TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 550-81337-1
TestAmerica Sample Delivery Group: Four Corners
Client Project/Site: CCR

For:
Arizona Public Service Company
4801 Cholla Lake Rd
Joseph City, Arizona 86032

Attn: Doug Lavarnway

Authorized for release by:
5/17/2017 8:16:01 AM

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LINKS

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

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

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
B7	Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above the concentration found in the blank.
D2	Sample required dilution due to high concentration of analyte.
D1	Sample required dilution due to matrix.
B1	Target analyte detected in method blank at or above the method reporting limit.

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.
D1	Sample required dilution due to matrix.

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: 550-81337-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-81337-1

Comments
No additional comments.

Receipt
The samples were received on 4/19/2017 2:08 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, 2.3º C, 2.6º C, 2.9º C and 4.2º C.

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

Metals
Method(s) 200.7 Rev 4.4: The following sample was diluted due to the nature of the sample matrix: FC-CCR-MW49A-41817 (550-81337-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or 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: 550-81337-1
SDG: Four Corners

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-81337-1	FC-CCR-MW7-41817	Water	04/18/17 12:27	04/19/17 14:08
550-81337-2	FC-CCR-MW8-41817	Water	04/18/17 11:45	04/19/17 14:08
550-81337-3	FC-CCR-MW49A-41817	Water	04/18/17 13:17	04/19/17 14:08
550-81337-4	FC-CCR-MW60-41817	Water	04/18/17 11:10	04/19/17 14:08
550-81337-5	FC-CCR-MW61-41817	Water	04/18/17 10:06	04/19/17 14:08
550-81337-6	FC-CCR-MW62-41617	Water	04/16/17 15:41	04/19/17 14:08
550-81337-7	FC-CCR-MW63-41717	Water	04/17/17 12:18	04/19/17 14:08
550-81337-8	FC-CCR-MW64-41717	Water	04/17/17 11:22	04/19/17 14:08
550-81337-9	FC-CCR-MW65-41617	Water	04/16/17 15:04	04/19/17 14:08
550-81337-10	FC-CCR-MW66-41617	Water	04/16/17 16:21	04/19/17 14:08
550-81337-11	FC-CCR-MW67-41717	Water	04/17/17 10:35	04/19/17 14:08
550-81337-12	FC-CCR-MW68-41717	Water	04/17/17 09:58	04/19/17 14:08
550-81337-13	FC-CCR-MW69-41717	Water	04/17/17 09:01	04/19/17 14:08
550-81337-14	FC-CCR-FD02-41717	Water	04/17/17 09:01	04/19/17 14:08
550-81337-15	FC-CCR-MW70-41617	Water	04/16/17 17:08	04/19/17 14:08
550-81337-16	FC-CCR-FD01-41617	Water	04/16/17 17:08	04/19/17 14:08
550-81337-17	FC-CCR-MW71-41717	Water	04/17/17 13:16	04/19/17 14:08
550-81337-18	FC-CCR-MW72-41717	Water	04/17/17 13:52	04/19/17 14:08
550-81337-19	FC-CCR-MW73-41817	Water	04/18/17 08:32	04/19/17 14:08
550-81337-20	FC-CCR-MW74-41817	Water	04/18/17 09:18	04/19/17 14:08
550-81337-21	FC-CCR-MW75-41817	Water	04/18/17 10:36	04/19/17 14:08

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW7-41817 — Lab Sample ID: 550-81337-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	430	D2	200	mg/L	100		300.0	Total/NA
Sulfate	6500	D2	200	mg/L	100		300.0	Total/NA
Boron	8.6		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
Sodium	2000	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	38		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	600		2.0	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	11000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW8-41817 — Lab Sample ID: 550-81337-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	100	mg/L	50		300.0	Total/NA
Sulfate	18000	D2	400	mg/L	200		300.0	Total/NA
Boron	17		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
Sodium	3200	D2	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	37		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	780		2.0	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	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-41817 — Lab Sample ID: 550-81337-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400	mg/L	200		300.0	Total/NA
Sulfate	20000	D2	1000	mg/L	500		300.0	Total/NA
Boron	2.6	D1	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	410	D1	20	mg/L	10		200.7 Rev 4.4	Total/NA
Sodium	6600	B7 D1	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	71	D1	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	1400	D1	20	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	900		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	900		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	29000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-41817 — Lab Sample ID: 550-81337-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	430	D2	200	mg/L	100		300.0	Total/NA
Fluoride	6.4	D1	0.80	mg/L	2		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: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW60-41817 (Continued) — Lab Sample ID: 550-81337-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	5000	D2	200	mg/L	100		300.0	Total/NA
Boron	63		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
Sodium	1100	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	27		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	510		2.0	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	8400	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW61-41817 — Lab Sample ID: 550-81337-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.1		0.40	mg/L	1		300.0	Total/NA
Sulfate	3500	D2	100	mg/L	50		300.0	Total/NA
Boron	39		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	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	77		6.0	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	11		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5600	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW62-41617 — Lab Sample ID: 550-81337-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	120	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.2		0.40	mg/L	1		300.0	Total/NA
Sulfate	3300	D2	100	mg/L	50		300.0	Total/NA
Boron	1.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	710	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.4		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	350		2.0	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	5900	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-41717 — Lab Sample ID: 550-81337-7

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW63-41717 (Continued) — Lab Sample ID: 550-81337-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	98		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.6		0.40	mg/L	1		300.0	Total/NA
Sulfate	2600	D2	100	mg/L	50		300.0	Total/NA
Boron	1.4		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
Sodium	360	B7	0.50	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
Magnesium	270		2.0	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	4400	D2	40	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-41717 — Lab Sample ID: 550-81337-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	51		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.4		0.40	mg/L	1		300.0	Total/NA
Sulfate	870	D2	100	mg/L	50		300.0	Total/NA
Boron	0.58		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	85		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	120	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.8		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	35		2.0	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	800		20	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-41617 — Lab Sample ID: 550-81337-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	60		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.8		0.40	mg/L	1		300.0	Total/NA
Sulfate	490	D2	40	mg/L	20		300.0	Total/NA
Boron	0.83		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
Sodium	170	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	62		2.0	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	1300		20	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW66-41617 — Lab Sample ID: 550-81337-10

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW66-41617 (Continued) — Lab Sample ID: 550-81337-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	400	mg/L	200		300.0	Total/NA
Fluoride	25	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		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
Sodium	590	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	42		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2700	D2	20	mg/L	10		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	14.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-41717 — Lab Sample ID: 550-81337-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700	D2	400	mg/L	200		300.0	Total/NA
Fluoride	22	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	10000	D2	400	mg/L	200		300.0	Total/NA
Boron	130	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	570	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	33		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2600	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	390		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	390		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	15.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-41717 — Lab Sample ID: 550-81337-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	mg/L	200		300.0	Total/NA
Fluoride	10	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	9900	D2	400	mg/L	200		300.0	Total/NA
Boron	130	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	450		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	620	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2400	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	450		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	450		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-41717 — Lab Sample ID: 550-81337-13

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW69-41717 (Continued) — Lab Sample ID: 550-81337-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	mg/L	200		300.0	Total/NA
Fluoride	17	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Boron	130	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	630	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	40		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2800	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	360		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	360		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	14.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-41717 — Lab Sample ID: 550-81337-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	mg/L	200		300.0	Total/NA
Fluoride	17	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Boron	140	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	640	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	41		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2700	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	340		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	340		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	13.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-41617 — Lab Sample ID: 550-81337-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400	mg/L	200		300.0	Total/NA
Fluoride	0.94	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	6000	D2	400	mg/L	200		300.0	Total/NA
Boron	94	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
Sodium	820	B7	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300	D2	20	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	11000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD01-41617 — Lab Sample ID: 550-81337-16

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-FD01-41617 (Continued) — Lab Sample ID: 550-81337-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400	mg/L	200		300.0	Total/NA
Fluoride	0.95	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	6100	D2	400	mg/L	200		300.0	Total/NA
Boron	92	B7 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
Sodium	790		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300	D2	20	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	11000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW71-41717 — Lab Sample ID: 550-81337-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	550	D2	400	mg/L	200		300.0	Total/NA
Sulfate	9400	D2	400	mg/L	200		300.0	Total/NA
Boron	0.52		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	400		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	980		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	25		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1800	D2	20	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	15000	D1	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.5	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-41717 — Lab Sample ID: 550-81337-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450	D2	10	mg/L	5		300.0	Total/NA
Sulfate	610	D2	400	mg/L	200		300.0	Total/NA
Boron	0.20		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
Sodium	760		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	29		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2400	D2	20	mg/L	10		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	17000	D1	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-41817 — Lab Sample ID: 550-81337-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	340	D2	200	mg/L	100		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW73-41817 (Continued) — Lab Sample ID: 550-81337-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	5700	D2	200	mg/L	100		300.0	Total/NA
Boron	1.6	B7	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
Sodium	1200		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	29		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	630		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	650		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	650		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9200	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	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

Client Sample ID: FC-CCR-MW74-41817 — Lab Sample ID: 550-81337-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	430	D2	200	mg/L	100		300.0	Total/NA
Fluoride	1.8	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	7700	D2	200	mg/L	100		300.0	Total/NA
Boron	1.6	B7	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	360		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	570		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	410		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	410		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	15.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW75-41817 — Lab Sample ID: 550-81337-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	280	D2	20	mg/L	10		300.0	Total/NA
Sulfate	4400	D2	400	mg/L	200		300.0	Total/NA
Boron	24	B7	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
Sodium	1200		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	21		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	210		2.0	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	6100	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.9	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: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW7-41817

Lab Sample ID: 550-81337-1
Date Collected: 04/18/17 12:27
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	430	D2	200	mg/L			05/05/17 18:34	100
Fluoride	ND	D1 D5	0.80	mg/L			05/05/17 18:15	2
Sulfate	6500	D2	200	mg/L			05/10/17 16:04	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	8.6		0.050	mg/L		04/20/17 11:33	04/27/17 22:14	1
Calcium	430		2.0	mg/L		04/20/17 11:33	04/27/17 22:14	1
Sodium	2000	B7	0.50	mg/L		04/20/17 11:33	04/27/17 22:14	1
Potassium	38		0.50	mg/L		04/20/17 11:33	04/27/17 22:14	1
Magnesium	600		2.0	mg/L		04/20/17 11:33	04/27/17 22:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	490		6.0	mg/L			04/20/17 17:36	1
Bicarbonate Alkalinity as CaCO3	490		6.0	mg/L			04/20/17 17:36	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 17:36	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 17:36	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 17:36	1
Total Dissolved Solids	11000	D2	100	mg/L			04/21/17 11:08	1
pH	7.4	H5	1.7	SU			04/24/17 16:45	1
Temperature	15.1	H5	0.1	Degrees C			04/24/17 16:45	1

Client Sample ID: FC-CCR-MW8-41817

Lab Sample ID: 550-81337-2
Date Collected: 04/18/17 11:45
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	100	mg/L			05/05/17 19:10	50
Fluoride	ND	D1 D5	2.0	mg/L			05/10/17 16:22	5
Sulfate	18000	D2	400	mg/L			05/10/17 16:40	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	17		0.050	mg/L		04/20/17 11:33	04/27/17 22:20	1
Calcium	440		2.0	mg/L		04/20/17 11:33	04/27/17 22:20	1
Sodium	3200	D2	5.0	mg/L		04/20/17 11:33	04/28/17 21:27	10
Potassium	37		0.50	mg/L		04/20/17 11:33	04/27/17 22:20	1
Magnesium	780		2.0	mg/L		04/20/17 11:33	04/27/17 22:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	510		6.0	mg/L			04/20/17 17:46	1
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L			04/20/17 17:46	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 17:46	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 17:46	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 17:46	1
Total Dissolved Solids	15000	D2	100	mg/L			04/21/17 11:08	1
pH	7.4	H5	1.7	SU			04/26/17 16:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW8-41817

Lab Sample ID: 550-81337-2
Date Collected: 04/18/17 11:45
Matrix: Water
Date Received: 04/19/17 14:08

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	15.4	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW49A-41817

Lab Sample ID: 550-81337-3
Date Collected: 04/18/17 13:17
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1000	D2	400	mg/L			05/10/17 16:59	200
Fluoride	ND	D1 D5	2.0	mg/L			05/05/17 19:29	5
Sulfate	20000	D2	1000	mg/L			05/10/17 17:17	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.6	D1	0.50	mg/L		04/20/17 11:33	04/27/17 22:50	10
Calcium	410	D1	20	mg/L		04/20/17 11:33	04/27/17 22:50	10
Sodium	6600	B7 D1	5.0	mg/L		04/20/17 11:33	04/27/17 22:50	10
Potassium	71	D1	5.0	mg/L		04/20/17 11:33	04/27/17 22:50	10
Magnesium	1400	D1	20	mg/L		04/20/17 11:33	04/27/17 22:50	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	900		6.0	mg/L			04/30/17 14:30	1
Bicarbonate Alkalinity as CaCO3	900		6.0	mg/L			04/30/17 14:30	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/30/17 14:30	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/30/17 14:30	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/30/17 14:30	1
Total Dissolved Solids	29000	D2	200	mg/L			04/21/17 11:08	1
pH	7.4	H5	1.7	SU			04/26/17 16:45	1
Temperature	14.0	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW60-41817

Lab Sample ID: 550-81337-4
Date Collected: 04/18/17 11:10
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	430	D2	200	mg/L			05/05/17 20:24	100
Fluoride	6.4	D1	0.80	mg/L			05/05/17 20:06	2
Sulfate	5000	D2	200	mg/L			05/10/17 17:36	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	63		0.050	mg/L		04/20/17 11:33	04/27/17 22:56	1
Calcium	440		2.0	mg/L		04/20/17 11:33	04/27/17 22:56	1
Sodium	1100	B7	0.50	mg/L		04/20/17 11:33	04/27/17 22:56	1
Potassium	27		0.50	mg/L		04/20/17 11:33	04/27/17 22:56	1
Magnesium	510		2.0	mg/L		04/20/17 11:33	04/27/17 22:56	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW60-41817 — Lab Sample ID: 550-81337-4

Date Collected: 04/18/17 11:10 — **Matrix: Water**
Date Received: 04/19/17 14:08

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	130		6.0	mg/L			04/20/17 18:05	1
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L			04/20/17 18:05	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:05	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 18:05	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:05	1
Total Dissolved Solids	8400	D2	100	mg/L			04/21/17 11:08	1
pH	7.7	H5	1.7	SU			04/26/17 16:45	1
Temperature	13.6	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW61-41817 — Lab Sample ID: 550-81337-5

Date Collected: 04/18/17 10:06 — **Matrix: Water**
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300	D2	100	mg/L			05/05/17 22:14	50
Fluoride	1.1		0.40	mg/L			05/05/17 20:42	1
Sulfate	3500	D2	100	mg/L			05/10/17 17:54	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	39		0.050	mg/L		04/20/17 11:33	04/27/17 23:02	1
Calcium	480		2.0	mg/L		04/20/17 11:33	04/27/17 23:02	1
Sodium	1100	B7	0.50	mg/L		04/20/17 11:33	04/27/17 23:02	1
Potassium	20		0.50	mg/L		04/20/17 11:33	04/27/17 23:02	1
Magnesium	120		2.0	mg/L		04/20/17 11:33	04/27/17 23:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	89		6.0	mg/L			04/20/17 18:13	1
Bicarbonate Alkalinity as CaCO3	77		6.0	mg/L			04/20/17 18:13	1
Carbonate Alkalinity as CaCO3	11		6.0	mg/L			04/20/17 18:13	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 18:13	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:13	1
Total Dissolved Solids	5600	D2	100	mg/L			04/21/17 11:08	1
pH	8.6	H5	1.7	SU			04/26/17 16:45	1
Temperature	13.7	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW62-41617 — Lab Sample ID: 550-81337-6

Date Collected: 04/16/17 15:41 — **Matrix: Water**
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120	D2	100	mg/L			05/05/17 22:51	50
Fluoride	1.2		0.40	mg/L			05/05/17 22:33	1
Sulfate	3300	D2	100	mg/L			05/10/17 18:13	50

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		04/20/17 11:33	04/27/17 22:26	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW62-41617

Lab Sample ID: 550-81337-6
Date Collected: 04/16/17 15:41
Matrix: Water
Date Received: 04/19/17 14:08

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	500		2.0	mg/L		04/20/17 11:33	04/27/17 22:26	1
Sodium	710	B7	0.50	mg/L		04/20/17 11:33	04/27/17 22:26	1
Potassium	9.4		0.50	mg/L		04/20/17 11:33	04/27/17 22:26	1
Magnesium	350		2.0	mg/L		04/20/17 11:33	04/27/17 22:26	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	800		6.0	mg/L			04/20/17 18:25	1
Bicarbonate Alkalinity as CaCO3	800		6.0	mg/L			04/20/17 18:25	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:25	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 18:25	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:25	1
Total Dissolved Solids	5900	D2	100	mg/L			04/20/17 11:34	1
pH	7.2	H5	1.7	SU			04/26/17 16:45	1
Temperature	13.8	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW63-41717

Lab Sample ID: 550-81337-7
Date Collected: 04/17/17 12:18
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98		2.0	mg/L			05/05/17 23:10	1
Fluoride	1.6		0.40	mg/L			05/05/17 23:10	1
Sulfate	2600	D2	100	mg/L			05/10/17 18:31	50

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		04/20/17 11:33	04/27/17 22:32	1
Calcium	520		2.0	mg/L		04/20/17 11:33	04/27/17 22:32	1
Sodium	360	B7	0.50	mg/L		04/20/17 11:33	04/27/17 22:32	1
Potassium	5.7		0.50	mg/L		04/20/17 11:33	04/27/17 22:32	1
Magnesium	270		2.0	mg/L		04/20/17 11:33	04/27/17 22:32	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	500		6.0	mg/L			04/20/17 18:52	1
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L			04/20/17 18:52	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:52	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 18:52	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:52	1
Total Dissolved Solids	4400	D2	40	mg/L			04/20/17 11:34	1
pH	7.3	H5	1.7	SU			04/26/17 16:45	1
Temperature	13.9	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW64-41717

Lab Sample ID: 550-81337-8
Date Collected: 04/17/17 11:22
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51		2.0	mg/L			05/05/17 23:46	1
Fluoride	1.4		0.40	mg/L			05/05/17 23:46	1
Sulfate	870	D2	100	mg/L			05/10/17 18:49	50

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		04/20/17 11:33	04/27/17 22:38	1
Calcium	85		2.0	mg/L		04/20/17 11:33	04/27/17 22:38	1
Sodium	120	B7	0.50	mg/L		04/20/17 11:33	04/27/17 22:38	1
Potassium	5.8		0.50	mg/L		04/20/17 11:33	04/27/17 22:38	1
Magnesium	35		2.0	mg/L		04/20/17 11:33	04/27/17 22:38	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	220		6.0	mg/L			04/20/17 19:12	1
Bicarbonate Alkalinity as CaCO3	220		6.0	mg/L			04/20/17 19:12	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:12	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 19:12	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:12	1
Total Dissolved Solids	800		20	mg/L			04/20/17 11:34	1
pH	7.9	H5	1.7	SU			04/26/17 16:45	1
Temperature	13.6	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW65-41617

Lab Sample ID: 550-81337-9
Date Collected: 04/16/17 15:04
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	60		2.0	mg/L			05/06/17 00:23	1
Fluoride	1.8		0.40	mg/L			05/06/17 00:23	1
Sulfate	490	D2	40	mg/L			05/10/17 19:45	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.83		0.050	mg/L		04/20/17 11:33	04/27/17 22:41	1
Calcium	120		2.0	mg/L		04/20/17 11:33	04/27/17 22:41	1
Sodium	170	B7	0.50	mg/L		04/20/17 11:33	04/27/17 22:41	1
Potassium	4.0		0.50	mg/L		04/20/17 11:33	04/27/17 22:41	1
Magnesium	62		2.0	mg/L		04/20/17 11:33	04/27/17 22:41	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	320		6.0	mg/L			04/20/17 19:21	1
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L			04/20/17 19:21	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:21	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 19:21	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:21	1
Total Dissolved Solids	1300		20	mg/L			04/20/17 11:34	1
pH	7.6	H5	1.7	SU			04/26/17 16:45	1
Temperature	13.7	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW66-41617

Lab Sample ID: 550-81337-10

Date Collected: 04/16/17 16:21
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	400	mg/L			05/06/17 01:55	200
Fluoride	25	D1	2.0	mg/L			05/06/17 01:37	5
Sulfate	11000	D2	400	mg/L			05/10/17 20:03	200

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		04/20/17 11:33	04/28/17 21:30	10
Calcium	460		2.0	mg/L		04/20/17 11:33	04/27/17 22:44	1
Sodium	590	B7	0.50	mg/L		04/20/17 11:33	04/27/17 22:44	1
Potassium	42		0.50	mg/L		04/20/17 11:33	04/27/17 22:44	1
Magnesium	2700	D2	20	mg/L		04/20/17 11:33	04/28/17 21:30	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	260		6.0	mg/L			04/20/17 19:29	1
Bicarbonate Alkalinity as CaCO3	260		6.0	mg/L			04/20/17 19:29	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:29	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 19:29	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:29	1
Total Dissolved Solids	17000	D2	100	mg/L			04/20/17 11:34	1
pH	7.4	H5	1.7	SU			04/26/17 16:45	1
Temperature	14.2	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW67-41717

Lab Sample ID: 550-81337-11

Date Collected: 04/17/17 10:35
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700	D2	400	mg/L			05/06/17 02:32	200
Fluoride	22	D1	2.0	mg/L			05/06/17 02:14	5
Sulfate	10000	D2	400	mg/L			05/10/17 20:21	200

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		04/20/17 11:33	04/28/17 21:41	10
Calcium	500		2.0	mg/L		04/20/17 11:33	04/27/17 23:13	1
Sodium	570	B7	0.50	mg/L		04/20/17 11:33	04/27/17 23:13	1
Potassium	33		0.50	mg/L		04/20/17 11:33	04/27/17 23:13	1
Magnesium	2600	D2	20	mg/L		04/20/17 11:33	04/28/17 21:41	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	390		6.0	mg/L			04/20/17 19:39	1
Bicarbonate Alkalinity as CaCO3	390		6.0	mg/L			04/20/17 19:39	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:39	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 19:39	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:39	1
Total Dissolved Solids	17000	D2	100	mg/L			04/20/17 11:34	1
pH	7.3	H5	1.7	SU			04/26/17 16:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW67-41717

Lab Sample ID: 550-81337-11
Date Collected: 04/17/17 10:35
Matrix: Water
Date Received: 04/19/17 14:08

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	15.0	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW68-41717

Lab Sample ID: 550-81337-12
Date Collected: 04/17/17 09:58
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	mg/L			05/06/17 03:09	200
Fluoride	10	D1	2.0	mg/L			05/06/17 02:50	5
Sulfate	9900	D2	400	mg/L			05/10/17 20:40	200

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		04/20/17 11:33	04/28/17 21:47	10
Calcium	450		2.0	mg/L		04/20/17 11:33	04/27/17 23:19	1
Sodium	620	B7	0.50	mg/L		04/20/17 11:33	04/27/17 23:19	1
Potassium	20		0.50	mg/L		04/20/17 11:33	04/27/17 23:19	1
Magnesium	2400	D2	20	mg/L		04/20/17 11:33	04/28/17 21:47	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	450		6.0	mg/L			04/20/17 19:49	1
Bicarbonate Alkalinity as CaCO3	450		6.0	mg/L			04/20/17 19:49	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:49	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 19:49	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:49	1
Total Dissolved Solids	16000	D2	100	mg/L			04/20/17 11:34	1
pH	7.1	H5	1.7	SU			04/26/17 16:45	1
Temperature	15.0	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW69-41717

Lab Sample ID: 550-81337-13
Date Collected: 04/17/17 09:01
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	mg/L			05/06/17 03:46	200
Fluoride	17	D1	2.0	mg/L			05/06/17 03:27	5
Sulfate	11000	D2	400	mg/L			05/10/17 20:58	200

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		04/20/17 11:33	04/28/17 21:53	10
Calcium	470		2.0	mg/L		04/20/17 11:33	04/27/17 23:25	1
Sodium	630	B7	0.50	mg/L		04/20/17 11:33	04/27/17 23:25	1
Potassium	40		0.50	mg/L		04/20/17 11:33	04/27/17 23:25	1
Magnesium	2800	D2	20	mg/L		04/20/17 11:33	04/28/17 21:53	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW69-41717 — Lab Sample ID: 550-81337-13

Date Collected: 04/17/17 09:01 — **Matrix: Water**
Date Received: 04/19/17 14:08

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	360		6.0	mg/L			04/20/17 19:59	1
Bicarbonate Alkalinity as CaCO3	360		6.0	mg/L			04/20/17 19:59	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:59	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 19:59	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 19:59	1
Total Dissolved Solids	18000	D2	100	mg/L			04/20/17 11:34	1
pH	7.5	H5	1.7	SU			04/26/17 16:45	1
Temperature	14.1	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-FD02-41717 — Lab Sample ID: 550-81337-14

Date Collected: 04/17/17 09:01 — **Matrix: Water**
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	mg/L			05/06/17 04:22	200
Fluoride	17	D1	2.0	mg/L			05/06/17 04:04	5
Sulfate	12000	D2	400	mg/L			05/10/17 21:17	200

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		04/20/17 11:33	04/28/17 21:58	10
Calcium	470		2.0	mg/L		04/20/17 11:33	04/27/17 23:31	1
Sodium	640	B7	0.50	mg/L		04/20/17 11:33	04/27/17 23:31	1
Potassium	41		0.50	mg/L		04/20/17 11:33	04/27/17 23:31	1
Magnesium	2700	D2	20	mg/L		04/20/17 11:33	04/28/17 21:58	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	340		6.0	mg/L			04/20/17 20:07	1
Bicarbonate Alkalinity as CaCO3	340		6.0	mg/L			04/20/17 20:07	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 20:07	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 20:07	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 20:07	1
Total Dissolved Solids	18000	D2	100	mg/L			04/20/17 11:34	1
pH	7.5	H5	1.7	SU			04/26/17 16:45	1
Temperature	13.6	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW70-41617 — Lab Sample ID: 550-81337-15

Date Collected: 04/16/17 17:08 — **Matrix: Water**
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	mg/L			05/06/17 05:36	200
Fluoride	0.94	D1	0.80	mg/L			05/06/17 05:18	2
Sulfate	6000	D2	400	mg/L			05/10/17 21:35	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	94	D2	0.50	mg/L		04/20/17 11:33	04/28/17 22:04	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW70-41617

Lab Sample ID: 550-81337-15
Date Collected: 04/16/17 17:08
Matrix: Water
Date Received: 04/19/17 14:08

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	490		2.0	mg/L		04/20/17 11:33	04/27/17 23:37	1
Sodium	820	B7	0.50	mg/L		04/20/17 11:33	04/27/17 23:37	1
Potassium	18		0.50	mg/L		04/20/17 11:33	04/27/17 23:37	1
Magnesium	1300	D2	20	mg/L		04/20/17 11:33	04/28/17 22:04	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	510		6.0	mg/L			04/20/17 20:18	1
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L			04/20/17 20:18	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 20:18	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 20:18	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 20:18	1
Total Dissolved Solids	11000	D2	100	mg/L			04/20/17 11:34	1
pH	7.1	H5	1.7	SU			04/26/17 16:45	1
Temperature	13.8	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-FD01-41617

Lab Sample ID: 550-81337-16
Date Collected: 04/16/17 17:08
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	mg/L			05/06/17 06:13	200
Fluoride	0.95	D1	0.80	mg/L			05/06/17 05:54	2
Sulfate	6100	D2	400	mg/L			05/10/17 21:53	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	92	B7 D2	0.50	mg/L		04/21/17 05:04	04/28/17 22:10	10
Calcium	460		2.0	mg/L		04/21/17 05:04	04/27/17 23:59	1
Sodium	790		0.50	mg/L		04/21/17 05:04	04/27/17 23:59	1
Potassium	18		0.50	mg/L		04/21/17 05:04	04/27/17 23:59	1
Magnesium	1300	D2	20	mg/L		04/21/17 05:04	04/28/17 22:10	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	510		6.0	mg/L			04/20/17 20:28	1
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L			04/20/17 20:28	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 20:28	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 20:28	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 20:28	1
Total Dissolved Solids	11000	D2	100	mg/L			04/20/17 11:34	1
pH	7.1	H5	1.7	SU			04/26/17 16:45	1
Temperature	14.0	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW71-41717

Lab Sample ID: 550-81337-17
Date Collected: 04/17/17 13:16
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	550	D2	400	mg/L			05/10/17 22:12	200
Fluoride	ND	D1 D5	2.0	mg/L			05/06/17 06:31	5
Sulfate	9400	D2	400	mg/L			05/10/17 22:12	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.52		0.050	mg/L		05/01/17 07:56	05/02/17 23:05	1
Calcium	400		2.0	mg/L		04/21/17 05:04	04/28/17 00:05	1
Sodium	980		0.50	mg/L		04/21/17 05:04	04/28/17 00:05	1
Potassium	25		0.50	mg/L		04/21/17 05:04	04/28/17 00:05	1
Magnesium	1800	D2	20	mg/L		04/21/17 05:04	04/28/17 22:13	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	420		6.0	mg/L			04/24/17 14:54	1
Bicarbonate Alkalinity as CaCO3	420		6.0	mg/L			04/24/17 14:54	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 14:54	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/24/17 14:54	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 14:54	1
Total Dissolved Solids	15000	D1	100	mg/L			04/21/17 08:55	1
pH	7.6	H5	1.7	SU			04/26/17 16:45	1
Temperature	14.5	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW72-41717

Lab Sample ID: 550-81337-18
Date Collected: 04/17/17 13:52
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450	D2	10	mg/L			05/06/17 07:08	5
Fluoride	ND	D1 D5	2.0	mg/L			05/06/17 07:08	5
Sulfate	610	D2	400	mg/L			05/10/17 22:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.20		0.050	mg/L		05/01/17 07:56	05/02/17 23:11	1
Calcium	440		2.0	mg/L		04/21/17 05:04	04/28/17 00:11	1
Sodium	760		0.50	mg/L		04/21/17 05:04	04/28/17 00:11	1
Potassium	29		0.50	mg/L		04/21/17 05:04	04/28/17 00:11	1
Magnesium	2400	D2	20	mg/L		04/21/17 05:04	04/28/17 22:15	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	600		6.0	mg/L			04/24/17 15:33	1
Bicarbonate Alkalinity as CaCO3	600		6.0	mg/L			04/24/17 15:33	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 15:33	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/24/17 15:33	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 15:33	1
Total Dissolved Solids	17000	D1	100	mg/L			04/21/17 08:55	1
pH	7.4	H5	1.7	SU			04/26/17 16:45	1
Temperature	14.9	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW73-41817

Lab Sample ID: 550-81337-19
Date Collected: 04/18/17 08:32
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	340	D2	200	mg/L			05/06/17 08:03	100
Fluoride	ND	D1 D5	0.80	mg/L			05/06/17 07:45	2
Sulfate	5700	D2	200	mg/L			05/10/17 23:25	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.6	B7	0.050	mg/L		04/21/17 05:04	04/28/17 00:17	1
Calcium	450		2.0	mg/L		04/21/17 05:04	04/28/17 00:17	1
Sodium	1200		0.50	mg/L		04/21/17 05:04	04/28/17 00:17	1
Potassium	29		0.50	mg/L		04/21/17 05:04	04/28/17 00:17	1
Magnesium	630		2.0	mg/L		04/21/17 05:04	04/28/17 00:17	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	650		6.0	mg/L			04/24/17 15:44	1
Bicarbonate Alkalinity as CaCO3	650		6.0	mg/L			04/24/17 15:44	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 15:44	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/24/17 15:44	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 15:44	1
Total Dissolved Solids	9200	D2	100	mg/L			04/21/17 11:08	1
pH	7.3	H5	1.7	SU			04/26/17 16:45	1
Temperature	14.7	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW74-41817

Lab Sample ID: 550-81337-20
Date Collected: 04/18/17 09:18
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	430	D2	200	mg/L			05/06/17 09:17	100
Fluoride	1.8	D1	0.80	mg/L			05/06/17 08:59	2
Sulfate	7700	D2	200	mg/L			05/10/17 23:44	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.6	B7	0.050	mg/L		04/21/17 05:04	04/28/17 00:29	1
Calcium	360		2.0	mg/L		04/21/17 05:04	04/28/17 00:29	1
Sodium	2100		0.50	mg/L		04/21/17 05:04	04/28/17 00:29	1
Potassium	20		0.50	mg/L		04/21/17 05:04	04/28/17 00:29	1
Magnesium	570		2.0	mg/L		04/21/17 05:04	04/28/17 00:29	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	410		6.0	mg/L			04/24/17 15:54	1
Bicarbonate Alkalinity as CaCO3	410		6.0	mg/L			04/24/17 15:54	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 15:54	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/24/17 15:54	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 15:54	1
Total Dissolved Solids	12000	D2	100	mg/L			04/21/17 11:08	1
pH	8.0	H5	1.7	SU			04/26/17 16:45	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW74-41817

Lab Sample ID: 550-81337-20
Date Collected: 04/18/17 09:18
Matrix: Water
Date Received: 04/19/17 14:08

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	15.7	H5	0.1	Degrees C			04/26/17 16:45	1

Client Sample ID: FC-CCR-MW75-41817

Lab Sample ID: 550-81337-21
Date Collected: 04/18/17 10:36
Matrix: Water
Date Received: 04/19/17 14:08

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	280	D2	20	mg/L			05/08/17 20:44	10
Fluoride	ND	D1 D5	2.0	mg/L			05/16/17 00:42	5
Sulfate	4400	D2	400	mg/L			05/16/17 01:01	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	24	B7	0.050	mg/L		04/21/17 05:04	04/28/17 00:35	1
Calcium	410		2.0	mg/L		04/21/17 05:04	04/28/17 00:35	1
Sodium	1200		0.50	mg/L		04/21/17 05:04	04/28/17 00:35	1
Potassium	21		0.50	mg/L		04/21/17 05:04	04/28/17 00:35	1
Magnesium	210		2.0	mg/L		04/21/17 05:04	04/28/17 00:35	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	94		6.0	mg/L			04/24/17 16:01	1
Bicarbonate Alkalinity as CaCO3	94		6.0	mg/L			04/24/17 16:01	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 16:01	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/24/17 16:01	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/24/17 16:01	1
Total Dissolved Solids	6100	D2	100	mg/L			04/21/17 11:08	1
pH	8.3	H5	1.7	SU			04/26/17 16:45	1
Temperature	15.9	H5	0.1	Degrees C			04/26/17 16:45	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-116880/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116880

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			05/08/17 19:12	1
Fluoride	ND		0.40		mg/L			05/08/17 19:12	1

Lab Sample ID: LCS 550-116880/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116880

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.8		mg/L		99	90 - 110
Fluoride	4.00	4.06		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-116880/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116880

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	19.8		mg/L		99	90 - 110	0	20
Fluoride	4.00	4.05		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-81338-A-5 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116880

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	E2 M3	20.0	257	E2 M3	mg/L		23	80 - 120
Fluoride	1.1		4.00	4.56		mg/L		87	80 - 120

Lab Sample ID: 550-81338-A-5 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116880

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	E2 M3	20.0	257	E2 M3	mg/L		20	80 - 120	0	20
Fluoride	1.1		4.00	4.50		mg/L		85	80 - 120	1	20

Lab Sample ID: MB 550-116986/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116986

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			05/05/17 16:43	1
Fluoride	ND		0.40		mg/L			05/05/17 16:43	1

Lab Sample ID: LCS 550-116986/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116986

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.2		mg/L		101	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-116986/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116986

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.14		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-116986/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116986

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.2		mg/L		101	90 - 110	0	20
Fluoride	4.00	4.15		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-81337-5 MS — **Client Sample ID: FC-CCR-MW61-41817**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116986

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	260	E2 M3	20.0	261	E2 M3	mg/L		19	80 - 120
Fluoride	1.1		4.00	4.45		mg/L		83	80 - 120

Lab Sample ID: 550-81337-5 MSD — **Client Sample ID: FC-CCR-MW61-41817**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116986

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	260	E2 M3	20.0	261	E2 M3	mg/L		20	80 - 120	0	20
Fluoride	1.1		4.00	4.42		mg/L		82	80 - 120	1	20

Lab Sample ID: MB 550-117126/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117126

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/10/17 14:28	1
Fluoride	ND		0.40	mg/L			05/10/17 14:28	1
Sulfate	ND		2.0	mg/L			05/10/17 14:28	1

Lab Sample ID: LCS 550-117126/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117126

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.9		mg/L		99	90 - 110
Fluoride	4.00	4.07		mg/L		102	90 - 110
Sulfate	20.0	20.3		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-117126/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117126

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	19.9		mg/L		99	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-117126/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117126

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	4.07		mg/L		102	90 - 110	0	20
Sulfate			20.0	20.3		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-81337-20 MS — **Client Sample ID: FC-CCR-MW74-41817**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117126

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	420	D2	2000	2620	D2	mg/L		110	80 - 120		
Fluoride	ND	D1 D5	400	447	D1	mg/L		110	80 - 120		
Sulfate	7700	D2	2000	9610	D2	mg/L		94	80 - 120		

Lab Sample ID: 550-81337-20 MSD — **Client Sample ID: FC-CCR-MW74-41817**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117126

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	420	D2	2000	2570	D2	mg/L		107	80 - 120	2	20
Fluoride	ND	D1 D5	400	429	D1	mg/L		106	80 - 120	4	20
Sulfate	7700	D2	2000	9570	D2	mg/L		92	80 - 120	0	20

Lab Sample ID: MB 550-117535/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117535

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			05/15/17 18:34	1
Fluoride	ND		0.40		mg/L			05/15/17 18:34	1
Sulfate	ND		2.0		mg/L			05/15/17 18:34	1

Lab Sample ID: LCS 550-117535/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117535

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			20.0	19.9		mg/L		100	90 - 110		
Fluoride			4.00	4.09		mg/L		102	90 - 110		
Sulfate			20.0	20.4		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-117535/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 117535

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	19.9		mg/L		100	90 - 110	0	20
Fluoride			4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate			20.0	20.4		mg/L		102	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-81473-D-2 MS
Matrix: Water
Analysis Batch: 117535

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	51		20.0	71.9		mg/L		104	80 - 120
Fluoride	0.81		4.00	5.39		mg/L		114	80 - 120
Sulfate	330	E2 M3	20.0	330	E2 M3	mg/L		7	80 - 120

Lab Sample ID: 550-81473-D-2 MSD
Matrix: Water
Analysis Batch: 117535

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	51		20.0	71.9		mg/L		104	80 - 120	0	20
Fluoride	0.81		4.00	5.39		mg/L		114	80 - 120	0	20
Sulfate	330	E2 M3	20.0	330	E2 M3	mg/L		7	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-115356/1-A
Matrix: Water
Analysis Batch: 116049

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 115356

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		04/20/17 11:33	04/27/17 21:41	1
Calcium	ND		2.0	mg/L		04/20/17 11:33	04/27/17 21:41	1
Sodium	2.92	B7	0.50	mg/L		04/20/17 11:33	04/27/17 21:41	1
Potassium	ND		0.50	mg/L		04/20/17 11:33	04/27/17 21:41	1
Magnesium	ND		2.0	mg/L		04/20/17 11:33	04/27/17 21:41	1

Lab Sample ID: LCS 550-115356/2-A
Matrix: Water
Analysis Batch: 116049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 115356

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.07		mg/L		107	85 - 115
Calcium	21.0	22.5		mg/L		107	85 - 115
Sodium	20.0	22.4		mg/L		112	85 - 115
Potassium	20.0	21.3		mg/L		107	85 - 115
Magnesium	21.0	22.3		mg/L		106	85 - 115

Lab Sample ID: LCSD 550-115356/3-A
Matrix: Water
Analysis Batch: 116049

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 115356

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.06		mg/L		106	85 - 115	1	20
Calcium	21.0	22.4		mg/L		107	85 - 115	0	20
Sodium	20.0	22.2		mg/L		111	85 - 115	1	20
Potassium	20.0	21.1		mg/L		105	85 - 115	1	20
Magnesium	21.0	22.2		mg/L		106	85 - 115	0	20

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

Lab Sample ID: 550-81329-C-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116049 — **Prep Batch: 115356**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.088		1.00	1.13		mg/L		104	70 - 130
Calcium	52		21.0	73.7		mg/L		104	70 - 130
Sodium	34	B7	20.0	54.6		mg/L		103	70 - 130
Potassium	2.2		20.0	23.6		mg/L		107	70 - 130
Magnesium	9.7		21.0	32.1		mg/L		107	70 - 130

Lab Sample ID: 550-81329-C-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116049 — **Prep Batch: 115356**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.088		1.00	1.10		mg/L		101	70 - 130	3	20
Calcium	52		21.0	72.0		mg/L		95	70 - 130	2	20
Sodium	34	B7	20.0	53.1		mg/L		96	70 - 130	3	20
Potassium	2.2		20.0	22.6		mg/L		102	70 - 130	4	20
Magnesium	9.7		21.0	31.0		mg/L		101	70 - 130	4	20

Lab Sample ID: MB 550-115419/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116054 — **Prep Batch: 115419**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.0700	B1	0.050	mg/L		04/21/17 05:04	04/27/17 23:43	1
Calcium	ND		2.0	mg/L		04/21/17 05:04	04/27/17 23:43	1
Sodium	ND		0.50	mg/L		04/21/17 05:04	04/27/17 23:43	1
Potassium	ND		0.50	mg/L		04/21/17 05:04	04/27/17 23:43	1
Magnesium	ND		2.0	mg/L		04/21/17 05:04	04/27/17 23:43	1

Lab Sample ID: LCS 550-115419/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116054 — **Prep Batch: 115419**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	85 - 115
Calcium	21.0	19.9		mg/L		95	85 - 115
Sodium	20.0	18.5		mg/L		92	85 - 115
Potassium	20.0	19.0		mg/L		95	85 - 115
Magnesium	21.0	19.8		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-115419/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116054 — **Prep Batch: 115419**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.04		mg/L		104	85 - 115	4	20
Calcium	21.0	21.1		mg/L		100	85 - 115	6	20
Sodium	20.0	19.7		mg/L		99	85 - 115	7	20
Potassium	20.0	20.0		mg/L		100	85 - 115	5	20
Magnesium	21.0	21.1		mg/L		100	85 - 115	6	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Lab Sample ID: 550-81335-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116054 — **Prep Batch: 115419**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.45	B1	1.00	1.33		mg/L		88	70 - 130
Calcium	60	M2	21.0	68.5	M2	mg/L		41	70 - 130
Sodium	280	M3	20.0	255	M3	mg/L		-141	70 - 130
Potassium	20		20.0	35.8		mg/L		79	70 - 130
Magnesium	28	M2	21.0	42.2	M2	mg/L		66	70 - 130

Lab Sample ID: 550-81335-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116054 — **Prep Batch: 115419**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.45	B1	1.00	1.33		mg/L		87	70 - 130	0	20
Calcium	60	M2	21.0	68.7	M2	mg/L		42	70 - 130	0	20
Sodium	280	M3	20.0	257	M3	mg/L		-132	70 - 130	1	20
Potassium	20		20.0	36.3		mg/L		82	70 - 130	1	20
Magnesium	28	M2	21.0	42.6	M2	mg/L		68	70 - 130	1	20

Lab Sample ID: MB 550-116185/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116428 — **Prep Batch: 116185**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		05/01/17 07:56	05/02/17 21:53	1

Lab Sample ID: LCS 550-116185/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116428 — **Prep Batch: 116185**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron			1.00	1.01		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-116185/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116428 — **Prep Batch: 116185**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1.00	0.989		mg/L		99	85 - 115	2	20

Lab Sample ID: 550-81785-D-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116428 — **Prep Batch: 116185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.20		1.00	1.22		mg/L		101	70 - 130

Lab Sample ID: 550-81785-D-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116428 — **Prep Batch: 116185**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.20		1.00	1.21		mg/L		100	70 - 130	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-115554/35
Matrix: Water
Analysis Batch: 115554

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:43	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:43	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:43	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 18:43	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 18:43	1

Lab Sample ID: MB 550-115554/7
Matrix: Water
Analysis Batch: 115554

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 15:02	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 15:02	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 15:02	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/20/17 15:02	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/20/17 15:02	1

Lab Sample ID: LCS 550-115554/34
Matrix: Water
Analysis Batch: 115554

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

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

Lab Sample ID: LCS 550-115554/6
Matrix: Water
Analysis Batch: 115554

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	255		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-115554/20
Matrix: Water
Analysis Batch: 115554

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	255		mg/L		102	90 - 110	0	20

Lab Sample ID: LCSD 550-115554/48
Matrix: Water
Analysis Batch: 115554

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	257		mg/L		103	90 - 110	1	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-81298-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115554

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	340			344		mg/L				0	20
Bicarbonate Alkalinity as CaCO3	340			344		mg/L				0	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: 550-81337-7 DU — **Client Sample ID: FC-CCR-MW63-41717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115554

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	500			500		mg/L				0.3	20
Bicarbonate Alkalinity as CaCO3	500			500		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: MB 550-115679/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115679

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			04/24/17 13:08	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/24/17 13:08	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/24/17 13:08	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/24/17 13:08	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/24/17 13:08	1

Lab Sample ID: LCS 550-115679/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115679

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			250	254		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-115679/20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115679

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	256		mg/L		102	90 - 110	1	20

Lab Sample ID: 550-81337-17 DU — **Client Sample ID: FC-CCR-MW71-41717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115679

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	420			422		mg/L				0.7	20
Bicarbonate Alkalinity as CaCO3	420			422		mg/L				0.7	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-81337-17 DU — **Client Sample ID: FC-CCR-MW71-41717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115679

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: MB 550-116176/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116176

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			04/30/17 14:30	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/30/17 14:30	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/30/17 14:30	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/30/17 14:30	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/30/17 14:30	1

Lab Sample ID: LCS 550-116176/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116176

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			250	238		mg/L		95	90 - 110		

Lab Sample ID: LCSD 550-116176/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116176

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	244		mg/L		98	90 - 110	2	20

Lab Sample ID: 550-81337-3 DU — **Client Sample ID: FC-CCR-MW49A-41817**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 116177

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	900			900		mg/L				0	20
Bicarbonate Alkalinity as CaCO3	900			900		mg/L				0	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 550-115357/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115357

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			04/20/17 11:34	1

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

Lab Sample ID: LCS 550-115357/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115357

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	978		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-115357/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115357

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	972		mg/L		97	90 - 110	1	10

Lab Sample ID: 550-81129-A-4 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115357

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	670			664		mg/L				0.9	10

Lab Sample ID: 550-81155-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115357

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2300	D2		2250	D2	mg/L				0.9	10

Lab Sample ID: MB 550-115435/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115435

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			04/21/17 08:55	1

Lab Sample ID: LCS 550-115435/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115435

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	966		mg/L		97	90 - 110		

Lab Sample ID: LCSD 550-115435/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115435

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	962		mg/L		96	90 - 110	0	10

Lab Sample ID: 550-81418-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 115435

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1500			1450		mg/L				1	10

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Lab Sample ID: MB 550-115453/1
Matrix: Water
Analysis Batch: 115453

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			04/21/17 11:08	1

Lab Sample ID: LCS 550-115453/2
Matrix: Water
Analysis Batch: 115453

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	978		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-115453/3
Matrix: Water
Analysis Batch: 115453

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	950		mg/L		95	90 - 110	3	10

Lab Sample ID: 550-81420-A-1 DU
Matrix: Water
Analysis Batch: 115453

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	1300			1310		mg/L				0.6	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-115623/1
Matrix: Water
Analysis Batch: 115623

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		99.6	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-115623/13
Matrix: Water
Analysis Batch: 115623

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: 550-78056-B-1 DU
Matrix: Water
Analysis Batch: 115623

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	6.7	H5		6.8	H5	SU				0.1	5
Temperature	14.4	H5		14.1	H5	Degrees C				2	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-115861/1
Matrix: Water
Analysis Batch: 115861

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 550-115861/13
Matrix: Water
Analysis Batch: 115861

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		100.3	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-115861/25
Matrix: Water
Analysis Batch: 115861

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		100.3	98.5 - 101.5		

Lab Sample ID: 550-81337-2 DU
Matrix: Water
Analysis Batch: 115861

Client Sample ID: FC-CCR-MW8-41817
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0.1	5
Temperature	15.4	H5		14.9	H5	Degrees C				3	

Lab Sample ID: 550-81337-12 DU
Matrix: Water
Analysis Batch: 115861

Client Sample ID: FC-CCR-MW68-41717
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.1	H5		7.1	H5	SU				0.1	5
Temperature	15.0	H5		15.1	H5	Degrees C				0.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

HPLC/IC

Analysis Batch: 116880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-21	FC-CCR-MW75-41817	Total/NA	Water	300.0	
MB 550-116880/2	Method Blank	Total/NA	Water	300.0	
LCS 550-116880/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-116880/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-81338-A-5 MS	Matrix Spike	Total/NA	Water	300.0	
550-81338-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 116986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-1	FC-CCR-MW7-41817	Total/NA	Water	300.0	
550-81337-1	FC-CCR-MW7-41817	Total/NA	Water	300.0	
550-81337-2	FC-CCR-MW8-41817	Total/NA	Water	300.0	
550-81337-3	FC-CCR-MW49A-41817	Total/NA	Water	300.0	
550-81337-4	FC-CCR-MW60-41817	Total/NA	Water	300.0	
550-81337-4	FC-CCR-MW60-41817	Total/NA	Water	300.0	
550-81337-5	FC-CCR-MW61-41817	Total/NA	Water	300.0	
550-81337-5	FC-CCR-MW61-41817	Total/NA	Water	300.0	
550-81337-6	FC-CCR-MW62-41617	Total/NA	Water	300.0	
550-81337-6	FC-CCR-MW62-41617	Total/NA	Water	300.0	
550-81337-7	FC-CCR-MW63-41717	Total/NA	Water	300.0	
550-81337-8	FC-CCR-MW64-41717	Total/NA	Water	300.0	
550-81337-9	FC-CCR-MW65-41617	Total/NA	Water	300.0	
550-81337-10	FC-CCR-MW66-41617	Total/NA	Water	300.0	
550-81337-10	FC-CCR-MW66-41617	Total/NA	Water	300.0	
550-81337-11	FC-CCR-MW67-41717	Total/NA	Water	300.0	
550-81337-11	FC-CCR-MW67-41717	Total/NA	Water	300.0	
550-81337-12	FC-CCR-MW68-41717	Total/NA	Water	300.0	
550-81337-12	FC-CCR-MW68-41717	Total/NA	Water	300.0	
550-81337-13	FC-CCR-MW69-41717	Total/NA	Water	300.0	
550-81337-13	FC-CCR-MW69-41717	Total/NA	Water	300.0	
550-81337-14	FC-CCR-FD02-41717	Total/NA	Water	300.0	
550-81337-14	FC-CCR-FD02-41717	Total/NA	Water	300.0	
550-81337-15	FC-CCR-MW70-41617	Total/NA	Water	300.0	
550-81337-15	FC-CCR-MW70-41617	Total/NA	Water	300.0	
550-81337-16	FC-CCR-FD01-41617	Total/NA	Water	300.0	
550-81337-16	FC-CCR-FD01-41617	Total/NA	Water	300.0	
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	300.0	
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	300.0	
550-81337-19	FC-CCR-MW73-41817	Total/NA	Water	300.0	
550-81337-19	FC-CCR-MW73-41817	Total/NA	Water	300.0	
550-81337-20	FC-CCR-MW74-41817	Total/NA	Water	300.0	
550-81337-20	FC-CCR-MW74-41817	Total/NA	Water	300.0	
MB 550-116986/2	Method Blank	Total/NA	Water	300.0	
LCS 550-116986/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-116986/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-81337-5 MS	FC-CCR-MW61-41817	Total/NA	Water	300.0	
550-81337-5 MSD	FC-CCR-MW61-41817	Total/NA	Water	300.0	

Analysis Batch: 117126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-1	FC-CCR-MW7-41817	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 117126 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-2	FC-CCR-MW8-41817	Total/NA	Water	300.0	
550-81337-2	FC-CCR-MW8-41817	Total/NA	Water	300.0	
550-81337-3	FC-CCR-MW49A-41817	Total/NA	Water	300.0	
550-81337-3	FC-CCR-MW49A-41817	Total/NA	Water	300.0	
550-81337-4	FC-CCR-MW60-41817	Total/NA	Water	300.0	
550-81337-5	FC-CCR-MW61-41817	Total/NA	Water	300.0	
550-81337-6	FC-CCR-MW62-41617	Total/NA	Water	300.0	
550-81337-7	FC-CCR-MW63-41717	Total/NA	Water	300.0	
550-81337-8	FC-CCR-MW64-41717	Total/NA	Water	300.0	
550-81337-9	FC-CCR-MW65-41617	Total/NA	Water	300.0	
550-81337-10	FC-CCR-MW66-41617	Total/NA	Water	300.0	
550-81337-11	FC-CCR-MW67-41717	Total/NA	Water	300.0	
550-81337-12	FC-CCR-MW68-41717	Total/NA	Water	300.0	
550-81337-13	FC-CCR-MW69-41717	Total/NA	Water	300.0	
550-81337-14	FC-CCR-FD02-41717	Total/NA	Water	300.0	
550-81337-15	FC-CCR-MW70-41617	Total/NA	Water	300.0	
550-81337-16	FC-CCR-FD01-41617	Total/NA	Water	300.0	
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	300.0	
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	300.0	
550-81337-19	FC-CCR-MW73-41817	Total/NA	Water	300.0	
550-81337-20	FC-CCR-MW74-41817	Total/NA	Water	300.0	
MB 550-117126/2	Method Blank	Total/NA	Water	300.0	
LCS 550-117126/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-117126/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-81337-20 MS	FC-CCR-MW74-41817	Total/NA	Water	300.0	
550-81337-20 MSD	FC-CCR-MW74-41817	Total/NA	Water	300.0	

Analysis Batch: 117535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-21	FC-CCR-MW75-41817	Total/NA	Water	300.0	
550-81337-21	FC-CCR-MW75-41817	Total/NA	Water	300.0	
MB 550-117535/2	Method Blank	Total/NA	Water	300.0	
LCS 550-117535/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-117535/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-81473-D-2 MS	Matrix Spike	Dissolved	Water	300.0	
550-81473-D-2 MSD	Matrix Spike Duplicate	Dissolved	Water	300.0	

Metals

Prep Batch: 115356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-1	FC-CCR-MW7-41817	Total/NA	Water	200.7	
550-81337-2	FC-CCR-MW8-41817	Total/NA	Water	200.7	
550-81337-3	FC-CCR-MW49A-41817	Total/NA	Water	200.7	
550-81337-4	FC-CCR-MW60-41817	Total/NA	Water	200.7	
550-81337-5	FC-CCR-MW61-41817	Total/NA	Water	200.7	
550-81337-6	FC-CCR-MW62-41617	Total/NA	Water	200.7	
550-81337-7	FC-CCR-MW63-41717	Total/NA	Water	200.7	
550-81337-8	FC-CCR-MW64-41717	Total/NA	Water	200.7	
550-81337-9	FC-CCR-MW65-41617	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 115356 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-10	FC-CCR-MW66-41617	Total/NA	Water	200.7	
550-81337-11	FC-CCR-MW67-41717	Total/NA	Water	200.7	
550-81337-12	FC-CCR-MW68-41717	Total/NA	Water	200.7	
550-81337-13	FC-CCR-MW69-41717	Total/NA	Water	200.7	
550-81337-14	FC-CCR-FD02-41717	Total/NA	Water	200.7	
550-81337-15	FC-CCR-MW70-41617	Total/NA	Water	200.7	
MB 550-115356/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-115356/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-115356/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-81329-C-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-81329-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 115419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-16	FC-CCR-FD01-41617	Total/NA	Water	200.7	
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	200.7	
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	200.7	
550-81337-19	FC-CCR-MW73-41817	Total/NA	Water	200.7	
550-81337-20	FC-CCR-MW74-41817	Total/NA	Water	200.7	
550-81337-21	FC-CCR-MW75-41817	Total/NA	Water	200.7	
MB 550-115419/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-115419/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-115419/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-81335-A-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-81335-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 116049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-1	FC-CCR-MW7-41817	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-2	FC-CCR-MW8-41817	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-3	FC-CCR-MW49A-41817	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-4	FC-CCR-MW60-41817	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-5	FC-CCR-MW61-41817	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-6	FC-CCR-MW62-41617	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-7	FC-CCR-MW63-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-8	FC-CCR-MW64-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-9	FC-CCR-MW65-41617	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-10	FC-CCR-MW66-41617	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-11	FC-CCR-MW67-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-12	FC-CCR-MW68-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-13	FC-CCR-MW69-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-14	FC-CCR-FD02-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-15	FC-CCR-MW70-41617	Total/NA	Water	200.7 Rev 4.4	115356
MB 550-115356/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	115356
LCS 550-115356/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	115356
LCSD 550-115356/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	115356
550-81329-C-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	115356
550-81329-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	115356

Metals (Continued)

Analysis Batch: 116054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-16	FC-CCR-FD01-41617	Total/NA	Water	200.7 Rev 4.4	115419
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	200.7 Rev 4.4	115419
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	200.7 Rev 4.4	115419
550-81337-19	FC-CCR-MW73-41817	Total/NA	Water	200.7 Rev 4.4	115419
550-81337-20	FC-CCR-MW74-41817	Total/NA	Water	200.7 Rev 4.4	115419
550-81337-21	FC-CCR-MW75-41817	Total/NA	Water	200.7 Rev 4.4	115419
MB 550-115419/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	115419
LCS 550-115419/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	115419
LCSD 550-115419/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	115419
550-81335-A-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	115419
550-81335-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	115419

Analysis Batch: 116134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-2	FC-CCR-MW8-41817	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-10	FC-CCR-MW66-41617	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-11	FC-CCR-MW67-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-12	FC-CCR-MW68-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-13	FC-CCR-MW69-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-14	FC-CCR-FD02-41717	Total/NA	Water	200.7 Rev 4.4	115356
550-81337-15	FC-CCR-MW70-41617	Total/NA	Water	200.7 Rev 4.4	115356

Analysis Batch: 116135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-16	FC-CCR-FD01-41617	Total/NA	Water	200.7 Rev 4.4	115419
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	200.7 Rev 4.4	115419
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	200.7 Rev 4.4	115419

Prep Batch: 116185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	200.7	
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	200.7	
MB 550-116185/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-116185/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-116185/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-81785-D-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-81785-D-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 116428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	200.7 Rev 4.4	116185
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	200.7 Rev 4.4	116185
MB 550-116185/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	116185
LCS 550-116185/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	116185
LCSD 550-116185/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	116185
550-81785-D-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	116185
550-81785-D-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	116185

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

General Chemistry

Analysis Batch: 115357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-6	FC-CCR-MW62-41617	Total/NA	Water	SM 2540C	
550-81337-7	FC-CCR-MW63-41717	Total/NA	Water	SM 2540C	
550-81337-8	FC-CCR-MW64-41717	Total/NA	Water	SM 2540C	
550-81337-9	FC-CCR-MW65-41617	Total/NA	Water	SM 2540C	
550-81337-10	FC-CCR-MW66-41617	Total/NA	Water	SM 2540C	
550-81337-11	FC-CCR-MW67-41717	Total/NA	Water	SM 2540C	
550-81337-12	FC-CCR-MW68-41717	Total/NA	Water	SM 2540C	
550-81337-13	FC-CCR-MW69-41717	Total/NA	Water	SM 2540C	
550-81337-14	FC-CCR-FD02-41717	Total/NA	Water	SM 2540C	
550-81337-15	FC-CCR-MW70-41617	Total/NA	Water	SM 2540C	
550-81337-16	FC-CCR-FD01-41617	Total/NA	Water	SM 2540C	
MB 550-115357/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-115357/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-115357/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-81129-A-4 DU	Duplicate	Total/NA	Water	SM 2540C	
550-81155-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 115435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	SM 2540C	
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	SM 2540C	
MB 550-115435/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-115435/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-115435/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-81418-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 115453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-1	FC-CCR-MW7-41817	Total/NA	Water	SM 2540C	
550-81337-2	FC-CCR-MW8-41817	Total/NA	Water	SM 2540C	
550-81337-3	FC-CCR-MW49A-41817	Total/NA	Water	SM 2540C	
550-81337-4	FC-CCR-MW60-41817	Total/NA	Water	SM 2540C	
550-81337-5	FC-CCR-MW61-41817	Total/NA	Water	SM 2540C	
550-81337-19	FC-CCR-MW73-41817	Total/NA	Water	SM 2540C	
550-81337-20	FC-CCR-MW74-41817	Total/NA	Water	SM 2540C	
550-81337-21	FC-CCR-MW75-41817	Total/NA	Water	SM 2540C	
MB 550-115453/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-115453/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-115453/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-81420-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 115554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-1	FC-CCR-MW7-41817	Total/NA	Water	SM 2320B	
550-81337-2	FC-CCR-MW8-41817	Total/NA	Water	SM 2320B	
550-81337-4	FC-CCR-MW60-41817	Total/NA	Water	SM 2320B	
550-81337-5	FC-CCR-MW61-41817	Total/NA	Water	SM 2320B	
550-81337-6	FC-CCR-MW62-41617	Total/NA	Water	SM 2320B	
550-81337-7	FC-CCR-MW63-41717	Total/NA	Water	SM 2320B	
550-81337-8	FC-CCR-MW64-41717	Total/NA	Water	SM 2320B	
550-81337-9	FC-CCR-MW65-41617	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 115554 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-10	FC-CCR-MW66-41617	Total/NA	Water	SM 2320B	
550-81337-11	FC-CCR-MW67-41717	Total/NA	Water	SM 2320B	
550-81337-12	FC-CCR-MW68-41717	Total/NA	Water	SM 2320B	
550-81337-13	FC-CCR-MW69-41717	Total/NA	Water	SM 2320B	
550-81337-14	FC-CCR-FD02-41717	Total/NA	Water	SM 2320B	
550-81337-15	FC-CCR-MW70-41617	Total/NA	Water	SM 2320B	
550-81337-16	FC-CCR-FD01-41617	Total/NA	Water	SM 2320B	
MB 550-115554/35	Method Blank	Total/NA	Water	SM 2320B	
MB 550-115554/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-115554/34	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-115554/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-115554/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-115554/48	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-81298-A-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-81337-7 DU	FC-CCR-MW63-41717	Total/NA	Water	SM 2320B	

Analysis Batch: 115623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-1	FC-CCR-MW7-41817	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-115623/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-115623/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-78056-B-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 115679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	SM 2320B	
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	SM 2320B	
550-81337-19	FC-CCR-MW73-41817	Total/NA	Water	SM 2320B	
550-81337-20	FC-CCR-MW74-41817	Total/NA	Water	SM 2320B	
550-81337-21	FC-CCR-MW75-41817	Total/NA	Water	SM 2320B	
MB 550-115679/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-115679/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-115679/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-81337-17 DU	FC-CCR-MW71-41717	Total/NA	Water	SM 2320B	

Analysis Batch: 115861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-2	FC-CCR-MW8-41817	Total/NA	Water	SM 4500 H+ B	
550-81337-3	FC-CCR-MW49A-41817	Total/NA	Water	SM 4500 H+ B	
550-81337-4	FC-CCR-MW60-41817	Total/NA	Water	SM 4500 H+ B	
550-81337-5	FC-CCR-MW61-41817	Total/NA	Water	SM 4500 H+ B	
550-81337-6	FC-CCR-MW62-41617	Total/NA	Water	SM 4500 H+ B	
550-81337-7	FC-CCR-MW63-41717	Total/NA	Water	SM 4500 H+ B	
550-81337-8	FC-CCR-MW64-41717	Total/NA	Water	SM 4500 H+ B	
550-81337-9	FC-CCR-MW65-41617	Total/NA	Water	SM 4500 H+ B	
550-81337-10	FC-CCR-MW66-41617	Total/NA	Water	SM 4500 H+ B	
550-81337-11	FC-CCR-MW67-41717	Total/NA	Water	SM 4500 H+ B	
550-81337-12	FC-CCR-MW68-41717	Total/NA	Water	SM 4500 H+ B	
550-81337-13	FC-CCR-MW69-41717	Total/NA	Water	SM 4500 H+ B	
550-81337-14	FC-CCR-FD02-41717	Total/NA	Water	SM 4500 H+ B	
550-81337-15	FC-CCR-MW70-41617	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 115861 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-16	FC-CCR-FD01-41617	Total/NA	Water	SM 4500 H+ B	
550-81337-17	FC-CCR-MW71-41717	Total/NA	Water	SM 4500 H+ B	
550-81337-18	FC-CCR-MW72-41717	Total/NA	Water	SM 4500 H+ B	
550-81337-19	FC-CCR-MW73-41817	Total/NA	Water	SM 4500 H+ B	
550-81337-20	FC-CCR-MW74-41817	Total/NA	Water	SM 4500 H+ B	
550-81337-21	FC-CCR-MW75-41817	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-115861/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-115861/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-115861/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-81337-2 DU	FC-CCR-MW8-41817	Total/NA	Water	SM 4500 H+ B	
550-81337-12 DU	FC-CCR-MW68-41717	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 116176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-116176/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-116176/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-116176/3	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

Analysis Batch: 116177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-81337-3	FC-CCR-MW49A-41817	Total/NA	Water	SM 2320B	
550-81337-3 DU	FC-CCR-MW49A-41817	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW7-41817 — Lab Sample ID: 550-81337-1

Date Collected: 04/18/17 12:27 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	116986	05/05/17 18:15	JAE	TAL PHX
Total/NA	Analysis	300.0		100	116986	05/05/17 18:34	JAE	TAL PHX
Total/NA	Analysis	300.0		100	117126	05/10/17 16:04	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 22:14	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 17:36	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115453		YET	TAL PHX
					(Start)	04/21/17 11:08		
					(End)	04/24/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	115623	04/24/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW8-41817 — Lab Sample ID: 550-81337-2

Date Collected: 04/18/17 11:45 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	116986	05/05/17 19:10	JAE	TAL PHX
Total/NA	Analysis	300.0		5	117126	05/10/17 16:22	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 16:40	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 22:20	CJM	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116134	04/28/17 21:27	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 17:46	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115453		YET	TAL PHX
					(Start)	04/21/17 11:08		
					(End)	04/24/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW49A-41817 — Lab Sample ID: 550-81337-3

Date Collected: 04/18/17 13:17 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	116986	05/05/17 19:29	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 16:59	JAE	TAL PHX
Total/NA	Analysis	300.0		500	117126	05/10/17 17:17	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116049	04/27/17 22:50	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	116177	04/30/17 14:30	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW49A-41817 — Lab Sample ID: 550-81337-3

Date Collected: 04/18/17 13:17 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	115453		YET	TAL PHX
					(Start)	04/21/17 11:08		
					(End)	04/24/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW60-41817 — Lab Sample ID: 550-81337-4

Date Collected: 04/18/17 11:10 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	116986	05/05/17 20:06	JAE	TAL PHX
Total/NA	Analysis	300.0		100	116986	05/05/17 20:24	JAE	TAL PHX
Total/NA	Analysis	300.0		100	117126	05/10/17 17:36	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 22:56	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 18:05	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115453		YET	TAL PHX
					(Start)	04/21/17 11:08		
					(End)	04/24/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW61-41817 — Lab Sample ID: 550-81337-5

Date Collected: 04/18/17 10:06 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	116986	05/05/17 20:42	JAE	TAL PHX
Total/NA	Analysis	300.0		50	116986	05/05/17 22:14	JAE	TAL PHX
Total/NA	Analysis	300.0		50	117126	05/10/17 17:54	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 23:02	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 18:13	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115453		YET	TAL PHX
					(Start)	04/21/17 11:08		
					(End)	04/24/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW62-41617 — Lab Sample ID: 550-81337-6

Date Collected: 04/16/17 15:41 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	116986	05/05/17 22:33	JAE	TAL PHX
Total/NA	Analysis	300.0		50	116986	05/05/17 22:51	JAE	TAL PHX
Total/NA	Analysis	300.0		50	117126	05/10/17 18:13	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 22:26	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 18:25	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW63-41717 — Lab Sample ID: 550-81337-7

Date Collected: 04/17/17 12:18 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	116986	05/05/17 23:10	JAE	TAL PHX
Total/NA	Analysis	300.0		50	117126	05/10/17 18:31	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 22:32	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 18:52	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW64-41717 — Lab Sample ID: 550-81337-8

Date Collected: 04/17/17 11:22 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	116986	05/05/17 23:46	JAE	TAL PHX
Total/NA	Analysis	300.0		50	117126	05/10/17 18:49	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 22:38	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 19:12	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW65-41617 — Lab Sample ID: 550-81337-9

Date Collected: 04/16/17 15:04 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	116986	05/06/17 00:23	JAE	TAL PHX
Total/NA	Analysis	300.0		20	117126	05/10/17 19:45	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 22:41	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 19:21	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW66-41617 — Lab Sample ID: 550-81337-10

Date Collected: 04/16/17 16:21 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	116986	05/06/17 01:37	JAE	TAL PHX
Total/NA	Analysis	300.0		200	116986	05/06/17 01:55	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 20:03	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 22:44	CJM	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116134	04/28/17 21:30	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 19:29	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW67-41717 — Lab Sample ID: 550-81337-11

Date Collected: 04/17/17 10:35 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	116986	05/06/17 02:14	JAE	TAL PHX
Total/NA	Analysis	300.0		200	116986	05/06/17 02:32	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 20:21	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 23:13	CJM	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116134	04/28/17 21:41	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 19:39	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW67-41717 — Lab Sample ID: 550-81337-11

Date Collected: 04/17/17 10:35 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW68-41717 — Lab Sample ID: 550-81337-12

Date Collected: 04/17/17 09:58 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	116986	05/06/17 02:50	JAE	TAL PHX
Total/NA	Analysis	300.0		200	116986	05/06/17 03:09	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 20:40	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 23:19	CJM	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116134	04/28/17 21:47	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 19:49	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW69-41717 — Lab Sample ID: 550-81337-13

Date Collected: 04/17/17 09:01 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	116986	05/06/17 03:27	JAE	TAL PHX
Total/NA	Analysis	300.0		200	116986	05/06/17 03:46	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 20:58	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 23:25	CJM	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116134	04/28/17 21:53	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 19:59	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-FD02-41717 — Lab Sample ID: 550-81337-14

Date Collected: 04/17/17 09:01
Date Received: 04/19/17 14:08
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	116986	05/06/17 04:04	JAE	TAL PHX
Total/NA	Analysis	300.0		200	116986	05/06/17 04:22	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 21:17	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 23:31	CJM	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116134	04/28/17 21:58	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 20:07	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW70-41617 — Lab Sample ID: 550-81337-15

Date Collected: 04/16/17 17:08
Date Received: 04/19/17 14:08
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	116986	05/06/17 05:18	JAE	TAL PHX
Total/NA	Analysis	300.0		200	116986	05/06/17 05:36	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 21:35	JAE	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116049	04/27/17 23:37	CJM	TAL PHX
Total/NA	Prep	200.7			115356	04/20/17 11:33	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116134	04/28/17 22:04	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 20:18	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-FD01-41617 — Lab Sample ID: 550-81337-16

Date Collected: 04/16/17 17:08
Date Received: 04/19/17 14:08
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	116986	05/06/17 05:54	JAE	TAL PHX
Total/NA	Analysis	300.0		200	116986	05/06/17 06:13	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 21:53	JAE	TAL PHX
Total/NA	Prep	200.7			115419	04/21/17 05:04	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116054	04/27/17 23:59	CJM	TAL PHX
Total/NA	Prep	200.7			115419	04/21/17 05:04	SGO	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-FD01-41617 — Lab Sample ID: 550-81337-16

Date Collected: 04/16/17 17:08
Date Received: 04/19/17 14:08
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	200.7 Rev 4.4		10	116135	04/28/17 22:10	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115554	04/20/17 20:28	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	115357		YET	TAL PHX
					(Start)	04/20/17 11:34		
					(End)	04/21/17 11:35		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW71-41717 — Lab Sample ID: 550-81337-17

Date Collected: 04/17/17 13:16
Date Received: 04/19/17 14:08
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	116986	05/06/17 06:31	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 22:12	JAE	TAL PHX
Total/NA	Prep	200.7			115419	04/21/17 05:04	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116054	04/28/17 00:05	CJM	TAL PHX
Total/NA	Prep	200.7			115419	04/21/17 05:04	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116135	04/28/17 22:13	CJM	TAL PHX
Total/NA	Prep	200.7			116185	05/01/17 07:56	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116428	05/02/17 23:05	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115679	04/24/17 14:54	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	115435		YET	TAL PHX
					(Start)	04/21/17 08:55		
					(End)	04/24/17 11:55		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW72-41717 — Lab Sample ID: 550-81337-18

Date Collected: 04/17/17 13:52
Date Received: 04/19/17 14:08
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	116986	05/06/17 07:08	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117126	05/10/17 22:30	JAE	TAL PHX
Total/NA	Prep	200.7			115419	04/21/17 05:04	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116054	04/28/17 00:11	CJM	TAL PHX
Total/NA	Prep	200.7			115419	04/21/17 05:04	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	116135	04/28/17 22:15	CJM	TAL PHX
Total/NA	Prep	200.7			116185	05/01/17 07:56	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116428	05/02/17 23:11	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115679	04/24/17 15:33	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	115435		YET	TAL PHX
					(Start)	04/21/17 08:55		
					(End)	04/24/17 11:55		

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW73-41817 — Lab Sample ID: 550-81337-19

Date Collected: 04/18/17 08:32 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	116986	05/06/17 07:45	JAE	TAL PHX
Total/NA	Analysis	300.0		100	116986	05/06/17 08:03	JAE	TAL PHX
Total/NA	Analysis	300.0		100	117126	05/10/17 23:25	JAE	TAL PHX
Total/NA	Prep	200.7			115419	04/21/17 05:04	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116054	04/28/17 00:17	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115679	04/24/17 15:44	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	115453		YET	TAL PHX
					(Start)	04/21/17 11:08		
					(End)	04/24/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW74-41817 — Lab Sample ID: 550-81337-20

Date Collected: 04/18/17 09:18 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	116986	05/06/17 08:59	JAE	TAL PHX
Total/NA	Analysis	300.0		100	116986	05/06/17 09:17	JAE	TAL PHX
Total/NA	Analysis	300.0		100	117126	05/10/17 23:44	JAE	TAL PHX
Total/NA	Prep	200.7			115419	04/21/17 05:04	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116054	04/28/17 00:29	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115679	04/24/17 15:54	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	115453		YET	TAL PHX
					(Start)	04/21/17 11:08		
					(End)	04/24/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Client Sample ID: FC-CCR-MW75-41817 — Lab Sample ID: 550-81337-21

Date Collected: 04/18/17 10:36 — **Matrix: Water**
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	116880	05/08/17 20:44	JAE	TAL PHX
Total/NA	Analysis	300.0		5	117535	05/16/17 00:42	JAE	TAL PHX
Total/NA	Analysis	300.0		200	117535	05/16/17 01:01	JAE	TAL PHX
Total/NA	Prep	200.7			115419	04/21/17 05:04	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	116054	04/28/17 00:35	CJM	TAL PHX
Total/NA	Analysis	SM 2320B		1	115679	04/24/17 16:01	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW75-41817

Lab Sample ID: 550-81337-21

Date Collected: 04/18/17 10:36
Matrix: Water
Date Received: 04/19/17 14:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	115453		YET	TAL PHX
					(Start)	04/21/17 11:08		
					(End)	04/24/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	115861	04/26/17 16:45	JCB	TAL PHX

Laboratory References:

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: 550-81337-1
SDG: Four Corners

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	06-09-17 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-81337-1
SDG: Four Corners

Method	Method Description	Protocol	Laboratory
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 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

Chain of Custody Record

Regulatory Program: 81337 CCR

TestAmerica Laboratories, Inc.

5/17/2017

Client Contact	Doug Lavarnway	Doug Lavarnway	COC No:
APS Four Corners	928-587-0319	Lab Contact:	Carrier: 1 of 2 COCs
End of County Road 6675	**Analysis Turnaround Time**		Sampler:
Fruitland, New Mexico 87416			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below _____		Walk-in Client:
(xxx) xxx-xxxx FAX			Lab Sampling:
Project Name: CCR			
Site: Four Corners			Job / SDG No.:
P O #			

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 (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-MW7-41817 -01	4/18/2017	1227	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW8-41817 -02	4/18/2017	1145	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW49A-41817 -03	4/18/2017	1317	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW60-41817 -04	4/18/2017	1110	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW61-41817 -05	4/18/2017	1006	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW62-41617 -06	4/16/2017	1541	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW63-41717 -07	4/17/2017	1218	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW64-41717 -08	4/17/2017	1122	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW65-41617 -09	4/16/2017	1504	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW66-41617 -10	4/16/2017	1621	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW67-41717 -11	4/17/2017	1035	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW68-41717 -12	4/17/2017	958	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:

2.9 | 2.3 | 2.6 | 4.2 | 0.8

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	4/19/17 2:08			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 4/19/17 14:08

550-81337 Chain of Custody

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

Chain of Custody Record

Regulatory Program: 81337 CCR

TestAmerica Laboratories, Inc.

5/17/2017

Client Contact	**Doug Lavarnway**	**Doug Lavarnway**	COC No:
APS Four Corners	**928-587-0319**	**Lab Contact:**	**Carrier:** 2 of 10 COCs
End of County Road 6675	**Analysis Turnaround Time**		Sampler:
Fruitland, New Mexico 87416			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below _____		Walk-in Client:
(xxx) xxx-xxxx FAX			Lab Sampling:
Project Name: CCR			
Site: Four Corners			Job / SDG No.:
P O #			

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 (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-MW69-41717 -13	4/17/2017	901	G	W	2	N	x	x	x	x	x	x	
FC-CCR-FD02-41717 -14	4/17/2017	901	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW70-41617 -15	4/16/2017	1708	G	W	2	N	x	x	x	x	x	x	
FC-CCR-FD01-41617 -16	4/16/2017	1708	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW71-41717 -17	4/17/2017	1316	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW72-41717 -18	4/17/2017	1352	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW73-41817 -19	4/18/2017	832	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW74-41817 -20	4/18/2017	918	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW75-41817 -21	4/18/2017	1036	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:

2.9/2.3/2.6/4.2/0.8

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	4/19/17 1408			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 4/19/17 14:08

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

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-81337-1
SDG Number: Four Corners

Login Number: 81337
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.