TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 550-82216-1
TestAmerica Sample Delivery Group: Cholla
Client Project/Site: CCR
Revision: 1

For:
Arizona Public Service Company
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Joseph City, Arizona 86032

Attn: Doug Lavarnway

Authorized for release by:
7/5/2017 7:56:10 AM

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LINKS

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

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
D1	Sample required dilution due to matrix.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
H1	Sample analysis performed past holding time.

Metals

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.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
D2	Sample required dilution due to high concentration of analyte.

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
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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)

Job ID: 550-82216-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-82216-1

Comments
This revised report contains the requested fluoride reruns.

Receipt
The samples were received on 5/4/2017 12:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.8º C, 1.4º C, 1.6º C, 1.7º C and 3.6º C.

HPLC/IC
Method(s) 300.0: Reanalysis of the following samples were performed outside of the 28 day analytical holding time for Fluoride by method EPA 300.0 due to the client requesting a lower dilution: FC-CCR-MW7-5317 (550-82216-1), FC-CCR-MW8-5317 (550-82216-2), FC-CCR-MW49A-5317 (550-82216-3), FC-CCR-MW60-5317 (550-82216-4), FC-CCR-MW61-5317 (550-82216-5), FC-CCR-MW62-5117 (550-82216-6), FC-CCR-MW63-5217 (550-82216-7), FC-CCR-MW64-5217 (550-82216-8), FC-CCR-FD02-5217 (550-82216-9), FC-CCR-MW65-5117 (550-82216-10), FC-CCR-FD01-5117 (550-82216-11), FC-CCR-MW66-5117 (550-82216-12), FC-CCR-MW67-5217 (550-82216-13), FC-CCR-MW68-5217 (550-82216-14), FC-CCR-MW69-5217 (550-82216-15), FC-CCR-MW70-5117 (550-82216-16), FC-CCR-MW71-5217 (550-82216-17) and FC-CCR-MW72-5217 (550-82216-18). As such, these data have been reported and qualified with H1 flags.

Method(s) 300.0: Reanalysis of the following samples was performed outside of the 28 day analytical holding time for Fluoride by method EPA 300.0 due to the client requesting a lower dilution: FC-CCR-MW73-5217 (550-82216-19), FC-CCR-MW74-5217 (550-82216-20), FC-CCR-MW75-5317 (550-82216-21), (550-82219-A-12 ^5), (550-82219-A-12 MS ^5) and (550-82219-A-12 MSD ^). As such, these data have been reported and qualified with H1 flags.

Method(s) 300.0: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-406944 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: FC-CCR-MW75-5317 (550-82216-21). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples was diluted for Fluoride due to the nature of the sample matrix: FC-CCR-MW71-5217 (550-82216-17), FC-CCR-MW72-5217 (550-82216-18), FC-CCR-MW73-5217 (550-82216-19) and FC-CCR-MW74-5217 (550-82216-20). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following samples was diluted due to the nature of the sample matrix: FC-CCR-MW7-5317 (550-82216-1), FC-CCR-MW8-5317 (550-82216-2), FC-CCR-MW49A-5317 (550-82216-3), FC-CCR-MW61-5317 (550-82216-5) and FC-CCR-MW62-5117 (550-82216-6). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-406851 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 300.0: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 440-406851 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

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

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

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

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-82216-1	FC-CCR-MW7-5317	Water	05/03/17 11:52	05/04/17 12:30
550-82216-2	FC-CCR-MW8-5317	Water	05/03/17 10:50	05/04/17 12:30
550-82216-3	FC-CCR-MW49A-5317	Water	05/03/17 13:04	05/04/17 12:30
550-82216-4	FC-CCR-MW60-5317	Water	05/03/17 08:40	05/04/17 12:30
550-82216-5	FC-CCR-MW61-5317	Water	05/03/17 09:21	05/04/17 12:30
550-82216-6	FC-CCR-MW62-5117	Water	05/01/17 14:23	05/04/17 12:30
550-82216-7	FC-CCR-MW63-5217	Water	05/02/17 08:49	05/04/17 12:30
550-82216-8	FC-CCR-MW64-5217	Water	05/02/17 07:59	05/04/17 12:30
550-82216-9	FC-CCR-FD02-5217	Water	05/02/17 07:59	05/04/17 12:30
550-82216-10	FC-CCR-MW65-5117	Water	05/01/17 13:27	05/04/17 12:30
550-82216-11	FC-CCR-FD01-5117	Water	05/01/17 13:27	05/04/17 12:30
550-82216-12	FC-CCR-MW66-5117	Water	05/01/17 15:05	05/04/17 12:30
550-82216-13	FC-CCR-MW67-5217	Water	05/02/17 09:28	05/04/17 12:30
550-82216-14	FC-CCR-MW68-5217	Water	05/02/17 10:04	05/04/17 12:30
550-82216-15	FC-CCR-MW69-5217	Water	05/02/17 10:36	05/04/17 12:30
550-82216-16	FC-CCR-MW70-5117	Water	05/01/17 15:47	05/04/17 12:30
550-82216-17	FC-CCR-MW71-5217	Water	05/02/17 13:00	05/04/17 12:30
550-82216-18	FC-CCR-MW72-5217	Water	05/02/17 13:34	05/04/17 12:30
550-82216-19	FC-CCR-MW73-5217	Water	05/02/17 14:09	05/04/17 12:30
550-82216-20	FC-CCR-MW74-5217	Water	05/02/17 14:48	05/04/17 12:30
550-82216-21	FC-CCR-MW75-5317	Water	05/03/17 09:50	05/04/17 12:30

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-5317 — Lab Sample ID: 550-82216-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	390		10	mg/L	20		300.0	Total/NA
Sulfate	6800		250	mg/L	500		300.0	Total/NA
Boron	8.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	410		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	590		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	37		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	19.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW8-5317 — Lab Sample ID: 550-82216-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100		250	mg/L	500		300.0	Total/NA
Sulfate	9700		250	mg/L	500		300.0	Total/NA
Boron	17		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	37		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3300	D2	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	510		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	19.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-5317 — Lab Sample ID: 550-82216-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	470		25	mg/L	50		300.0	Total/NA
Sulfate	18000		500	mg/L	1000		300.0	Total/NA
Boron	2.1		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	390		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1400	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	77		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	6400	D2	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	850		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	850		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	27000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	19.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-5317 — Lab Sample ID: 550-82216-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	440		10	mg/L	20		300.0	Total/NA
Fluoride	10		10	mg/L	20		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW60-5317 (Continued) — Lab Sample ID: 550-82216-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	6.9	D1 H1	0.80	mg/L	2		300.0	Total/NA
Sulfate	5100		250	mg/L	500		300.0	Total/NA
Boron	65		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	29		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1200		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8700	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	19.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW61-5317 — Lab Sample ID: 550-82216-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	370		100	mg/L	200		300.0	Total/NA
Fluoride	1.2	H1	0.40	mg/L	1		300.0	Total/NA
Sulfate	4400		100	mg/L	200		300.0	Total/NA
Boron	39		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	21		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	89		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	81		6.0	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	7.4		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5800	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	18.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW62-5117 — Lab Sample ID: 550-82216-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	110		5.0	mg/L	10		300.0	Total/NA
Fluoride	1.3	H1	0.40	mg/L	1		300.0	Total/NA
Sulfate	3800		100	mg/L	200		300.0	Total/NA
Boron	1.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	350		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.6		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	710		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	800		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	800		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5800	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-5217 — Lab Sample ID: 550-82216-7

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW63-5217 (Continued) — Lab Sample ID: 550-82216-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	92		2.5	mg/L	5		300.0	Total/NA
Fluoride	2.7		2.5	mg/L	5		300.0	Total/NA
Fluoride	1.7	H1	0.40	mg/L	1		300.0	Total/NA
Sulfate	3200		100	mg/L	200		300.0	Total/NA
Boron	1.4		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	260		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	350		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	490		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	490		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	4300	D2	40	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-5217 — Lab Sample ID: 550-82216-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	44		5.0	mg/L	10		300.0	Total/NA
Fluoride	1.4		0.50	mg/L	1		300.0	Total/NA
Fluoride	1.4	H1	0.40	mg/L	1		300.0	Total/NA
Sulfate	340		25	mg/L	50		300.0	Total/NA
Boron	0.55		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	86		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	35		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.6		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	120		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	780		20	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-5217 — Lab Sample ID: 550-82216-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	51		25	mg/L	50		300.0	Total/NA
Fluoride	1.4		0.50	mg/L	1		300.0	Total/NA
Fluoride	1.4	H1	0.40	mg/L	1		300.0	Total/NA
Sulfate	350		25	mg/L	50		300.0	Total/NA
Boron	0.57		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	87		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	35		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	120		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	780		20	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW65-5117 — Lab Sample ID: 550-82216-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	58		25	mg/L	50		300.0	Total/NA
Fluoride	1.7		0.50	mg/L	1		300.0	Total/NA
Fluoride	1.9	H1	0.40	mg/L	1		300.0	Total/NA
Sulfate	500		25	mg/L	50		300.0	Total/NA
Boron	0.79		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	110		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	59		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	160		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	320		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1100		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD01-5117 — Lab Sample ID: 550-82216-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	59		25	mg/L	50		300.0	Total/NA
Fluoride	1.7		0.50	mg/L	1		300.0	Total/NA
Fluoride	1.9	H1	0.40	mg/L	1		300.0	Total/NA
Sulfate	510		25	mg/L	50		300.0	Total/NA
Boron	0.81		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	120		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	61		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	170		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	320		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1100		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW66-5117 — Lab Sample ID: 550-82216-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700		250	mg/L	500		300.0	Total/NA
Fluoride	30		10	mg/L	20		300.0	Total/NA
Fluoride	24	D1 H1	2.0	mg/L	5		300.0	Total/NA
Sulfate	12000		250	mg/L	500		300.0	Total/NA
Boron	140	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2700	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	42		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	590		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	260		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	260		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	17000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW67-5217 — Lab Sample ID: 550-82216-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700		250	mg/L	500		300.0	Total/NA
Fluoride	26		10	mg/L	20		300.0	Total/NA
Fluoride	22	D1 H1	2.0	mg/L	5		300.0	Total/NA
Sulfate	9800		250	mg/L	500		300.0	Total/NA
Boron	130	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2600	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	33		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	570		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	380		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	380		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	18000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-5217 — Lab Sample ID: 550-82216-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500		250	mg/L	500		300.0	Total/NA
Fluoride	14		5.0	mg/L	10		300.0	Total/NA
Fluoride	10	D1 H1	2.0	mg/L	5		300.0	Total/NA
Sulfate	10000		250	mg/L	500		300.0	Total/NA
Boron	130	D2 M3	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	450	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2500	D2 M3	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	19		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	620	M3	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	470		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	470		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	17000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-5217 — Lab Sample ID: 550-82216-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400		250	mg/L	500		300.0	Total/NA
Fluoride	22		10	mg/L	20		300.0	Total/NA
Fluoride	18	D1 H1	2.0	mg/L	5		300.0	Total/NA
Sulfate	12000		250	mg/L	500		300.0	Total/NA
Boron	130	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2700	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	39		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	620		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	330		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	330		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	18000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW70-5117 — Lab Sample ID: 550-82216-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400		250	mg/L	500		300.0	Total/NA
Fluoride	1.6	D1 H1	0.80	mg/L	2		300.0	Total/NA
Sulfate	8200		250	mg/L	500		300.0	Total/NA
Boron	95	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1400	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	810		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	510		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW71-5217 — Lab Sample ID: 550-82216-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	560		250	mg/L	500		300.0	Total/NA
Sulfate	11000		1000	mg/L	2000		300.0	Total/NA
Boron	0.58		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2000	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	27		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	430		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	430		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-5217 — Lab Sample ID: 550-82216-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450		250	mg/L	500		300.0	Total/NA
Sulfate	11000		1000	mg/L	2000		300.0	Total/NA
Boron	0.25		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2400	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	28		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	720		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	600		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	600		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.5	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-5217 — Lab Sample ID: 550-82216-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	570		50	mg/L	100		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW73-5217 (Continued) — Lab Sample ID: 550-82216-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	6900		250	mg/L	500		300.0	Total/NA
Boron	1.6		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	730		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	34		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	780		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	780		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW74-5217 — Lab Sample ID: 550-82216-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	420		25	mg/L	50		300.0	Total/NA
Fluoride	1.9	D1 H1	0.80	mg/L	2		300.0	Total/NA
Sulfate	7100		500	mg/L	1000		300.0	Total/NA
Boron	1.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	410		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	640		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	22		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2400	D2	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	420		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	420		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.0	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW75-5317 — Lab Sample ID: 550-82216-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	290		10	mg/L	20		300.0	Total/NA
Sulfate	4100		250	mg/L	500		300.0	Total/NA
Boron	25		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	23		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1300		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	94		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	94		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6500	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-5317

Lab Sample ID: 550-82216-1
Date Collected: 05/03/17 11:52
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**390**		10	mg/L			05/18/17 15:00	20
Fluoride	ND		10	mg/L			05/18/17 15:00	20
Fluoride	ND	D1 D5 H1	0.80	mg/L			06/06/17 21:50	2
Sulfate	**6800**		250	mg/L			05/18/17 15:13	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**8.0**		0.050	mg/L		05/05/17 06:59	05/09/17 22:55	1
Calcium	**410**		2.0	mg/L		05/05/17 06:59	05/09/17 22:55	1
Magnesium	**590**		2.0	mg/L		05/05/17 06:59	05/09/17 22:55	1
Potassium	**37**		0.50	mg/L		05/05/17 06:59	05/09/17 22:55	1
Sodium	**1800**		0.50	mg/L		05/05/17 06:59	05/09/17 22:55	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**500**		6.0	mg/L			05/08/17 20:02	1
Bicarbonate Alkalinity as CaCO3	**500**		6.0	mg/L			05/08/17 20:02	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 20:02	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 20:02	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 20:02	1
Total Dissolved Solids	**10000**	**D2**	100	mg/L			05/10/17 12:08	1
pH	**7.4**	**H5**	1.7	SU			05/10/17 11:13	1
Temperature	**19.2**	**H5**	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW8-5317

Lab Sample ID: 550-82216-2
Date Collected: 05/03/17 10:50
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**		250	mg/L			05/18/17 15:39	500
Fluoride	ND		10	mg/L			05/18/17 15:26	20
Fluoride	ND	D1 D5 H1	2.0	mg/L			06/06/17 22:09	5
Sulfate	**9700**		250	mg/L			05/18/17 15:39	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**17**		0.050	mg/L		05/05/17 06:59	05/09/17 23:01	1
Calcium	**430**		2.0	mg/L		05/05/17 06:59	05/09/17 23:01	1
Magnesium	**750**		2.0	mg/L		05/05/17 06:59	05/09/17 23:01	1
Potassium	**37**		0.50	mg/L		05/05/17 06:59	05/09/17 23:01	1
Sodium	**3300**	**D2**	5.0	mg/L		05/05/17 06:59	05/11/17 01:02	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**510**		6.0	mg/L			05/08/17 20:28	1
Bicarbonate Alkalinity as CaCO3	**510**		6.0	mg/L			05/08/17 20:28	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 20:28	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 20:28	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 20:28	1

Client Sample ID: FC-CCR-MW8-5317

Lab Sample ID: 550-82216-2
Date Collected: 05/03/17 10:50
Matrix: Water
Date Received: 05/04/17 12:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	15000	D2	100	mg/L			05/10/17 12:08	1
pH	7.3	H5	1.7	SU			05/10/17 11:13	1
Temperature	19.4	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW49A-5317

Lab Sample ID: 550-82216-3
Date Collected: 05/03/17 13:04
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	470		25	mg/L			05/18/17 16:27	50
Fluoride	ND		25	mg/L			05/18/17 16:27	50
Fluoride	ND	D1 D5 H1	2.0	mg/L			06/06/17 22:27	5
Sulfate	18000		500	mg/L			05/18/17 16:41	1000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.050	mg/L		05/05/17 06:59	05/09/17 23:07	1
Calcium	390		2.0	mg/L		05/05/17 06:59	05/09/17 23:07	1
Magnesium	1400	D2	20	mg/L		05/05/17 06:59	05/11/17 01:05	10
Potassium	77		0.50	mg/L		05/05/17 06:59	05/09/17 23:07	1
Sodium	6400	D2	5.0	mg/L		05/05/17 06:59	05/11/17 01:05	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	850		6.0	mg/L			05/09/17 13:15	1
Bicarbonate Alkalinity as CaCO3	850		6.0	mg/L			05/09/17 13:15	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/09/17 13:15	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/09/17 13:15	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/09/17 13:15	1
Total Dissolved Solids	27000	D2	200	mg/L			05/10/17 12:08	1
pH	7.5	H5	1.7	SU			05/10/17 11:13	1
Temperature	19.3	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW60-5317

Lab Sample ID: 550-82216-4
Date Collected: 05/03/17 08:40
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	440		10	mg/L			05/18/17 16:54	20
Fluoride	10		10	mg/L			05/18/17 16:54	20
Fluoride	6.9	D1 H1	0.80	mg/L			06/06/17 22:46	2
Sulfate	5100		250	mg/L			05/18/17 17:07	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	65		0.050	mg/L		05/05/17 06:59	05/09/17 23:13	1
Calcium	440		2.0	mg/L		05/05/17 06:59	05/09/17 23:13	1
Magnesium	520		2.0	mg/L		05/05/17 06:59	05/09/17 23:13	1
Potassium	29		0.50	mg/L		05/05/17 06:59	05/09/17 23:13	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW60-5317

Lab Sample ID: 550-82216-4
Date Collected: 05/03/17 08:40
Matrix: Water
Date Received: 05/04/17 12:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	1200		0.50	mg/L		05/05/17 06:59	05/09/17 23:13	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	130		6.0	mg/L			05/08/17 20:59	1
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L			05/08/17 20:59	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 20:59	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 20:59	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 20:59	1
Total Dissolved Solids	8700	D2	100	mg/L			05/10/17 12:08	1
pH	7.7	H5	1.7	SU			05/10/17 11:13	1
Temperature	19.2	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW61-5317

Lab Sample ID: 550-82216-5
Date Collected: 05/03/17 09:21
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		100	mg/L			05/18/17 17:33	200
Fluoride	ND		5.0	mg/L			05/18/17 17:20	10
Fluoride	1.2	H1	0.40	mg/L			06/06/17 23:04	1
Sulfate	4400		100	mg/L			05/18/17 17:33	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	39		0.050	mg/L		05/05/17 06:59	05/09/17 23:25	1
Calcium	490		2.0	mg/L		05/05/17 06:59	05/09/17 23:25	1
Magnesium	120		2.0	mg/L		05/05/17 06:59	05/09/17 23:25	1
Potassium	21		0.50	mg/L		05/05/17 06:59	05/09/17 23:25	1
Sodium	1100		0.50	mg/L		05/05/17 06:59	05/09/17 23:25	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	89		6.0	mg/L			05/08/17 21:06	1
Bicarbonate Alkalinity as CaCO3	81		6.0	mg/L			05/08/17 21:06	1
Carbonate Alkalinity as CaCO3	7.4		6.0	mg/L			05/08/17 21:06	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 21:06	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:06	1
Total Dissolved Solids	5800	D2	100	mg/L			05/10/17 12:08	1
pH	8.6	H5	1.7	SU			05/10/17 11:13	1
Temperature	18.9	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW62-5117

Lab Sample ID: 550-82216-6
Date Collected: 05/01/17 14:23
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		5.0	mg/L			05/18/17 17:46	10
Fluoride	ND		5.0	mg/L			05/18/17 17:46	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW62-5117

Lab Sample ID: 550-82216-6
Date Collected: 05/01/17 14:23
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.3	H1	0.40	mg/L			06/06/17 23:22	1
Sulfate	3800		100	mg/L			05/18/17 18:25	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.050	mg/L		05/05/17 06:59	05/09/17 23:31	1
Calcium	520		2.0	mg/L		05/05/17 06:59	05/09/17 23:31	1
Magnesium	350		2.0	mg/L		05/05/17 06:59	05/09/17 23:31	1
Potassium	9.6		0.50	mg/L		05/05/17 06:59	05/09/17 23:31	1
Sodium	710		0.50	mg/L		05/05/17 06:59	05/09/17 23:31	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	800		6.0	mg/L			05/08/17 21:19	1
Bicarbonate Alkalinity as CaCO3	800		6.0	mg/L			05/08/17 21:19	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:19	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 21:19	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:19	1
Total Dissolved Solids	5800	D2	100	mg/L			05/05/17 10:38	1
pH	7.2	H5	1.7	SU			05/10/17 11:13	1
Temperature	12.0	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW63-5217

Lab Sample ID: 550-82216-7
Date Collected: 05/02/17 08:49
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	92		2.5	mg/L			05/18/17 19:08	5
Fluoride	2.7		2.5	mg/L			05/18/17 19:08	5
Fluoride	1.7	H1	0.40	mg/L			06/07/17 00:18	1
Sulfate	3200		100	mg/L			05/18/17 19:21	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.4		0.050	mg/L		05/05/17 06:59	05/09/17 23:37	1
Calcium	510		2.0	mg/L		05/05/17 06:59	05/09/17 23:37	1
Magnesium	260		2.0	mg/L		05/05/17 06:59	05/09/17 23:37	1
Potassium	5.7		0.50	mg/L		05/05/17 06:59	05/09/17 23:37	1
Sodium	350		0.50	mg/L		05/05/17 06:59	05/09/17 23:37	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	490		6.0	mg/L			05/08/17 21:29	1
Bicarbonate Alkalinity as CaCO3	490		6.0	mg/L			05/08/17 21:29	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:29	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 21:29	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:29	1
Total Dissolved Solids	4300	D2	40	mg/L			05/09/17 10:25	1
pH	7.3	H5	1.7	SU			05/10/17 11:13	1
Temperature	11.9	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW64-5217

Lab Sample ID: 550-82216-8
Date Collected: 05/02/17 07:59
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44		5.0	mg/L			05/19/17 19:51	10
Fluoride	1.4		0.50	mg/L			05/18/17 19:34	1
Fluoride	1.4	H1	0.40	mg/L			06/07/17 00:36	1
Sulfate	340		25	mg/L			05/18/17 19:47	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.55		0.050	mg/L		05/05/17 06:59	05/09/17 23:42	1
Calcium	86		2.0	mg/L		05/05/17 06:59	05/09/17 23:42	1
Magnesium	35		2.0	mg/L		05/05/17 06:59	05/09/17 23:42	1
Potassium	5.6		0.50	mg/L		05/05/17 06:59	05/09/17 23:42	1
Sodium	120		0.50	mg/L		05/05/17 06:59	05/09/17 23:42	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	230		6.0	mg/L			05/08/17 21:39	1
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L			05/08/17 21:39	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:39	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 21:39	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:39	1
Total Dissolved Solids	780		20	mg/L			05/09/17 10:25	1
pH	7.9	H5	1.7	SU			05/10/17 11:13	1
Temperature	12.2	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-FD02-5217

Lab Sample ID: 550-82216-9
Date Collected: 05/02/17 07:59
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51		25	mg/L			05/18/17 20:13	50
Fluoride	1.4		0.50	mg/L			05/18/17 20:00	1
Fluoride	1.4	H1	0.40	mg/L			06/07/17 00:54	1
Sulfate	350		25	mg/L			05/18/17 20:13	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.57		0.050	mg/L		05/05/17 06:59	05/09/17 23:45	1
Calcium	87		2.0	mg/L		05/05/17 06:59	05/09/17 23:45	1
Magnesium	35		2.0	mg/L		05/05/17 06:59	05/09/17 23:45	1
Potassium	5.7		0.50	mg/L		05/05/17 06:59	05/09/17 23:45	1
Sodium	120		0.50	mg/L		05/05/17 06:59	05/09/17 23:45	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	220		6.0	mg/L			05/08/17 21:48	1
Bicarbonate Alkalinity as CaCO3	220		6.0	mg/L			05/08/17 21:48	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:48	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 21:48	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:48	1

Client Sample ID: FC-CCR-FD02-5217

Lab Sample ID: 550-82216-9
Date Collected: 05/02/17 07:59
Matrix: Water
Date Received: 05/04/17 12:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	780		20	mg/L			05/09/17 10:25	1
pH	7.9	H5	1.7	SU			05/10/17 11:13	1
Temperature	12.3	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW65-5117

Lab Sample ID: 550-82216-10
Date Collected: 05/01/17 13:27
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	58		25	mg/L			05/18/17 20:39	50
Fluoride	1.7		0.50	mg/L			05/18/17 20:26	1
Fluoride	1.9	H1	0.40	mg/L			06/07/17 01:13	1
Sulfate	500		25	mg/L			05/18/17 20:39	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.79		0.050	mg/L		05/05/17 06:59	05/09/17 23:48	1
Calcium	110		2.0	mg/L		05/05/17 06:59	05/09/17 23:48	1
Magnesium	59		2.0	mg/L		05/05/17 06:59	05/09/17 23:48	1
Potassium	3.7		0.50	mg/L		05/05/17 06:59	05/09/17 23:48	1
Sodium	160		0.50	mg/L		05/05/17 06:59	05/09/17 23:48	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	320		6.0	mg/L			05/08/17 21:57	1
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L			05/08/17 21:57	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:57	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 21:57	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 21:57	1
Total Dissolved Solids	1100		20	mg/L			05/05/17 10:38	1
pH	7.7	H5	1.7	SU			05/10/17 11:13	1
Temperature	12.6	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-FD01-5117

Lab Sample ID: 550-82216-11
Date Collected: 05/01/17 13:27
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59		25	mg/L			05/18/17 21:05	50
Fluoride	1.7		0.50	mg/L			05/18/17 20:52	1
Fluoride	1.9	H1	0.40	mg/L			06/07/17 01:31	1
Sulfate	510		25	mg/L			05/18/17 21:05	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.81		0.050	mg/L		05/05/17 06:59	05/09/17 23:51	1
Calcium	120		2.0	mg/L		05/05/17 06:59	05/09/17 23:51	1
Magnesium	61		2.0	mg/L		05/05/17 06:59	05/09/17 23:51	1
Potassium	3.7		0.50	mg/L		05/05/17 06:59	05/09/17 23:51	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-FD01-5117

Lab Sample ID: 550-82216-11
Date Collected: 05/01/17 13:27
Matrix: Water
Date Received: 05/04/17 12:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	170		0.50	mg/L		05/05/17 06:59	05/09/17 23:51	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	320		6.0	mg/L			05/08/17 22:06	1
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L			05/08/17 22:06	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 22:06	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 22:06	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 22:06	1
Total Dissolved Solids	1100		20	mg/L			05/05/17 10:38	1
pH	7.7	H5	1.7	SU			05/10/17 11:13	1
Temperature	12.8	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW66-5117

Lab Sample ID: 550-82216-12
Date Collected: 05/01/17 15:05
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700		250	mg/L			05/18/17 22:43	500
Fluoride	30		10	mg/L			05/18/17 22:31	20
Fluoride	24	D1 H1	2.0	mg/L			06/07/17 01:50	5
Sulfate	12000		250	mg/L			05/18/17 22:43	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140	D2	0.50	mg/L		05/05/17 06:59	05/11/17 01:11	10
Calcium	460		2.0	mg/L		05/05/17 06:59	05/09/17 23:54	1
Magnesium	2700	D2	20	mg/L		05/05/17 06:59	05/11/17 01:11	10
Potassium	42		0.50	mg/L		05/05/17 06:59	05/09/17 23:54	1
Sodium	590		0.50	mg/L		05/05/17 06:59	05/09/17 23:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	260		6.0	mg/L			05/08/17 22:32	1
Bicarbonate Alkalinity as CaCO3	260		6.0	mg/L			05/08/17 22:32	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 22:32	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 22:32	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 22:32	1
Total Dissolved Solids	17000	D2	100	mg/L			05/05/17 10:38	1
pH	7.4	H5	1.7	SU			05/10/17 11:13	1
Temperature	14.3	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW67-5217

Lab Sample ID: 550-82216-13
Date Collected: 05/02/17 09:28
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700		250	mg/L			05/19/17 20:06	500
Fluoride	26		10	mg/L			05/18/17 22:56	20

Client Sample ID: FC-CCR-MW67-5217

Lab Sample ID: 550-82216-13
Date Collected: 05/02/17 09:28
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	22	D1 H1	2.0	mg/L			06/07/17 02:08	5
Sulfate	9800		250	mg/L			05/19/17 20:06	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2	0.50	mg/L		05/05/17 06:59	05/11/17 01:16	10
Calcium	490		2.0	mg/L		05/05/17 06:59	05/10/17 00:00	1
Magnesium	2600	D2	20	mg/L		05/05/17 06:59	05/11/17 01:16	10
Potassium	33		0.50	mg/L		05/05/17 06:59	05/10/17 00:00	1
Sodium	570		0.50	mg/L		05/05/17 06:59	05/10/17 00:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	380		6.0	mg/L			05/08/17 22:50	1
Bicarbonate Alkalinity as CaCO3	380		6.0	mg/L			05/08/17 22:50	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 22:50	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 22:50	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 22:50	1
Total Dissolved Solids	18000	D2	100	mg/L			05/09/17 10:25	1
pH	7.3	H5	1.7	SU			05/10/17 11:13	1
Temperature	12.2	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW68-5217

Lab Sample ID: 550-82216-14
Date Collected: 05/02/17 10:04
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500		250	mg/L			05/18/17 23:36	500
Fluoride	14		5.0	mg/L			05/18/17 23:23	10
Fluoride	10	D1 H1	2.0	mg/L			06/07/17 02:26	5
Sulfate	10000		250	mg/L			05/18/17 23:36	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2 M3	0.50	mg/L		05/05/17 07:16	05/10/17 22:56	10
Calcium	450	M3	2.0	mg/L		05/05/17 07:16	05/10/17 00:56	1
Magnesium	2500	D2 M3	20	mg/L		05/05/17 07:16	05/10/17 22:56	10
Potassium	19		0.50	mg/L		05/05/17 07:16	05/10/17 00:56	1
Sodium	620	M3	0.50	mg/L		05/05/17 07:16	05/10/17 00:56	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	470		6.0	mg/L			05/08/17 23:00	1
Bicarbonate Alkalinity as CaCO3	470		6.0	mg/L			05/08/17 23:00	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:00	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 23:00	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:00	1
Total Dissolved Solids	17000	D2	100	mg/L			05/09/17 10:25	1
pH	7.3	H5	1.7	SU			05/10/17 11:13	1
Temperature	11.9	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW69-5217

Lab Sample ID: 550-82216-15

Date Collected: 05/02/17 10:36
Date Received: 05/04/17 12:30
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400		250	mg/L			05/19/17 00:02	500
Fluoride	22		10	mg/L			05/18/17 23:49	20
Fluoride	18	D1 H1	2.0	mg/L			06/07/17 02:45	5
Sulfate	12000		250	mg/L			05/19/17 00:02	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2	0.50	mg/L		05/05/17 07:16	05/10/17 23:02	10
Calcium	460		2.0	mg/L		05/05/17 07:16	05/10/17 01:02	1
Magnesium	2700	D2	20	mg/L		05/05/17 07:16	05/10/17 23:02	10
Potassium	39		0.50	mg/L		05/05/17 07:16	05/10/17 01:02	1
Sodium	620		0.50	mg/L		05/05/17 07:16	05/10/17 01:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	330		6.0	mg/L			05/08/17 23:09	1
Bicarbonate Alkalinity as CaCO3	330		6.0	mg/L			05/08/17 23:09	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:09	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 23:09	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:09	1
Total Dissolved Solids	18000	D2	100	mg/L			05/09/17 10:25	1
pH	7.5	H5	1.7	SU			05/10/17 11:13	1
Temperature	12.6	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW70-5117

Lab Sample ID: 550-82216-16

Date Collected: 05/01/17 15:47
Date Received: 05/04/17 12:30
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400		250	mg/L			05/19/17 00:28	500
Fluoride	ND		5.0	mg/L			05/19/17 00:14	10
Fluoride	1.6	D1 H1	0.80	mg/L			06/07/17 03:03	2
Sulfate	8200		250	mg/L			05/19/17 00:28	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	95	D2	0.50	mg/L		05/05/17 07:16	05/10/17 23:08	10
Calcium	490		2.0	mg/L		05/05/17 07:16	05/10/17 01:08	1
Magnesium	1400	D2	20	mg/L		05/05/17 07:16	05/10/17 23:08	10
Potassium	18		0.50	mg/L		05/05/17 07:16	05/10/17 01:08	1
Sodium	810		0.50	mg/L		05/05/17 07:16	05/10/17 01:08	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	510		6.0	mg/L			05/08/17 23:19	1
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L			05/08/17 23:19	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:19	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 23:19	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:19	1

Client Sample ID: FC-CCR-MW70-5117
Lab Sample ID: 550-82216-16
Date Collected: 05/01/17 15:47
Matrix: Water
Date Received: 05/04/17 12:30

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000	D2	100	mg/L			05/05/17 10:38	1
pH	7.2	H5	1.7	SU			05/10/17 11:13	1
Temperature	13.3	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW71-5217
Lab Sample ID: 550-82216-17
Date Collected: 05/02/17 13:00
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	560		250	mg/L			05/19/17 09:21	500
Fluoride	ND		10	mg/L			05/19/17 08:57	20
Fluoride	ND	D1 D5 H1	2.0	mg/L			06/07/17 03:58	5
Sulfate	11000		1000	mg/L			05/19/17 22:08	2000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.58		0.050	mg/L		05/05/17 07:16	05/10/17 01:14	1
Calcium	450		2.0	mg/L		05/05/17 07:16	05/10/17 01:14	1
Magnesium	2000	D2	20	mg/L		05/05/17 07:16	05/10/17 23:11	10
Potassium	27		0.50	mg/L		05/05/17 07:16	05/10/17 01:14	1
Sodium	1100		0.50	mg/L		05/05/17 07:16	05/10/17 01:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	430		6.0	mg/L			05/08/17 23:29	1
Bicarbonate Alkalinity as CaCO3	430		6.0	mg/L			05/08/17 23:29	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:29	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 23:29	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:29	1
Total Dissolved Solids	15000	D2	100	mg/L			05/09/17 10:25	1
pH	7.3	H5	1.7	SU			05/10/17 11:13	1
Temperature	9.3	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW72-5217
Lab Sample ID: 550-82216-18
Date Collected: 05/02/17 13:34
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450		250	mg/L			05/19/17 10:09	500
Fluoride	ND		10	mg/L			05/19/17 09:45	20
Fluoride	ND	D1 D5 H1	2.0	mg/L			06/07/17 04:17	5
Sulfate	11000		1000	mg/L			05/19/17 22:33	2000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.25		0.050	mg/L		05/05/17 07:16	05/10/17 01:20	1
Calcium	430		2.0	mg/L		05/05/17 07:16	05/10/17 01:20	1
Magnesium	2400	D2	20	mg/L		05/05/17 07:16	05/10/17 23:17	10
Potassium	28		0.50	mg/L		05/05/17 07:16	05/10/17 01:20	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW72-5217

Lab Sample ID: 550-82216-18
Date Collected: 05/02/17 13:34
Matrix: Water
Date Received: 05/04/17 12:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	720		0.50	mg/L		05/05/17 07:16	05/10/17 01:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	600		6.0	mg/L			05/08/17 23:40	1
Bicarbonate Alkalinity as CaCO3	600		6.0	mg/L			05/08/17 23:40	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:40	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 23:40	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:40	1
Total Dissolved Solids	16000	D2	100	mg/L			05/09/17 10:25	1
pH	7.3	H5	1.7	SU			05/10/17 11:13	1
Temperature	8.5	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW73-5217

Lab Sample ID: 550-82216-19
Date Collected: 05/02/17 14:09
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570		50	mg/L			05/19/17 22:57	100
Fluoride	ND		10	mg/L			05/19/17 10:33	20
Fluoride	ND	D1 D5 H1	0.80	mg/L			06/07/17 06:26	2
Sulfate	6900		250	mg/L			05/19/17 10:57	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.6		0.050	mg/L		05/05/17 07:16	05/10/17 01:26	1
Calcium	470		2.0	mg/L		05/05/17 07:16	05/10/17 01:26	1
Magnesium	730		2.0	mg/L		05/05/17 07:16	05/10/17 01:26	1
Potassium	34		0.50	mg/L		05/05/17 07:16	05/10/17 01:26	1
Sodium	1500		0.50	mg/L		05/05/17 07:16	05/10/17 01:26	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	780		6.0	mg/L			05/08/17 23:53	1
Bicarbonate Alkalinity as CaCO3	780		6.0	mg/L			05/08/17 23:53	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:53	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/08/17 23:53	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/08/17 23:53	1
Total Dissolved Solids	11000	D2	100	mg/L			05/09/17 10:25	1
pH	7.2	H5	1.7	SU			05/10/17 11:13	1
Temperature	8.8	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW74-5217

Lab Sample ID: 550-82216-20
Date Collected: 05/02/17 14:48
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	420		25	mg/L			05/19/17 12:10	50
Fluoride	ND		25	mg/L			05/19/17 12:10	50

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW74-5217

Lab Sample ID: 550-82216-20
Date Collected: 05/02/17 14:48
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.9	D1 H1	0.80	mg/L			06/07/17 06:44	2
Sulfate	7100		500	mg/L			05/19/17 12:34	1000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.050	mg/L		05/05/17 07:16	05/10/17 01:32	1
Calcium	410		2.0	mg/L		05/05/17 07:16	05/10/17 01:32	1
Magnesium	640		2.0	mg/L		05/05/17 07:16	05/10/17 01:32	1
Potassium	22		0.50	mg/L		05/05/17 07:16	05/10/17 01:32	1
Sodium	2400	D2	5.0	mg/L		05/05/17 07:16	05/10/17 23:22	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	420		6.0	mg/L			05/09/17 00:03	1
Bicarbonate Alkalinity as CaCO3	420		6.0	mg/L			05/09/17 00:03	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/09/17 00:03	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/09/17 00:03	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/09/17 00:03	1
Total Dissolved Solids	12000	D2	100	mg/L			05/09/17 10:25	1
pH	8.0	H5	1.7	SU			05/10/17 11:13	1
Temperature	9.8	H5	0.1	Degrees C			05/10/17 11:13	1

Client Sample ID: FC-CCR-MW75-5317

Lab Sample ID: 550-82216-21
Date Collected: 05/03/17 09:50
Matrix: Water
Date Received: 05/04/17 12:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	290		10	mg/L			05/19/17 12:58	20
Fluoride	ND		10	mg/L			05/19/17 12:58	20
Fluoride	ND	D1 D5 H1	2.0	mg/L			06/07/17 07:03	5
Sulfate	4100		250	mg/L			05/19/17 13:23	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25		0.050	mg/L		05/05/17 07:16	05/10/17 01:38	1
Calcium	460		2.0	mg/L		05/05/17 07:16	05/10/17 01:38	1
Magnesium	230		2.0	mg/L		05/05/17 07:16	05/10/17 01:38	1
Potassium	23		0.50	mg/L		05/05/17 07:16	05/10/17 01:38	1
Sodium	1300		0.50	mg/L		05/05/17 07:16	05/10/17 01:38	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	94		6.0	mg/L			05/09/17 00:10	1
Bicarbonate Alkalinity as CaCO3	94		6.0	mg/L			05/09/17 00:10	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/09/17 00:10	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/09/17 00:10	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/09/17 00:10	1
Total Dissolved Solids	6500	D2	100	mg/L			05/10/17 12:08	1
pH	8.3	H5	1.7	SU			05/10/17 11:13	1
Temperature	14.7	H5	0.1	Degrees C			05/10/17 11:13	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-119352/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 119352

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40		mg/L			06/06/17 19:05	1

Lab Sample ID: LCS 550-119352/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 119352

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.19		mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-119352/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 119352

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	4.21		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-83868-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 119352

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	ND		4.00	4.44		mg/L		105	80 - 120		

Lab Sample ID: 550-83868-A-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 119352

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.50		mg/L		107	80 - 120	1	20

Lab Sample ID: MB 550-119353/34 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 119353

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40		mg/L			06/07/17 04:54	1

Lab Sample ID: LCS 550-119353/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 119353

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.23		mg/L		106	90 - 110		

Lab Sample ID: LCSD 550-119353/38 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 119353

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	4.25		mg/L		106	90 - 110	0	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Lab Sample ID: 550-82219-A-12 MS ^5
Matrix: Water
Analysis Batch: 119353

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		
Fluoride	24	D1	20.0	46.3	D1	mg/L		110	80 - 120		

Lab Sample ID: 550-82219-A-12 MSD ^5
Matrix: Water
Analysis Batch: 119353

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
Fluoride	24	D1	20.0	45.6	D1	mg/L		106	80 - 120	1	20

Lab Sample ID: MB 440-406851/6
Matrix: Water
Analysis Batch: 406851

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50		mg/L			05/18/17 10:44	1
Fluoride	ND		0.50		mg/L			05/18/17 10:44	1
Sulfate	ND		0.50		mg/L			05/18/17 10:44	1

Lab Sample ID: LCS 440-406851/4
Matrix: Water
Analysis Batch: 406851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			5.00	4.62		mg/L		92	90 - 110		
Fluoride			5.00	4.77		mg/L		95	90 - 110		
Sulfate			5.00	4.93		mg/L		99	90 - 110		

Lab Sample ID: LCSD 440-406851/1064
Matrix: Water
Analysis Batch: 406851

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
Chloride			5.00	4.74		mg/L		95	90 - 110	0	20
Fluoride			5.00	5.18		mg/L		104	90 - 110	0	20
Sulfate			5.00	5.02		mg/L		100	90 - 110	0	20

Lab Sample ID: 550-82216-6 MS
Matrix: Water
Analysis Batch: 406851

Client Sample ID: FC-CCR-MW62-5117
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	110		50.0	158		mg/L		96	80 - 120		
Fluoride	ND		50.0	51.8		mg/L		96	80 - 120		

Lab Sample ID: 550-82216-6 MSD
Matrix: Water
Analysis Batch: 406851

Client Sample ID: FC-CCR-MW62-5117
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	110		50.0	153		mg/L		86	80 - 120	3	20
Fluoride	ND		50.0	50.1		mg/L		93	80 - 120	3	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-406944/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 406944

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.52		mg/L		90	90 - 110
Fluoride	5.00	4.73		mg/L		95	90 - 110
Sulfate	5.00	4.66		mg/L		93	90 - 110

Lab Sample ID: LCSD 440-406944/13 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 406944

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.00	4.51		mg/L		90	90 - 110	0	20
Fluoride	5.00	4.66		mg/L		93	90 - 110	1	20
Sulfate	5.00	4.57		mg/L		91	90 - 110	2	20

Lab Sample ID: 440-184695-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 406944

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1.9	M2	5.00	5.40	M2	mg/L		70	80 - 120
Fluoride	5.8	M1	5.00	13.2	M1	mg/L		147	80 - 120

Lab Sample ID: 440-184695-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 406944

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.9	M2	5.00	5.71	M2	mg/L		76	80 - 120	6	20
Fluoride	5.8	M1	5.00	13.1	M1	mg/L		146	80 - 120	1	20

Lab Sample ID: MB 440-407114/15 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 407114

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	mg/L			05/19/17 16:56	1
Sulfate	ND		0.50	mg/L			05/19/17 16:56	1

Lab Sample ID: LCS 440-407114/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 407114

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.65		mg/L		93	90 - 110
Sulfate	5.00	4.80		mg/L		96	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 440-407114/19
Matrix: Water
Analysis Batch: 407114

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
Chloride	5.00	4.77		mg/L		95	90 - 110	3	20
Sulfate	5.00	4.95		mg/L		99	90 - 110	3	20

Lab Sample ID: 580-68456-D-2 MS
Matrix: Water
Analysis Batch: 407114

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.4		5.00	9.85		mg/L		89	80 - 120
Sulfate	4.6		5.00	9.36		mg/L		96	80 - 120

Lab Sample ID: 580-68456-D-2 MSD
Matrix: Water
Analysis Batch: 407114

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.4		5.00	9.84		mg/L		89	80 - 120	0	20
Sulfate	4.6		5.00	9.32		mg/L		95	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-116629/1-A
Matrix: Water
Analysis Batch: 116973

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 116629

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		05/05/17 06:59	05/09/17 22:22	1
Calcium	ND		2.0	mg/L		05/05/17 06:59	05/09/17 22:22	1
Magnesium	ND		2.0	mg/L		05/05/17 06:59	05/09/17 22:22	1
Potassium	ND		0.50	mg/L		05/05/17 06:59	05/09/17 22:22	1
Sodium	ND		0.50	mg/L		05/05/17 06:59	05/09/17 22:22	1

Lab Sample ID: LCS 550-116629/2-A
Matrix: Water
Analysis Batch: 116973

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 116629

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.965		mg/L		97	85 - 115
Calcium	21.0	21.0		mg/L		100	85 - 115
Magnesium	21.0	20.9		mg/L		100	85 - 115
Potassium	20.0	20.3		mg/L		101	85 - 115
Sodium	20.0	19.6		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-116629/3-A
Matrix: Water
Analysis Batch: 116973

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 116629

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.971		mg/L		97	85 - 115	1	20

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

Lab Sample ID: LCSD 550-116629/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116973 — **Prep Batch: 116629**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	21.0	20.7		mg/L		99	85 - 115	1	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	1	20
Potassium	20.0	20.2		mg/L		101	85 - 115	1	20
Sodium	20.0	19.5		mg/L		97	85 - 115	0	20

Lab Sample ID: 550-82177-I-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116973 — **Prep Batch: 116629**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	ND		1.00	1.04		mg/L		100	70 - 130
Calcium	51		21.0	69.5		mg/L		90	70 - 130
Magnesium	8.9		21.0	29.7		mg/L		99	70 - 130
Potassium	2.6		20.0	23.6		mg/L		105	70 - 130
Sodium	21		20.0	41.3		mg/L		100	70 - 130

Lab Sample ID: 550-82177-I-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116973 — **Prep Batch: 116629**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	ND		1.00	1.04		mg/L		101	70 - 130	0	20
Calcium	51		21.0	69.4		mg/L		89	70 - 130	0	20
Magnesium	8.9		21.0	29.4		mg/L		97	70 - 130	1	20
Potassium	2.6		20.0	23.2		mg/L		103	70 - 130	2	20
Sodium	21		20.0	40.0		mg/L		93	70 - 130	3	20

Lab Sample ID: MB 550-116630/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116976 — **Prep Batch: 116630**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		05/05/17 07:16	05/10/17 00:36	1
Calcium	ND		2.0	mg/L		05/05/17 07:16	05/10/17 00:36	1
Magnesium	ND		2.0	mg/L		05/05/17 07:16	05/10/17 00:36	1
Potassium	ND		0.50	mg/L		05/05/17 07:16	05/10/17 00:36	1
Sodium	ND		0.50	mg/L		05/05/17 07:16	05/10/17 00:36	1

Lab Sample ID: LCS 550-116630/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116976 — **Prep Batch: 116630**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.01		mg/L		101	85 - 115
Calcium	21.0	21.7		mg/L		103	85 - 115
Magnesium	21.0	21.1		mg/L		100	85 - 115
Potassium	20.0	20.3		mg/L		101	85 - 115
Sodium	20.0	19.5		mg/L		97	85 - 115

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

Lab Sample ID: LCSD 550-116630/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116976 — **Prep Batch: 116630**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.998		mg/L		100	85 - 115	1	20
Calcium	21.0	21.5		mg/L		102	85 - 115	1	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	1	20
Potassium	20.0	19.9		mg/L		100	85 - 115	2	20
Sodium	20.0	18.9		mg/L		95	85 - 115	3	20

Lab Sample ID: 550-82216-14 MS — **Client Sample ID: FC-CCR-MW68-5217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116976 — **Prep Batch: 116630**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	450	M3	21.0	449	M3	mg/L		-13	70 - 130
Potassium	19		20.0	37.9		mg/L		93	70 - 130
Sodium	620	M3	20.0	590	M3	mg/L		-135	70 - 130

Lab Sample ID: 550-82216-14 MS — **Client Sample ID: FC-CCR-MW68-5217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117086 — **Prep Batch: 116630**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	130	D2 M3	1.00	119	D2 M3	mg/L		-685	70 - 130
Magnesium	2500	D2 M3	21.0	2360	D2 M3	mg/L		-477	70 - 130

Lab Sample ID: 550-82216-14 MSD — **Client Sample ID: FC-CCR-MW68-5217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116976 — **Prep Batch: 116630**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	450	M3	21.0	448	M3	mg/L		-19	70 - 130	0	20
Potassium	19		20.0	39.5		mg/L		101	70 - 130	4	20
Sodium	620	M3	20.0	607	M3	mg/L		-49	70 - 130	3	20

Lab Sample ID: 550-82216-14 MSD — **Client Sample ID: FC-CCR-MW68-5217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117086 — **Prep Batch: 116630**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	130	D2 M3	1.00	122	D2 M3	mg/L		-443	70 - 130	2	20
Magnesium	2500	D2 M3	21.0	2420	D2 M3	mg/L		-205	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-116845/35 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			05/08/17 20:18	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			05/08/17 20:18	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-116845/35 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			05/08/17 20:18	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			05/08/17 20:18	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			05/08/17 20:18	1

Lab Sample ID: MB 550-116845/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			05/08/17 16:32	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			05/08/17 16:32	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			05/08/17 16:32	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			05/08/17 16:32	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			05/08/17 16:32	1

Lab Sample ID: LCS 550-116845/34 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			250	258		mg/L		103	90 - 110		

Lab Sample ID: LCS 550-116845/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			250	256		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-116845/20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	259		mg/L		103	90 - 110	1	20

Lab Sample ID: LCSD 550-116845/48 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	258		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-82190-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	530			537		mg/L				1	20
Bicarbonate Alkalinity as CaCO3	530			537		mg/L				1	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-82190-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
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

Lab Sample ID: 550-82216-2 DU — **Client Sample ID: FC-CCR-MW8-5317**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	510			507		mg/L				0.3	20
Bicarbonate Alkalinity as CaCO3	510			507		mg/L				0.3	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

Lab Sample ID: 550-82216-12 DU — **Client Sample ID: FC-CCR-MW66-5117**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116845

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	260			264		mg/L				0.7	20
Bicarbonate Alkalinity as CaCO3	260			264		mg/L				0.7	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

Lab Sample ID: MB 550-116894/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116894

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			05/09/17 13:15	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			05/09/17 13:15	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			05/09/17 13:15	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			05/09/17 13:15	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			05/09/17 13:15	1

Lab Sample ID: LCS 550-116894/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116894

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			250	240		mg/L		96	90 - 110		

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCSD 550-116894/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116894

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	248		mg/L		99	90 - 110	3	20

Lab Sample ID: 550-82410-B-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116894

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	330			332		mg/L				2	20
Bicarbonate Alkalinity as CaCO3	330			332		mg/L				2	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 550-116651/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116651

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			05/05/17 10:38	1

Lab Sample ID: LCS 550-116651/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116651

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	968		mg/L		97	90 - 110		

Lab Sample ID: LCSD 550-116651/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116651

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110	3	10

Lab Sample ID: 550-81979-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116651

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	210			196		mg/L				6	10

Lab Sample ID: 550-82190-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116651

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	3500	D2		3570	D2	mg/L				2	10

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

Lab Sample ID: MB 550-116868/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116868

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			05/09/17 10:25	1

Lab Sample ID: LCS 550-116868/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116868

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	950		mg/L		95	90 - 110		

Lab Sample ID: LCSD 550-116868/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116868

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	964		mg/L		96	90 - 110	1	10

Lab Sample ID: 550-82145-E-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116868

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1600			1640		mg/L				0	10

Lab Sample ID: 550-82265-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116868

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	560			542		mg/L				3	10

Lab Sample ID: MB 550-116997/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116997

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			05/10/17 12:08	1

Lab Sample ID: LCS 550-116997/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116997

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	988		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-116997/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116997

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	988		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-82312-A-1 DU
Matrix: Water
Analysis Batch: 116997

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	1400			1360		mg/L				0.3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-116983/25
Matrix: Water
Analysis Batch: 116983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-116983/37
Matrix: Water
Analysis Batch: 116983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-116983/49
Matrix: Water
Analysis Batch: 116983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.1	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-116983/61
Matrix: Water
Analysis Batch: 116983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.1	98.5 - 101.5		

Lab Sample ID: 550-82184-A-1 DU
Matrix: Water
Analysis Batch: 116983

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.9	H5		8.0	H5	SU				0.8	5
Temperature	11.5	H5		11.3	H5	Degrees C				2	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

HPLC/IC

Analysis Batch: 119352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-1	FC-CCR-MW7-5317	Total/NA	Water	300.0	
550-82216-2	FC-CCR-MW8-5317	Total/NA	Water	300.0	
550-82216-3	FC-CCR-MW49A-5317	Total/NA	Water	300.0	
550-82216-4	FC-CCR-MW60-5317	Total/NA	Water	300.0	
550-82216-5	FC-CCR-MW61-5317	Total/NA	Water	300.0	
550-82216-6	FC-CCR-MW62-5117	Total/NA	Water	300.0	
550-82216-7	FC-CCR-MW63-5217	Total/NA	Water	300.0	
550-82216-8	FC-CCR-MW64-5217	Total/NA	Water	300.0	
550-82216-9	FC-CCR-FD02-5217	Total/NA	Water	300.0	
550-82216-10	FC-CCR-MW65-5117	Total/NA	Water	300.0	
550-82216-11	FC-CCR-FD01-5117	Total/NA	Water	300.0	
550-82216-12	FC-CCR-MW66-5117	Total/NA	Water	300.0	
550-82216-13	FC-CCR-MW67-5217	Total/NA	Water	300.0	
550-82216-14	FC-CCR-MW68-5217	Total/NA	Water	300.0	
550-82216-15	FC-CCR-MW69-5217	Total/NA	Water	300.0	
550-82216-16	FC-CCR-MW70-5117	Total/NA	Water	300.0	
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	300.0	
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	300.0	
MB 550-119352/2	Method Blank	Total/NA	Water	300.0	
LCS 550-119352/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-119352/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-83868-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-83868-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 119353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-19	FC-CCR-MW73-5217	Total/NA	Water	300.0	
550-82216-20	FC-CCR-MW74-5217	Total/NA	Water	300.0	
550-82216-21	FC-CCR-MW75-5317	Total/NA	Water	300.0	
MB 550-119353/34	Method Blank	Total/NA	Water	300.0	
LCS 550-119353/37	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-119353/38	Lab Control Sample Dup	Total/NA	Water	300.0	
550-82219-A-12 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-82219-A-12 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 406851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-1	FC-CCR-MW7-5317	Total/NA	Water	300.0	
550-82216-1	FC-CCR-MW7-5317	Total/NA	Water	300.0	
550-82216-2	FC-CCR-MW8-5317	Total/NA	Water	300.0	
550-82216-2	FC-CCR-MW8-5317	Total/NA	Water	300.0	
550-82216-3	FC-CCR-MW49A-5317	Total/NA	Water	300.0	
550-82216-3	FC-CCR-MW49A-5317	Total/NA	Water	300.0	
550-82216-4	FC-CCR-MW60-5317	Total/NA	Water	300.0	
550-82216-4	FC-CCR-MW60-5317	Total/NA	Water	300.0	
550-82216-5	FC-CCR-MW61-5317	Total/NA	Water	300.0	
550-82216-5	FC-CCR-MW61-5317	Total/NA	Water	300.0	
550-82216-6	FC-CCR-MW62-5117	Total/NA	Water	300.0	
550-82216-6	FC-CCR-MW62-5117	Total/NA	Water	300.0	
550-82216-7	FC-CCR-MW63-5217	Total/NA	Water	300.0	
550-82216-7	FC-CCR-MW63-5217	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 406851 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-8	FC-CCR-MW64-5217	Total/NA	Water	300.0	
550-82216-8	FC-CCR-MW64-5217	Total/NA	Water	300.0	
550-82216-9	FC-CCR-FD02-5217	Total/NA	Water	300.0	
550-82216-9	FC-CCR-FD02-5217	Total/NA	Water	300.0	
550-82216-10	FC-CCR-MW65-5117	Total/NA	Water	300.0	
550-82216-10	FC-CCR-MW65-5117	Total/NA	Water	300.0	
550-82216-11	FC-CCR-FD01-5117	Total/NA	Water	300.0	
550-82216-11	FC-CCR-FD01-5117	Total/NA	Water	300.0	
550-82216-12	FC-CCR-MW66-5117	Total/NA	Water	300.0	
550-82216-12	FC-CCR-MW66-5117	Total/NA	Water	300.0	
550-82216-13	FC-CCR-MW67-5217	Total/NA	Water	300.0	
550-82216-14	FC-CCR-MW68-5217	Total/NA	Water	300.0	
550-82216-14	FC-CCR-MW68-5217	Total/NA	Water	300.0	
550-82216-15	FC-CCR-MW69-5217	Total/NA	Water	300.0	
550-82216-15	FC-CCR-MW69-5217	Total/NA	Water	300.0	
550-82216-16	FC-CCR-MW70-5117	Total/NA	Water	300.0	
550-82216-16	FC-CCR-MW70-5117	Total/NA	Water	300.0	
MB 440-406851/6	Method Blank	Total/NA	Water	300.0	
LCS 440-406851/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 440-406851/1064	Lab Control Sample Dup	Total/NA	Water	300.0	
550-82216-6 MS	FC-CCR-MW62-5117	Total/NA	Water	300.0	
550-82216-6 MSD	FC-CCR-MW62-5117	Total/NA	Water	300.0	

Analysis Batch: 406944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	300.0	
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	300.0	
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	300.0	
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	300.0	
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	300.0	
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	300.0	
550-82216-19	FC-CCR-MW73-5217	Total/NA	Water	300.0	
550-82216-19	FC-CCR-MW73-5217	Total/NA	Water	300.0	
550-82216-19	FC-CCR-MW73-5217	Total/NA	Water	300.0	
550-82216-20	FC-CCR-MW74-5217	Total/NA	Water	300.0	
550-82216-20	FC-CCR-MW74-5217	Total/NA	Water	300.0	
550-82216-21	FC-CCR-MW75-5317	Total/NA	Water	300.0	
550-82216-21	FC-CCR-MW75-5317	Total/NA	Water	300.0	
LCS 440-406944/12	Lab Control Sample	Total/NA	Water	300.0	
LCSD 440-406944/13	Lab Control Sample Dup	Total/NA	Water	300.0	
440-184695-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
440-184695-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 407114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-8	FC-CCR-MW64-5217	Total/NA	Water	300.0	
550-82216-13	FC-CCR-MW67-5217	Total/NA	Water	300.0	
MB 440-407114/15	Method Blank	Total/NA	Water	300.0	
LCS 440-407114/13	Lab Control Sample	Total/NA	Water	300.0	
LCSD 440-407114/19	Lab Control Sample Dup	Total/NA	Water	300.0	
580-68456-D-2 MS	Matrix Spike	Dissolved	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 407114 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68456-D-2 MSD	Matrix Spike Duplicate	Dissolved	Water	300.0	

Metals

Prep Batch: 116629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-1	FC-CCR-MW7-5317	Total/NA	Water	200.7	
550-82216-2	FC-CCR-MW8-5317	Total/NA	Water	200.7	
550-82216-3	FC-CCR-MW49A-5317	Total/NA	Water	200.7	
550-82216-4	FC-CCR-MW60-5317	Total/NA	Water	200.7	
550-82216-5	FC-CCR-MW61-5317	Total/NA	Water	200.7	
550-82216-6	FC-CCR-MW62-5117	Total/NA	Water	200.7	
550-82216-7	FC-CCR-MW63-5217	Total/NA	Water	200.7	
550-82216-8	FC-CCR-MW64-5217	Total/NA	Water	200.7	
550-82216-9	FC-CCR-FD02-5217	Total/NA	Water	200.7	
550-82216-10	FC-CCR-MW65-5117	Total/NA	Water	200.7	
550-82216-11	FC-CCR-FD01-5117	Total/NA	Water	200.7	
550-82216-12	FC-CCR-MW66-5117	Total/NA	Water	200.7	
550-82216-13	FC-CCR-MW67-5217	Total/NA	Water	200.7	
MB 550-116629/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-116629/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-116629/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-82177-I-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-82177-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 116630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-14	FC-CCR-MW68-5217	Total/NA	Water	200.7	
550-82216-15	FC-CCR-MW69-5217	Total/NA	Water	200.7	
550-82216-16	FC-CCR-MW70-5117	Total/NA	Water	200.7	
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	200.7	
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	200.7	
550-82216-19	FC-CCR-MW73-5217	Total/NA	Water	200.7	
550-82216-20	FC-CCR-MW74-5217	Total/NA	Water	200.7	
550-82216-21	FC-CCR-MW75-5317	Total/NA	Water	200.7	
MB 550-116630/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-116630/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-116630/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-82216-14 MS	FC-CCR-MW68-5217	Total/NA	Water	200.7	
550-82216-14 MSD	FC-CCR-MW68-5217	Total/NA	Water	200.7	

Analysis Batch: 116973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-1	FC-CCR-MW7-5317	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-2	FC-CCR-MW8-5317	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-3	FC-CCR-MW49A-5317	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-4	FC-CCR-MW60-5317	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-5	FC-CCR-MW61-5317	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-6	FC-CCR-MW62-5117	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-7	FC-CCR-MW63-5217	Total/NA	Water	200.7 Rev 4.4	116629

Metals (Continued)

Analysis Batch: 116973 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-8	FC-CCR-MW64-5217	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-9	FC-CCR-FD02-5217	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-10	FC-CCR-MW65-5117	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-11	FC-CCR-FD01-5117	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-12	FC-CCR-MW66-5117	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-13	FC-CCR-MW67-5217	Total/NA	Water	200.7 Rev 4.4	116629
MB 550-116629/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	116629
LCS 550-116629/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	116629
LCSD 550-116629/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	116629
550-82177-I-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	116629
550-82177-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	116629

Analysis Batch: 116976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-14	FC-CCR-MW68-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-15	FC-CCR-MW69-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-16	FC-CCR-MW70-5117	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-19	FC-CCR-MW73-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-20	FC-CCR-MW74-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-21	FC-CCR-MW75-5317	Total/NA	Water	200.7 Rev 4.4	116630
MB 550-116630/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	116630
LCS 550-116630/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	116630
LCSD 550-116630/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-14 MS	FC-CCR-MW68-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-14 MSD	FC-CCR-MW68-5217	Total/NA	Water	200.7 Rev 4.4	116630

Analysis Batch: 117086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-14	FC-CCR-MW68-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-15	FC-CCR-MW69-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-16	FC-CCR-MW70-5117	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-20	FC-CCR-MW74-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-14 MS	FC-CCR-MW68-5217	Total/NA	Water	200.7 Rev 4.4	116630
550-82216-14 MSD	FC-CCR-MW68-5217	Total/NA	Water	200.7 Rev 4.4	116630

Analysis Batch: 117088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-2	FC-CCR-MW8-5317	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-3	FC-CCR-MW49A-5317	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-12	FC-CCR-MW66-5117	Total/NA	Water	200.7 Rev 4.4	116629
550-82216-13	FC-CCR-MW67-5217	Total/NA	Water	200.7 Rev 4.4	116629

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

General Chemistry

Analysis Batch: 116651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-6	FC-CCR-MW62-5117	Total/NA	Water	SM 2540C	
550-82216-10	FC-CCR-MW65-5117	Total/NA	Water	SM 2540C	
550-82216-11	FC-CCR-FD01-5117	Total/NA	Water	SM 2540C	
550-82216-12	FC-CCR-MW66-5117	Total/NA	Water	SM 2540C	
550-82216-16	FC-CCR-MW70-5117	Total/NA	Water	SM 2540C	
MB 550-116651/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-116651/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-116651/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-81979-A-3 DU	Duplicate	Total/NA	Water	SM 2540C	
550-82190-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 116845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-1	FC-CCR-MW7-5317	Total/NA	Water	SM 2320B	
550-82216-2	FC-CCR-MW8-5317	Total/NA	Water	SM 2320B	
550-82216-4	FC-CCR-MW60-5317	Total/NA	Water	SM 2320B	
550-82216-5	FC-CCR-MW61-5317	Total/NA	Water	SM 2320B	
550-82216-6	FC-CCR-MW62-5117	Total/NA	Water	SM 2320B	
550-82216-7	FC-CCR-MW63-5217	Total/NA	Water	SM 2320B	
550-82216-8	FC-CCR-MW64-5217	Total/NA	Water	SM 2320B	
550-82216-9	FC-CCR-FD02-5217	Total/NA	Water	SM 2320B	
550-82216-10	FC-CCR-MW65-5117	Total/NA	Water	SM 2320B	
550-82216-11	FC-CCR-FD01-5117	Total/NA	Water	SM 2320B	
550-82216-12	FC-CCR-MW66-5117	Total/NA	Water	SM 2320B	
550-82216-13	FC-CCR-MW67-5217	Total/NA	Water	SM 2320B	
550-82216-14	FC-CCR-MW68-5217	Total/NA	Water	SM 2320B	
550-82216-15	FC-CCR-MW69-5217	Total/NA	Water	SM 2320B	
550-82216-16	FC-CCR-MW70-5117	Total/NA	Water	SM 2320B	
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	SM 2320B	
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	SM 2320B	
550-82216-19	FC-CCR-MW73-5217	Total/NA	Water	SM 2320B	
550-82216-20	FC-CCR-MW74-5217	Total/NA	Water	SM 2320B	
550-82216-21	FC-CCR-MW75-5317	Total/NA	Water	SM 2320B	
MB 550-116845/35	Method Blank	Total/NA	Water	SM 2320B	
MB 550-116845/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-116845/34	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-116845/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-116845/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-116845/48	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-82190-A-2 DU	Duplicate	Total/NA	Water	SM 2320B	
550-82216-2 DU	FC-CCR-MW8-5317	Total/NA	Water	SM 2320B	
550-82216-12 DU	FC-CCR-MW66-5117	Total/NA	Water	SM 2320B	

Analysis Batch: 116868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-7	FC-CCR-MW63-5217	Total/NA	Water	SM 2540C	
550-82216-8	FC-CCR-MW64-5217	Total/NA	Water	SM 2540C	
550-82216-9	FC-CCR-FD02-5217	Total/NA	Water	SM 2540C	
550-82216-13	FC-CCR-MW67-5217	Total/NA	Water	SM 2540C	
550-82216-14	FC-CCR-MW68-5217	Total/NA	Water	SM 2540C	
550-82216-15	FC-CCR-MW69-5217	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 116868 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	SM 2540C	
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	SM 2540C	
550-82216-19	FC-CCR-MW73-5217	Total/NA	Water	SM 2540C	
550-82216-20	FC-CCR-MW74-5217	Total/NA	Water	SM 2540C	
MB 550-116868/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-116868/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-116868/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-82145-E-1 DU	Duplicate	Total/NA	Water	SM 2540C	
550-82265-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 116894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-116894/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-116894/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-116894/6	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-82410-B-3 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 116896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-3	FC-CCR-MW49A-5317	Total/NA	Water	SM 2320B	

Analysis Batch: 116983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-1	FC-CCR-MW7-5317	Total/NA	Water	SM 4500 H+ B	
550-82216-2	FC-CCR-MW8-5317	Total/NA	Water	SM 4500 H+ B	
550-82216-3	FC-CCR-MW49A-5317	Total/NA	Water	SM 4500 H+ B	
550-82216-4	FC-CCR-MW60-5317	Total/NA	Water	SM 4500 H+ B	
550-82216-5	FC-CCR-MW61-5317	Total/NA	Water	SM 4500 H+ B	
550-82216-6	FC-CCR-MW62-5117	Total/NA	Water	SM 4500 H+ B	
550-82216-7	FC-CCR-MW63-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-8	FC-CCR-MW64-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-9	FC-CCR-FD02-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-10	FC-CCR-MW65-5117	Total/NA	Water	SM 4500 H+ B	
550-82216-11	FC-CCR-FD01-5117	Total/NA	Water	SM 4500 H+ B	
550-82216-12	FC-CCR-MW66-5117	Total/NA	Water	SM 4500 H+ B	
550-82216-13	FC-CCR-MW67-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-14	FC-CCR-MW68-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-15	FC-CCR-MW69-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-16	FC-CCR-MW70-5117	Total/NA	Water	SM 4500 H+ B	
550-82216-17	FC-CCR-MW71-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-18	FC-CCR-MW72-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-19	FC-CCR-MW73-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-20	FC-CCR-MW74-5217	Total/NA	Water	SM 4500 H+ B	
550-82216-21	FC-CCR-MW75-5317	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-116983/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-116983/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-116983/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-116983/61	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-82184-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 116997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-82216-1	FC-CCR-MW7-5317	Total/NA	Water	SM 2540C	
550-82216-2	FC-CCR-MW8-5317	Total/NA	Water	SM 2540C	
550-82216-3	FC-CCR-MW49A-5317	Total/NA	Water	SM 2540C	
550-82216-4	FC-CCR-MW60-5317	Total/NA	Water	SM 2540C	
550-82216-5	FC-CCR-MW61-5317	Total/NA	Water	SM 2540C	
550-82216-21	FC-CCR-MW75-5317	Total/NA	Water	SM 2540C	
MB 550-116997/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-116997/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-116997/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-82312-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-5317 — Lab Sample ID: 550-82216-1

Date Collected: 05/03/17 11:52 — **Matrix: Water**
Date Received: 05/04/17 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406851	05/18/17 15:00	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406851	05/18/17 15:13	NTN	TAL IRV
Total/NA	Analysis	300.0		2	119352	06/06/17 21:50	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 22:55	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 20:02	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116997		YET	TAL PHX
					(Start)	05/10/17 12:08		
					(End)	05/11/17 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW8-5317 — Lab Sample ID: 550-82216-2

Date Collected: 05/03/17 10:50 — **Matrix: Water**
Date Received: 05/04/17 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406851	05/18/17 15:26	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406851	05/18/17 15:39	NTN	TAL IRV
Total/NA	Analysis	300.0		5	119352	06/06/17 22:09	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:01	CJM	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117088	05/11/17 01:02	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 20:28	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116997		YET	TAL PHX
					(Start)	05/10/17 12:08		
					(End)	05/11/17 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW49A-5317 — Lab Sample ID: 550-82216-3

Date Collected: 05/03/17 13:04 — **Matrix: Water**
Date Received: 05/04/17 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	406851	05/18/17 16:27	NTN	TAL IRV
Total/NA	Analysis	300.0		1000	406851	05/18/17 16:41	NTN	TAL IRV
Total/NA	Analysis	300.0		5	119352	06/06/17 22:27	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:07	CJM	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117088	05/11/17 01:05	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116896	05/09/17 13:15	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW49A-5317 — Lab Sample ID: 550-82216-3

Date Collected: 05/03/17 13:04
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	116997		YET	TAL PHX
					(Start)	05/10/17 12:08		
					(End)	05/11/17 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW60-5317 — Lab Sample ID: 550-82216-4

Date Collected: 05/03/17 08:40
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406851	05/18/17 16:54	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406851	05/18/17 17:07	NTN	TAL IRV
Total/NA	Analysis	300.0		2	119352	06/06/17 22:46	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:13	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 20:59	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116997		YET	TAL PHX
					(Start)	05/10/17 12:08		
					(End)	05/11/17 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW61-5317 — Lab Sample ID: 550-82216-5

Date Collected: 05/03/17 09:21
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	406851	05/18/17 17:20	NTN	TAL IRV
Total/NA	Analysis	300.0		200	406851	05/18/17 17:33	NTN	TAL IRV
Total/NA	Analysis	300.0		1	119352	06/06/17 23:04	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:25	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 21:06	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116997		YET	TAL PHX
					(Start)	05/10/17 12:08		
					(End)	05/11/17 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW62-5117 — Lab Sample ID: 550-82216-6

Date Collected: 05/01/17 14:23
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	406851	05/18/17 17:46	NTN	TAL IRV
Total/NA	Analysis	300.0		200	406851	05/18/17 18:25	NTN	TAL IRV
Total/NA	Analysis	300.0		1	119352	06/06/17 23:22	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:31	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 21:19	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116651	05/05/17 10:38	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW63-5217 — Lab Sample ID: 550-82216-7

Date Collected: 05/02/17 08:49
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	406851	05/18/17 19:08	NTN	TAL IRV
Total/NA	Analysis	300.0		200	406851	05/18/17 19:21	NTN	TAL IRV
Total/NA	Analysis	300.0		1	119352	06/07/17 00:18	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:37	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 21:29	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW64-5217 — Lab Sample ID: 550-82216-8

Date Collected: 05/02/17 07:59
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	406851	05/18/17 19:34	NTN	TAL IRV
Total/NA	Analysis	300.0		50	406851	05/18/17 19:47	NTN	TAL IRV
Total/NA	Analysis	300.0		1	119352	06/07/17 00:36	JAE	TAL PHX
Total/NA	Analysis	300.0		10	407114	05/19/17 19:51	NTN	TAL IRV
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:42	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 21:39	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-FD02-5217 — Lab Sample ID: 550-82216-9

Date Collected: 05/02/17 07:59 — **Matrix: Water**
Date Received: 05/04/17 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	406851	05/18/17 20:00	NTN	TAL IRV
Total/NA	Analysis	300.0		50	406851	05/18/17 20:13	NTN	TAL IRV
Total/NA	Analysis	300.0		1	119352	06/07/17 00:54	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:45	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 21:48	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW65-5117 — Lab Sample ID: 550-82216-10

Date Collected: 05/01/17 13:27 — **Matrix: Water**
Date Received: 05/04/17 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	406851	05/18/17 20:26	NTN	TAL IRV
Total/NA	Analysis	300.0		50	406851	05/18/17 20:39	NTN	TAL IRV
Total/NA	Analysis	300.0		1	119352	06/07/17 01:13	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:48	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 21:57	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116651	05/05/17 10:38	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-FD01-5117 — Lab Sample ID: 550-82216-11

Date Collected: 05/01/17 13:27 — **Matrix: Water**
Date Received: 05/04/17 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	406851	05/18/17 20:52	NTN	TAL IRV
Total/NA	Analysis	300.0		50	406851	05/18/17 21:05	NTN	TAL IRV
Total/NA	Analysis	300.0		1	119352	06/07/17 01:31	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:51	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 22:06	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116651	05/05/17 10:38	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW66-5117 — Lab Sample ID: 550-82216-12

Date Collected: 05/01/17 15:05
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406851	05/18/17 22:31	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406851	05/18/17 22:43	NTN	TAL IRV
Total/NA	Analysis	300.0		5	119352	06/07/17 01:50	JAE	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/09/17 23:54	CJM	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117088	05/11/17 01:11	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 22:32	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116651	05/05/17 10:38	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW67-5217 — Lab Sample ID: 550-82216-13

Date Collected: 05/02/17 09:28
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406851	05/18/17 22:56	NTN	TAL IRV
Total/NA	Analysis	300.0		5	119352	06/07/17 02:08	JAE	TAL PHX
Total/NA	Analysis	300.0		500	407114	05/19/17 20:06	NTN	TAL IRV
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116973	05/10/17 00:00	CJM	TAL PHX
Total/NA	Prep	200.7			116629	05/05/17 06:59	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117088	05/11/17 01:16	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 22:50	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW68-5217 — Lab Sample ID: 550-82216-14

Date Collected: 05/02/17 10:04
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	406851	05/18/17 23:23	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406851	05/18/17 23:36	NTN	TAL IRV
Total/NA	Analysis	300.0		5	119352	06/07/17 02:26	JAE	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116976	05/10/17 00:56	CJM	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117086	05/10/17 22:56	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 23:00	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW68-5217 — Lab Sample ID: 550-82216-14

Date Collected: 05/02/17 10:04 — **Matrix: Water**
Date Received: 05/04/17 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW69-5217 — Lab Sample ID: 550-82216-15

Date Collected: 05/02/17 10:36 — **Matrix: Water**
Date Received: 05/04/17 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406851	05/18/17 23:49	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406851	05/19/17 00:02	NTN	TAL IRV
Total/NA	Analysis	300.0		5	119352	06/07/17 02:45	JAE	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116976	05/10/17 01:02	CJM	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117086	05/10/17 23:02	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 23:09	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW70-5117 — Lab Sample ID: 550-82216-16

Date Collected: 05/01/17 15:47 — **Matrix: Water**
Date Received: 05/04/17 12:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	406851	05/19/17 00:14	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406851	05/19/17 00:28	NTN	TAL IRV
Total/NA	Analysis	300.0		2	119352	06/07/17 03:03	JAE	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116976	05/10/17 01:08	CJM	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117086	05/10/17 23:08	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 23:19	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116651	05/05/17 10:38	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW71-5217 — Lab Sample ID: 550-82216-17

Date Collected: 05/02/17 13:00
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406944	05/19/17 08:57	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406944	05/19/17 09:21	NTN	TAL IRV
Total/NA	Analysis	300.0		2000	406944	05/19/17 22:08	NTN	TAL IRV
Total/NA	Analysis	300.0		5	119352	06/07/17 03:58	JAE	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116976	05/10/17 01:14	CJM	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117086	05/10/17 23:11	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 23:29	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW72-5217 — Lab Sample ID: 550-82216-18

Date Collected: 05/02/17 13:34
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406944	05/19/17 09:45	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406944	05/19/17 10:09	NTN	TAL IRV
Total/NA	Analysis	300.0		2000	406944	05/19/17 22:33	NTN	TAL IRV
Total/NA	Analysis	300.0		5	119352	06/07/17 04:17	JAE	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116976	05/10/17 01:20	CJM	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117086	05/10/17 23:17	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 23:40	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW73-5217 — Lab Sample ID: 550-82216-19

Date Collected: 05/02/17 14:09
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406944	05/19/17 10:33	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406944	05/19/17 10:57	NTN	TAL IRV
Total/NA	Analysis	300.0		100	406944	05/19/17 22:57	NTN	TAL IRV
Total/NA	Analysis	300.0		2	119353	06/07/17 06:26	JAE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Client Sample ID: FC-CCR-MW73-5217 — Lab Sample ID: 550-82216-19

Date Collected: 05/02/17 14:09
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116976	05/10/17 01:26	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/08/17 23:53	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW74-5217 — Lab Sample ID: 550-82216-20

Date Collected: 05/02/17 14:48
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	406944	05/19/17 12:10	NTN	TAL IRV
Total/NA	Analysis	300.0		1000	406944	05/19/17 12:34	NTN	TAL IRV
Total/NA	Analysis	300.0		2	119353	06/07/17 06:44	JAE	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116976	05/10/17 01:32	CJM	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	117086	05/10/17 23:22	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/09/17 00:03	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116868		YET	TAL PHX
					(Start)	05/09/17 10:25		
					(End)	05/10/17 12:00		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Client Sample ID: FC-CCR-MW75-5317 — Lab Sample ID: 550-82216-21

Date Collected: 05/03/17 09:50
Date Received: 05/04/17 12:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	406944	05/19/17 12:58	NTN	TAL IRV
Total/NA	Analysis	300.0		500	406944	05/19/17 13:23	NTN	TAL IRV
Total/NA	Analysis	300.0		5	119353	06/07/17 07:03	JAE	TAL PHX
Total/NA	Prep	200.7			116630	05/05/17 07:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116976	05/10/17 01:38	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116845	05/09/17 00:10	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	116997		YET	TAL PHX
					(Start)	05/10/17 12:08		
					(End)	05/11/17 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	116983	05/10/17 11:13	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Laboratory: TestAmerica Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0728	06-09-18

Laboratory: TestAmerica Irvine

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0671	10-14-17

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-82216-1
SDG: Cholla

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	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.
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 IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022
TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

82216

Chain of Custody Record

Regulatory Program: CCR

TestAmerica Laboratories, Inc.

7/5/2017

Client Contact	Doug Lavarnway	Doug Lavarnway	5/4/2017
APS Four Corners	928-587-0319	Lab Contact:	Carrier:
End of County Road 6675	**Analysis Turnaround Time**		
Fruitland, New Mexico 87416			
(928) 587-0319 Phone	TAT if different from Below _____		
(xxx) xxx-xxxx FAX			
Project Name: CCR			
Site: Cholla			
P O #			

COC No: 1 of 6 COCs

Sampler:

For Lab Use Only:
Walk-in Client:
Lab Sampling:

Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 200.7 Rev 4.4 (B, Ca, Na, K, Mg)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	SM 2320B (HCO3)	Sample Specific Notes:
FC-CCR-MW7-5317 -01	5/3/2017	1152	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW8-5317 -02	5/3/2017	1050	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW49A-5317 -03	5/3/2017	1304	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW60-5317 -04	5/3/2017	840	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW61-5317 -05	5/3/2017	921	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW62-5117 -06	5/1/2017	1423	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW63-5217 -07	5/2/2017	849	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW64-5217 -08	5/2/2017	759	G	W	2	N	x	x	x	x	x	x	
FC-CCR-FD02-5217 -09	5/2/2017	759	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW65-5117 -10	5/1/2017	1327	G	W	2	N	x	x	x	x	x	x	
FC-CCR-FD01-5117 -11	5/1/2017	1327	G	W	2	N	x	x	x	x	x	x	

550-82216 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Special Instructions/QC Requirements & Comments:

0.8°C, 3.6°C, 1.7°C, 1.6°C, 1.4°C

Custody Seals Intact:	Custody Seal No.:	Cooler Temp. (°C): Obs'd: _____ Corr'd: _____	Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doug Lavarnway	APS	5/4 900	D Rogers	Red J	5/4/17 8:00a
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 5-4-17 1230

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

82216

Chain of Custody Record

Regulatory Program: CCR

TestAmerica Laboratories, Inc.

7/5/2017

Client Contact	Doug Lavarnway	Doug Lavarnway	5/4/2017
APS Four Corners	928-587-0319	**Lab Contact:**	**Carrier:**
End of County Road 6675	**Analysis Turnaround Time**		
Fruitland, New Mexico 87416			
(928) 587-0319 Phone	TAT if different from Below _____		
(xxx) xxx-xxxx FAX			
Project Name: CCR			
Site: Cholla			
P O #			

COC No: 2 of 6 COCs

Sampler:

For Lab Use Only:
Walk-in Client:
Lab Sampling:

Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 200.7 Rev 4.4 (B, Ca, Na, K, Mg)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	SM 2320B (HCO3)	Sample Specific Notes:
FC-CCR-MW66-5117 -12	5/1/2017	1505	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW67-5217 -13	5/2/2017	928	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW68-5217 -14	5/2/2017	1004	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW69-5217 -15	5/2/2017	1036	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW70-5117 -16	5/1/2017	1547	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW71-5217 -17	5/2/2017	1300	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW72-5217 -18	5/2/2017	1334	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW73-5217 -19	5/2/2017	1409	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW74-5217 -20	5/2/2017	1448	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW75-5317 -21	5/3/2017	950	G	W	2	N	x	x	x	x	x	x	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Special Instructions/QC Requirements & Comments:

Custody Seals Intact:	Custody Seal No.:		Cooler Temp. (°C): Obs'd:_____ Corr'd:_____		Therm ID No.:_____
Relinquished by: Doug Lavarnway	Company: APS	Date/Time: 5/4 800	Received by: D Rogers	Company: Red J	Date/Time: 5/4/17 8:00a
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 5-4-17 1230

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

7/5/2017

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 440-111288.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com	State of Origin: New Mexico	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-82216-1
Address: 4625 East Cotton Ctr Blvd, Suite 189,	Due Date Requested: 5/12/2017			
City: Phoenix	TAT Requested (days):			
State, Zip: AZ, 85040				
Phone: 602-437-3340(Tel) 602-454-9303(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR	Project #: 55002330			
Site:	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B/ All forms of Alkalinity	2540C_Calcd/ TDS	300_ORGFMS/ (MOD) CHL, FL, SO4	SM4500_H+/ pH and Temperature	200.7_CWA/200.7_P_TOT ICP Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
FC-CCR-MW7-5317 (550-82216-1)	5/3/17	11:52 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water
FC-CCR-MW8-5317 (550-82216-2)	5/3/17	10:50 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL
FC-CCR-MW49A-5317 (550-82216-3)	5/3/17	13:04 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water
FC-CCR-MW60-5317 (550-82216-4)	5/3/17	08:40 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL
FC-CCR-MW61-5317 (550-82216-5)	5/3/17	09:21 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water
FC-CCR-MW62-5117 (550-82216-6)	5/1/17	14:23 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL
FC-CCR-MW63-5217 (550-82216-7)	5/2/17	08:49 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water
FC-CCR-MW64-5217 (550-82216-8)	5/2/17	07:59 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL
FC-CCR-FD02-5217 (550-82216-9)	5/2/17	07:59 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Vu Bui	6/1/17 17:00	TAI			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Fed Ex	Date/Time:	Company	Received by:	Date/Time: 6/2/17 9:20	Company TA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: GW	Cooler Temperature(s) °C and Other Remarks: 0.9

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

7/5/2017

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 440-111288.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com	State of Origin: New Mexico	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-82216-1
Address: 4625 East Cotton Ctr Blvd, Suite 189,	Due Date Requested: 5/12/2017			
City: Phoenix	TAT Requested (days):			
State, Zip: AZ, 85040				
Phone: 602-437-3340(Tel) 602-454-9303(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR	Project #: 55002330			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B/ All forms of Alkalinity	2540C_Calcd/ TDS	300_ORGFMS/ (MOD) CHL, FL, SO4	SM4500_H+/ pH and Temperature	200.7_CWA/200.7_P_TOT ICP Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
FC-CCR-MW65-5117 (550-82216-10)	5/1/17	13:27 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL
FC-CCR-FD01-5117 (550-82216-11)	5/1/17	13:27 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water
FC-CCR-MW66-5117 (550-82216-12)	5/1/17	15:05 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL
FC-CCR-MW67-5217 (550-82216-13)	5/2/17	09:28 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water
FC-CCR-MW68-5217 (550-82216-14)	5/2/17	10:04 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL
FC-CCR-MW69-5217 (550-82216-15)	5/2/17	10:36 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water
FC-CCR-MW70-5117 (550-82216-16)	5/1/17	15:47 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL
FC-CCR-MW71-5217 (550-82216-17)	5/2/17	13:00 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water
FC-CCR-MW72-5217 (550-82216-18)	5/2/17	13:34 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [illegible]	Date/Time: 6/1/17 17:00	Company: TAE	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: [illegible]	Date/Time:	Company	Received by: [illegible]	Date/Time: 6/2/17 9:20	Company: TA

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: Yes
Cooler Temperature(s) °C and Other Remarks: 0.9°

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

7/5/2017

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 440-111288.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com	State of Origin: New Mexico	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-82216-1
Address: 4625 East Cotton Ctr Blvd, Suite 189,	Due Date Requested: 5/12/2017			
City: Phoenix	TAT Requested (days):			
State, Zip: AZ, 85040				
Phone: 602-437-3340(Tel) 602-454-9303(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR	Project #: 55002330			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B/ All forms of Alkalinity	2540C_Calcd/ TDS	300_ORGFMS/ (MOD) CHL, FL, SO4	SM4500_H+/ pH and Temperature	200.7_CWA/200.7_P_TOT ICP Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
FC-CCR-MW73-5217 (550-82216-19)	5/2/17	14:09 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water
FC-CCR-MW74-5217 (550-82216-20)	5/2/17	14:48 Mountain		Water			X	X	X	X	X	1	Drinking Water, Drinking water, Report to MDL
FC-CCR-MW75-5317 (550-82216-21)	5/3/17	09:50 Mountain		Water			X	X	X	X	X	1	Drinking Water, Report to MDL, Drinking water

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Vu Bach	Date/Time: 6/1/17 17:00	Company: TAI	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Fed Ex	Date/Time:	Company	Received by:	Date/Time: 6/2/17 9:30	Company: TA
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: YP		Cooler Temperature(s) °C and Other Remarks: 0.9°		

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-17472.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com	State of Origin: New Mexico	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-82216-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 5/17/2017			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR	Project #: 55002330			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ Cl, Fl, SO4	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
FC-CCR-MW7-5317 (550-82216-1)	5/3/17	11:52 Mountain		Water			X	1	AZ Sample
FC-CCR-MW8-5317 (550-82216-2)	5/3/17	10:50 Mountain		Water			X	1	AZ Sample
FC-CCR-MW49A-5317 (550-82216-3)	5/3/17	13:04 Mountain		Water			X	1	AZ Sample
FC-CCR-MW60-5317 (550-82216-4)	5/3/17	08:40 Mountain		Water			X	1	AZ Sample
FC-CCR-MW61-5317 (550-82216-5)	5/3/17	09:21 Mountain		Water			X	1	AZ Sample
FC-CCR-MW62-5117 (550-82216-6)	5/1/17	14:23 Mountain		Water			X	1	AZ Sample
FC-CCR-MW63-5217 (550-82216-7)	5/2/17	08:49 Mountain		Water			X	1	AZ Sample
FC-CCR-MW64-5217 (550-82216-8)	5/2/17	07:59 Mountain		Water			X	1	AZ Sample
FC-CCR-FD02-5217 (550-82216-9)	5/2/17	07:59 Mountain		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fed: 6715 9624 5304

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[illegible]	05-17-17 14:50 PDT	TAL	[illegible]	5/18/17 9:15	TAF
Relinquished by	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s)°C and Other Remarks: (C) 1.8/2.3 IR-66

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No. 550-17472.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com	State of Origin: New Mexico	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-82216-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 5/17/2017			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR	Project #: 55002330			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ Cl, Fl, SO4	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
FC-CCR-MW65-5117 (550-82216-10)	5/1/17	13:27 Mountain		Water			X	1	AZ Sample
FC-CCR-FD01-5117 (550-82216-11)	5/1/17	13:27 Mountain		Water			X	1	AZ Sample
FC-CCR-MW66-5117 (550-82216-12)	5/1/17	15:05 Mountain		Water			X	1	AZ Sample
FC-CCR-MW67-5217 (550-82216-13)	5/2/17	09:28 Mountain		Water			X	1	AZ Sample
FC-CCR-MW68-5217 (550-82216-14)	5/2/17	10:04 Mountain		Water			X	1	AZ Sample
FC-CCR-MW69-5217 (550-82216-15)	5/2/17	10:36 Mountain		Water			X	1	AZ Sample
FC-CCR-MW70-5117 (550-82216-16)	5/1/17	15:47 Mountain		Water			X	1	AZ Sample
FC-CCR-MW71-5217 (550-82216-17)	5/2/17	13:00 Mountain		Water			X	1	AZ Sample
FC-CCR-MW72-5217 (550-82216-18)	5/2/17	13:34 Mountain		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment: Fed: 6715 9624 5309	
Relinquished by: [illegible]	Date/Time: 05/17/17 1450	Company: TA-PHX/AB	Received by: [illegible]	Date/Time: 5/18/17 9:15	Company: TAI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s)°C and Other Remarks: (OK) 1.8/2.3 IR.66		

TestAmerica Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-17472.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com	State of Origin: New Mexico	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-82216-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 5/17/2017			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR	Project #: 55002330			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	300_ORGFM_28D/ Cl, Fl, SO4	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
FC-CCR-MW73-5217 (550-82216-19)	5/2/17	14:09 Mountain		Water			X	1	AZ Sample
FC-CCR-MW74-5217 (550-82216-20)	5/2/17	14:48 Mountain		Water			X	1	AZ Sample
FC-CCR-MW75-5317 (550-82216-21)	5/3/17	09:50 Mountain		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fed: 6715 9624 5309

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[illegible] 05-17-17	14:50	TA Phx LAB	[illegible]	5/18/17 9:15	TAI
Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s)°C and Other Remarks: (cs) 1.8/2.3 TR.06

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-82216-1
SDG Number: Cholla

Login Number: 82216
List Number: 1
Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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 (excluding tests with immediate HTs)	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 <6mm (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.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-82216-1
SDG Number: Cholla

Login Number: 82216
List Number: 2
Creator: Salas, Margarita

List Source: TestAmerica Irvine
List Creation: 05/18/17 11:31 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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.	N/A	Not Present
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?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	