved	ND		0.050	mg/L		04/14/14 07:33	04/15/14 16:09	1
Tin, Dissolved	ND		0.20	mg/L		04/14/14 07:33	04/15/14 16:09	1

TestAmerica Phoenix

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-22803-A-1-A MS

Matrix: Water

Analysis Batch: 32557

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 32312

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Barium, Dissolved	ND		1.00	1.02		mg/L		102	70 - 130
Beryllium, Dissolved	ND		1.00	1.03		mg/L		103	70 - 130
Cadmium, Dissolved	ND		1.00	1.02		mg/L		102	70 - 130
Calcium, Dissolved	ND		21.0	21.6		mg/L		103	70 - 130
Chromium, Dissolved	ND		1.00	1.02		mg/L		102	70 - 130
Copper, Dissolved	ND		1.00	0.976		mg/L		98	70 - 130
Iron, Dissolved	ND		1.00	1.03		mg/L		103	70 - 130
Magnesium, Dissolved	ND		21.0	21.1		mg/L		101	70 - 130
Manganese, Dissolved	ND		1.00	1.02		mg/L		102	70 - 130
Nickel, Dissolved	ND		1.00	1.04		mg/L		104	70 - 130
Potassium, Dissolved	ND		20.0	19.5		mg/L		98	70 - 130
Sodium, Dissolved	ND		20.0	19.5		mg/L		97	70 - 130
Zinc, Dissolved	ND		1.00	1.09		mg/L		109	70 - 130
Tin, Dissolved	ND		1.00	1.05		mg/L		105	70 - 130

Lab Sample ID: 550-22803-A-1-B MSD

Matrix: Water

Analysis Batch: 32557

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 32312

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Barium, Dissolved	ND		1.00	0.989		mg/L		99	70 - 130	3	20
Beryllium, Dissolved	ND		1.00	1.00		mg/L		100	70 - 130	3	20
Cadmium, Dissolved	ND		1.00	0.996		mg/L		100	70 - 130	2	20
Calcium, Dissolved	ND		21.0	21.2		mg/L		101	70 - 130	2	20
Chromium, Dissolved	ND		1.00	1.00		mg/L		100	70 - 130	2	20
Copper, Dissolved	ND		1.00	0.954		mg/L		95	70 - 130	2	20
Iron, Dissolved	ND		1.00	0.993		mg/L		99	70 - 130	3	20
Magnesium, Dissolved	ND		21.0	20.7		mg/L		99	70 - 130	2	20
Manganese, Dissolved	ND		1.00	0.988		mg/L		99	70 - 130	3	20
Nickel, Dissolved	ND		1.00	1.01		mg/L		101	70 - 130	3	20
Potassium, Dissolved	ND		20.0	19.1		mg/L		96	70 - 130	2	20
Sodium, Dissolved	ND		20.0	19.1		mg/L		95	70 - 130	2	20
Zinc, Dissolved	ND		1.00	1.06		mg/L		106	70 - 130	3	20
Tin, Dissolved	ND		1.00	1.03		mg/L		103	70 - 130	3	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 550-32361/1-A

Matrix: Water

Analysis Batch: 32552

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 32361

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 13:43	1
Arsenic, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 13:43	1
Lead, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 13:43	1
Selenium, Dissolved	ND		0.0020	mg/L		04/14/14 13:56	04/15/14 13:43	1
Silver, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 13:43	1
Thallium, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 13:43	1

TestAmerica Phoenix

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-32361/4-A

Matrix: Water

Analysis Batch: 32552

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 32361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony, Dissolved	0.100	0.0993		mg/L		99	85 - 115
Arsenic, Dissolved	0.100	0.0972		mg/L		97	85 - 115
Lead, Dissolved	0.100	0.0954		mg/L		95	85 - 115
Selenium, Dissolved	0.100	0.0988		mg/L		99	85 - 115
Silver, Dissolved	0.100	0.102		mg/L		102	85 - 115
Thallium, Dissolved	0.100	0.0859		mg/L		86	85 - 115

Lab Sample ID: LCSD 550-32361/5-A

Matrix: Water

Analysis Batch: 32552

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 32361

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony, Dissolved	0.100	0.0992		mg/L		99	85 - 115	0	20
Arsenic, Dissolved	0.100	0.0972		mg/L		97	85 - 115	0	20
Lead, Dissolved	0.100	0.0952		mg/L		95	85 - 115	0	20
Selenium, Dissolved	0.100	0.0977		mg/L		98	85 - 115	1	20
Silver, Dissolved	0.100	0.102		mg/L		102	85 - 115	0	20
Thallium, Dissolved	0.100	0.0855		mg/L		86	85 - 115	0	20

Lab Sample ID: MB 550-31962/1-D

Matrix: Water

Analysis Batch: 32552

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 32361

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 13:45	1
Arsenic, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 13:45	1
Lead, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 13:45	1
Selenium, Dissolved	ND		0.0020	mg/L		04/14/14 13:56	04/15/14 13:45	1
Silver, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 13:45	1
Thallium, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 13:45	1

Lab Sample ID: MB 550-32273/1-C

Matrix: Water

Analysis Batch: 32552

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 32361

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 13:48	1
Arsenic, Dissolved	ND		0.0030	mg/L		04/14/14 13:56	04/15/14 13:48	1
Lead, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 13:48	1
Selenium, Dissolved	ND		0.0020	mg/L		04/14/14 13:56	04/15/14 13:48	1
Silver, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 13:48	1
Thallium, Dissolved	ND		0.0010	mg/L		04/14/14 13:56	04/15/14 13:48	1

Lab Sample ID: 550-22803-A-1-D MS

Matrix: Water

Analysis Batch: 32552

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 32361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony, Dissolved	ND		0.100	0.100		mg/L		100	70 - 130

TestAmerica Phoenix

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-22803-A-1-D MS

Matrix: Water

Analysis Batch: 32552

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 32361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic, Dissolved	ND		0.100	0.0968		mg/L		97	70 - 130
Lead, Dissolved	ND		0.100	0.0951		mg/L		95	70 - 130
Selenium, Dissolved	ND		0.100	0.0973		mg/L		97	70 - 130
Silver, Dissolved	ND		0.100	0.0999		mg/L		100	70 - 130
Thallium, Dissolved	ND		0.100	0.0854		mg/L		85	70 - 130

Lab Sample ID: 550-22803-A-1-E MSD

Matrix: Water

Analysis Batch: 32552

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 32361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony, Dissolved	ND		0.100	0.102		mg/L		102	70 - 130	2	20
Arsenic, Dissolved	ND		0.100	0.0974		mg/L		97	70 - 130	1	20
Lead, Dissolved	ND		0.100	0.0960		mg/L		96	70 - 130	1	20
Selenium, Dissolved	ND		0.100	0.0984		mg/L		98	70 - 130	1	20
Silver, Dissolved	ND		0.100	0.101		mg/L		101	70 - 130	2	20
Thallium, Dissolved	ND		0.100	0.0860		mg/L		86	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-32879/1-A

Matrix: Water

Analysis Batch: 32994

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 32879

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	mg/L		04/18/14 17:50	04/21/14 14:26	1

Lab Sample ID: LCS 550-32879/2-A

Matrix: Water

Analysis Batch: 32994

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 32879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury, Dissolved	0.0100	0.00988		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-32879/3-A

Matrix: Water

Analysis Batch: 32994

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 32879

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury, Dissolved	0.0100	0.0103		mg/L		103	85 - 115	4	20

Lab Sample ID: MB 550-32273/1-D

Matrix: Water

Analysis Batch: 32994

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 32879

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	ND		0.00020	mg/L		04/18/14 17:50	04/21/14 14:52	1

TestAmerica Phoenix

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-22864-A-2-B MS

Matrix: Water

Analysis Batch: 32994

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 32879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury, Dissolved	ND		0.0100	0.0102		mg/L		102	70 - 130

Lab Sample ID: 550-22864-A-2-C MSD

Matrix: Water

Analysis Batch: 32994

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 32879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury, Dissolved	ND		0.0100	0.0102		mg/L		102	70 - 130	0	20

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 550-32220/3

Matrix: Water

Analysis Batch: 32220

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.20	NTU			04/11/14 10:55	1

Lab Sample ID: LCS 550-32220/4

Matrix: Water

Analysis Batch: 32220

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Turbidity	20.0	20.6		NTU		103	90 - 110

Lab Sample ID: LCSD 550-32220/5

Matrix: Water

Analysis Batch: 32220

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Turbidity	20.0	20.5		NTU		103	90 - 110	0	20

Lab Sample ID: 550-22775-A-1 DU

Matrix: Water

Analysis Batch: 32220

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	1.7		1.70		NTU		2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-32692/83

Matrix: Water

Analysis Batch: 32692

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			04/17/14 08:07	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/17/14 08:07	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/17/14 08:07	1

TestAmerica Phoenix

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-32692/83

Matrix: Water

Analysis Batch: 32692

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/17/14 08:07	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/17/14 08:07	1

Lab Sample ID: LCS 550-32692/82

Matrix: Water

Analysis Batch: 32692

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	251		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-32692/17

Matrix: Water

Analysis Batch: 32692

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	249		mg/L		100	90 - 110	1	20

Lab Sample ID: 550-22720-C-1 DU

Matrix: Water

Analysis Batch: 32692

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	14		14.1		mg/L		4	20
Bicarbonate Alkalinity as CaCO3	14		14.1		mg/L		4	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-32369/1

Matrix: Water

Analysis Batch: 32369

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			04/14/14 13:40	1

Lab Sample ID: LCS 550-32369/2

Matrix: Water

Analysis Batch: 32369

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1000		mg/L		100	90 - 110

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-32369/3

Matrix: Water

Analysis Batch: 32369

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110	1	10

Lab Sample ID: 550-22675-A-2 DU

Matrix: Water

Analysis Batch: 32369

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1200		1180		mg/L		0.5	10

Method: SM 4500 CN E - Cyanide, Total

Lab Sample ID: MB 550-32975/1-A

Matrix: Water

Analysis Batch: 33072

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 32975

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.050	mg/L		04/21/14 14:35	04/22/14 12:04	1

Lab Sample ID: LCS 550-32975/2-A

Matrix: Water

Analysis Batch: 33072

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 32975

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.100	0.107		mg/L		107	90 - 110		

Lab Sample ID: LCSD 550-32975/18-A

Matrix: Water

Analysis Batch: 33072

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 32975

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.100	0.0952		mg/L		95	90 - 110	12	20

Lab Sample ID: 550-22833-B-1-B MS

Matrix: Water

Analysis Batch: 33072

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 32975

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.100	0.101		mg/L		101	80 - 120		

Lab Sample ID: 550-22833-B-1-C MSD

Matrix: Water

Analysis Batch: 33072

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 32975

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		0.100	0.107		mg/L		107	80 - 120	5	20

QC Sample Results

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method: SM 4500 P E - Phosphorus

Lab Sample ID: MB 550-32201/3-A

Matrix: Water

Analysis Batch: 32209

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 32201

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus	ND		0.10	mg/L		04/11/14 11:00	04/11/14 16:42	1

Lab Sample ID: LCS 550-32201/4-A

Matrix: Water

Analysis Batch: 32209

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 32201

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus	0.300	0.299		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-32201/5-A

Matrix: Water

Analysis Batch: 32209

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 32201

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD Limit
Total Phosphorus	0.300	0.306		mg/L		102	90 - 110	2 20

Lab Sample ID: 550-22610-D-2-B MS

Matrix: Water

Analysis Batch: 32209

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 32201

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus	1.9	D2 M3	0.300	1.95	D2 M3	mg/L		8	80 - 120

Lab Sample ID: 550-22610-D-2-C MSD

Matrix: Water

Analysis Batch: 32209

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 32201

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD Limit
Total Phosphorus	1.9	D2 M3	0.300	1.89	D2 M3	mg/L		-13	80 - 120	3 20

Lab Chronicle

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Client Sample ID: MW-11

Lab Sample ID: 550-22739-1

Date Collected: 04/10/14 09:45

Matrix: Water

Date Received: 04/10/14 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	32208	04/11/14 04:20	MHH	TAL PHX
Total/NA	Analysis	300.0		10	32208	04/11/14 04:48	MHH	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.7			32312	04/14/14 07:33	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	32557	04/15/14 16:31	AJC	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.8			32361	04/14/14 13:56	SGO	TAL PHX
Dissolved	Analysis	200.8		1	32552	04/15/14 14:03	TEK	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	245.1			32879	04/18/14 17:50	JRC	TAL PHX
Dissolved	Analysis	245.1		1	32994	04/21/14 15:00	JRC	TAL PHX
Total/NA	Analysis	180.1		1	32220	04/11/14 10:55	TAS	TAL PHX
Total/NA	Analysis	SM 2320B		1	32692	04/16/14 21:14	BCB	TAL PHX
Total/NA	Analysis	SM 2540C		1	32369		JAE	TAL PHX
					(Start)	04/14/14 13:40		
					(End)	04/16/14 12:20		
Total/NA	Prep	SM 4500 CN C			32975	04/21/14 16:35	AMR	TAL PHX
Total/NA	Analysis	SM 4500 CN E		1	33072	04/22/14 12:04	AMR	TAL PHX
Total/NA	Prep	SM 4500 P B			32201	04/11/14 11:00	BCB	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	32209	04/11/14 16:42	BCB	TAL PHX

Client Sample ID: MW-10

Lab Sample ID: 550-22739-2

Date Collected: 04/10/14 11:08

Matrix: Water

Date Received: 04/10/14 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	32208	04/11/14 05:16	MHH	TAL PHX
Total/NA	Analysis	300.0		10	32208	04/11/14 05:44	MHH	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.7			32312	04/14/14 07:33	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	32557	04/15/14 16:35	AJC	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.8			32361	04/14/14 13:56	SGO	TAL PHX
Dissolved	Analysis	200.8		1	32552	04/15/14 14:05	TEK	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	245.1			32879	04/18/14 17:50	JRC	TAL PHX
Dissolved	Analysis	245.1		1	32994	04/21/14 15:02	JRC	TAL PHX
Total/NA	Analysis	180.1		1	32220	04/11/14 10:55	TAS	TAL PHX
Total/NA	Analysis	SM 2320B		1	32692	04/16/14 21:27	BCB	TAL PHX
Total/NA	Analysis	SM 2540C		1	32369		JAE	TAL PHX
					(Start)	04/14/14 13:40		
					(End)	04/16/14 12:20		
Total/NA	Prep	SM 4500 CN C			32975	04/21/14 16:35	AMR	TAL PHX

TestAmerica Phoenix

Lab Chronicle

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Client Sample ID: MW-10

Lab Sample ID: 550-22739-2

Date Collected: 04/10/14 11:08

Matrix: Water

Date Received: 04/10/14 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 CN E		1	33072	04/22/14 12:04	AMR	TAL PHX
Total/NA	Prep	SM 4500 P B			32201	04/11/14 11:00	BCB	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	32209	04/11/14 16:42	BCB	TAL PHX

Client Sample ID: MW-10 Dup

Lab Sample ID: 550-22739-3

Date Collected: 04/10/14 11:08

Matrix: Water

Date Received: 04/10/14 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	32208	04/11/14 07:36	MHH	TAL PHX
Total/NA	Analysis	300.0		10	32208	04/11/14 08:04	MHH	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.7			32312	04/14/14 07:33	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	32557	04/15/14 16:38	AJC	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.8			32361	04/14/14 13:56	SGO	TAL PHX
Dissolved	Analysis	200.8		1	32552	04/15/14 14:08	TEK	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	245.1			32879	04/18/14 17:50	JRC	TAL PHX
Dissolved	Analysis	245.1		1	32994	04/21/14 15:03	JRC	TAL PHX
Total/NA	Analysis	180.1		1	32220	04/11/14 10:55	TAS	TAL PHX
Total/NA	Analysis	SM 2320B		1	32692	04/16/14 21:39	BCB	TAL PHX
Total/NA	Analysis	SM 2540C		1	32369		JAE	TAL PHX
					(Start)	04/14/14 13:40		
					(End)	04/16/14 12:20		
Total/NA	Prep	SM 4500 CN C			32975	04/21/14 16:35	AMR	TAL PHX
Total/NA	Analysis	SM 4500 CN E		1	33072	04/22/14 12:04	AMR	TAL PHX
Total/NA	Prep	SM 4500 P B			32201	04/11/14 11:00	BCB	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	32209	04/11/14 16:42	BCB	TAL PHX

Client Sample ID: MW-9

Lab Sample ID: 550-22739-4

Date Collected: 04/10/14 11:59

Matrix: Water

Date Received: 04/10/14 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	32208	04/11/14 08:32	MHH	TAL PHX
Total/NA	Analysis	300.0		10	32208	04/11/14 09:00	MHH	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.7			32312	04/14/14 07:33	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	32557	04/15/14 16:41	AJC	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.8			32361	04/14/14 13:56	SGO	TAL PHX
Dissolved	Analysis	200.8		1	32552	04/15/14 14:10	TEK	TAL PHX

TestAmerica Phoenix

Lab Chronicle

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Client Sample ID: MW-9

Lab Sample ID: 550-22739-4

Date Collected: 04/10/14 11:59

Matrix: Water

Date Received: 04/10/14 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	245.1			32879	04/18/14 17:50	JRC	TAL PHX
Dissolved	Analysis	245.1		1	32994	04/21/14 15:05	JRC	TAL PHX
Total/NA	Analysis	180.1		1	32220	04/11/14 10:55	TAS	TAL PHX
Total/NA	Analysis	SM 2320B		1	32692	04/16/14 21:51	BCB	TAL PHX
Total/NA	Analysis	SM 2540C		1	32369		JAE	TAL PHX
					(Start)	04/14/14 13:40		
					(End)	04/16/14 12:20		
Total/NA	Prep	SM 4500 CN C			32975	04/21/14 16:35	AMR	TAL PHX
Total/NA	Analysis	SM 4500 CN E		1	33072	04/22/14 12:04	AMR	TAL PHX
Total/NA	Prep	SM 4500 P B			32201	04/11/14 11:00	BCB	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	32209	04/11/14 16:42	BCB	TAL PHX

Client Sample ID: EQB

Lab Sample ID: 550-22739-5

Date Collected: 04/10/14 12:30

Matrix: Water

Date Received: 04/10/14 14:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	32214	04/11/14 12:58	MHH	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.7			32312	04/14/14 07:33	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	32557	04/15/14 16:44	AJC	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	200.8			32361	04/14/14 13:56	SGO	TAL PHX
Dissolved	Analysis	200.8		1	32552	04/15/14 14:12	TEK	TAL PHX
Dissolved	Filtration	Filtration			32273	04/12/14 07:43	SGO	TAL PHX
Dissolved	Prep	245.1			32879	04/18/14 17:50	JRC	TAL PHX
Dissolved	Analysis	245.1		1	32994	04/21/14 15:06	JRC	TAL PHX
Total/NA	Analysis	180.1		1	32220	04/11/14 10:55	TAS	TAL PHX
Total/NA	Analysis	SM 2320B		1	32692	04/16/14 21:59	BCB	TAL PHX
Total/NA	Analysis	SM 2540C		1	32369		JAE	TAL PHX
					(Start)	04/14/14 13:40		
					(End)	04/16/14 12:20		
Total/NA	Prep	SM 4500 CN C			32975	04/21/14 16:35	AMR	TAL PHX
Total/NA	Analysis	SM 4500 CN E		1	33072	04/22/14 12:04	AMR	TAL PHX
Total/NA	Prep	SM 4500 P B			32201	04/11/14 11:00	BCB	TAL PHX
Total/NA	Analysis	SM 4500 P E		1	32209	04/11/14 16:42	BCB	TAL PHX

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Certification Summary

Client: Cardno ATC

TestAmerica Job ID: 550-22739-1

Project/Site: WRC - Groundwater Monitoring

SDG: WRC

Laboratory: TestAmerica Phoenix

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arizona	State Program	9	AZ0728	06-09-14

Method Summary

Client: Cardno ATC
Project/Site: WRC - Groundwater Monitoring

TestAmerica Job ID: 550-22739-1
SDG: WRC

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
180.1	Turbidity, Nephelometric	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 CN E	Cyanide, Total	SM	TAL PHX
SM 4500 P E	Phosphorus	SM	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

2.1°

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	10/2/2013	440	450	440	440	<2.0	NP	0.0%
Fluoride	10/2/2013	1.5	1.3	1.5	1.5	<0.40	4.0	0.0%
Sulfate	10/2/2013	180	180	180	180	<2.0	NP	0.0%
Nitrate (as N)	10/2/2013	11	10	10	11	<0.20	10.0	0.0%
Nitrite (as N)	10/2/2013	<0.20	<0.20	<0.20	<0.20	<0.20	1.0	-
Phosphorus, Total (as P)	10/2/2013	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Total Dissolved Solids (TDS)	10/2/2013	1400	1400	1400	1400	<20	NP	0.0%
Alkalinity, Bicarbonate (as CaCO ₃)	10/2/2013	390	380	390	390	<6.0	NP	0.0%
Alkalinity, Carbonate (as CaCO ₃)	10/2/2013	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Hydroxide (as CaCO ₃)	10/2/2013	<6.0	<6.0	<6.0	<6.0	<6.0	NP	-
Alkalinity, Total (as CaCO ₃)	10/2/2013	390	380	390	390	<6.0	NP	0.0%
Turbidity (units: NTU)	10/2/2013	0.20	<0.20	1.1	<0.20	0.50	5.0	-
<i>Total Cyanide</i>								
Cyanide, Total	10/2/2013	<0.050	<0.050	<0.050	<0.050	<0.050	0.200	-
<i>Dissolved Metals</i>								
Barium	10/2/2013	0.039	0.040	0.039	0.042	<0.010	2.0	7.4%
Beryllium	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.004	-
Cadmium	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.005	-
Calcium	10/2/2013	54	56	57	59	<2.0	NP	8.8%
Chromium	10/2/2013	<0.010	<0.010	<0.010	<0.010	<0.010	0.100	-
Copper	10/2/2013	<0.010	<0.010	<0.010	<0.010	<0.010	1.3	-
Iron	10/2/2013	<0.10	<0.10	<0.10	<0.10	<0.10	NP	-
Magnesium	10/2/2013	30	29	31	33	<2.0	NP	9.5%
Manganese	10/2/2013	<0.010	<0.010	<0.010	<0.010	<0.010	0.980	-
Nickel	10/2/2013	<0.010	<0.010	<0.010	<0.010	<0.010	0.210	-
Potassium	10/2/2013	3.3	3.6	3.6	3.7	<2.0	NP	11.4%
Silver	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.035	-
Sodium	10/2/2013	390	410	420	430	<2.0	NP	9.8%
Tin	10/2/2013	<0.20	<0.20	<0.20	<0.20	<0.20	NP	-
Zinc	10/2/2013	<0.050	<0.050	<0.050	<0.050	<0.050	2.1	-
Antimony	10/2/2013	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.006	-
Arsenic	10/2/2013	0.0053	0.0050	0.0055	0.0054	<0.0030	0.010	1.9%
Lead	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.015	-
Mercury	10/2/2013	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.002	-
Selenium	10/2/2013	<0.0020	0.0020	0.0020	0.0020	<0.0020	0.050	-
Thallium	10/2/2013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.002	-

mg/L = Milligrams per liter (equivalent to parts per million)

AWQS = Aquifer Water Quality Standard

RPD = Relative Percent Difference

NP=None published

<2.0 = Less than the practical quantitation limit

Bold = Exceeds AWQS.

Login Sample Receipt Checklist

Client: Cardno ATC

Job Number: 550-22739-1

SDG Number: WRC

Login Number: 22739

List Source: TestAmerica Phoenix

List Number: 1

Creator: Shoemaker, Cory M

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.