TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 550-68449-1
Client Project/Site: CCR

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

Attn: Doug Lavarnway

Authorized for release by:
9/6/2016 1:14:44 PM

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

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
D1	Sample required dilution due to matrix.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
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
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.
D2	Sample required dilution due to high concentration of analyte.

General Chemistry

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

Glossary

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

Job ID: 550-68449-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-68449-1

Comments
No additional comments.

Receipt
The samples were received on 8/23/2016 9:56 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.1º C, 0.4º C, 0.7º C, 1.6º C and 3.1º C.

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

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

General Chemistry
Method(s) SM 2540C:

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: 550-68449-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-68449-1	FC-CCR-MW7-816	Water	08/21/16 13:36	08/23/16 09:56
550-68449-2	FC-CCR-MW8-816	Water	08/21/16 12:42	08/23/16 09:56
550-68449-3	FC-CCR-MW49A-816	Water	08/21/16 14:38	08/23/16 09:56
550-68449-4	FC-CCR-MW60-816	Water	08/21/16 10:47	08/23/16 09:56
550-68449-5	FC-CCR-MW61-816	Water	08/21/16 11:45	08/23/16 09:56
550-68449-6	FC-CCR-MW62-816	Water	08/20/16 16:36	08/23/16 09:56
550-68449-7	FC-CCR-MW63-816	Water	08/20/16 10:58	08/23/16 09:56
550-68449-8	FC-CCR-MW64-816	Water	08/20/16 12:45	08/23/16 09:56
550-68449-9	FC-CCR-MW65-816	Water	08/20/16 15:50	08/23/16 09:56
550-68449-10	FC-CCR-MW66-816	Water	08/20/16 13:53	08/23/16 09:56
550-68449-11	FC-CCR-MW67-816	Water	08/20/16 19:27	08/23/16 09:56
550-68449-12	FC-CCR-MW68-816	Water	08/20/16 17:20	08/23/16 09:56
550-68449-13	FC-CCR-MW69-816	Water	08/21/16 15:41	08/23/16 09:56
550-68449-14	FC-CCR-MW70-816	Water	08/20/16 14:55	08/23/16 09:56
550-68449-15	FC-CCR-MW71-816	Water	08/21/16 09:37	08/23/16 09:56
550-68449-16	FC-CCR-MW72-816	Water	08/21/16 08:49	08/23/16 09:56
550-68449-17	FC-CCR-MW100-816	Water	08/20/16 19:27	08/23/16 09:56
550-68449-18	FC-CCR-MW101-816	Water	08/21/16 09:37	08/23/16 09:56

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW7-816 — Lab Sample ID: 550-68449-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450	D2	200	mg/L	100		300.0	Total/NA
Sulfate	5900	D2	200	mg/L	100		300.0	Total/NA
Boron	11		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
Total Dissolved Solids	10000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW8-816 — Lab Sample ID: 550-68449-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	980	D2	200	mg/L	100		300.0	Total/NA
Fluoride	0.61		0.40	mg/L	1		300.0	Total/NA
Sulfate	8600	D2	200	mg/L	100		300.0	Total/NA
Boron	19		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	6.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-816 — Lab Sample ID: 550-68449-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	560	D2	40	mg/L	20		300.0	Total/NA
Sulfate	20000	D2	1000	mg/L	500		300.0	Total/NA
Boron	2.3		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	390		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	29000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-816 — Lab Sample ID: 550-68449-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	430	D2	200	mg/L	100		300.0	Total/NA
Fluoride	6.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	4900	D2	200	mg/L	100		300.0	Total/NA
Boron	64		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
Total Dissolved Solids	8500	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW61-816 — Lab Sample ID: 550-68449-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300	D2	200	mg/L	100		300.0	Total/NA
Fluoride	1.2		0.40	mg/L	1		300.0	Total/NA
Sulfate	3400	D2	200	mg/L	100		300.0	Total/NA
Boron	38		0.050	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW61-816 (Continued) — Lab Sample ID: 550-68449-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	5700	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW62-816 — Lab Sample ID: 550-68449-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	120	D1	20	mg/L	10		300.0	Total/NA
Fluoride	1.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	3300	D2	200	mg/L	100		300.0	Total/NA
Boron	2.3		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	530		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	5800	D2	100	mg/L	1		SM 2540C	Total/NA
pH	6.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-816 — Lab Sample ID: 550-68449-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	98	D1	20	mg/L	10		300.0	Total/NA
Fluoride	1.9		0.40	mg/L	1		300.0	Total/NA
Sulfate	2800	D2	200	mg/L	100		300.0	Total/NA
Boron	1.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	530		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	4700	D2	40	mg/L	1		SM 2540C	Total/NA
pH	6.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-816 — Lab Sample ID: 550-68449-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	46	D1	20	mg/L	10		300.0	Total/NA
Fluoride	1.3		0.40	mg/L	1		300.0	Total/NA
Sulfate	330	D2	20	mg/L	10		300.0	Total/NA
Boron	0.65		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	89		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	790		20	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-816 — Lab Sample ID: 550-68449-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	52		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.7		0.40	mg/L	1		300.0	Total/NA
Sulfate	450	D2	20	mg/L	10		300.0	Total/NA
Boron	0.79		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	100		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	1000		20	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW65-816 (Continued) — Lab Sample ID: 550-68449-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW66-816 — Lab Sample ID: 550-68449-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	mg/L	200		300.0	Total/NA
Fluoride	20	D2	8.0	mg/L	20		300.0	Total/NA
Sulfate	7600	D2	400	mg/L	200		300.0	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron - DL	100	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.5	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-816 — Lab Sample ID: 550-68449-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	mg/L	200		300.0	Total/NA
Fluoride	23	D2	8.0	mg/L	20		300.0	Total/NA
Sulfate	7500	D2	400	mg/L	200		300.0	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron - DL	100	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-816 — Lab Sample ID: 550-68449-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400	mg/L	200		300.0	Total/NA
Fluoride	8.6	D2	8.0	mg/L	20		300.0	Total/NA
Sulfate	8100	D2	400	mg/L	200		300.0	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron - DL	120	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-816 — Lab Sample ID: 550-68449-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400	mg/L	200		300.0	Total/NA
Fluoride	16	D2	8.0	mg/L	20		300.0	Total/NA
Sulfate	8500	D2	400	mg/L	200		300.0	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron - DL	110	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW70-816 — Lab Sample ID: 550-68449-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.66		0.40	mg/L	1		300.0	Total/NA
Sulfate	5800	D2	100	mg/L	50		300.0	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron - DL	91	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	12000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	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-MW71-816 — Lab Sample ID: 550-68449-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	590	D2	40	mg/L	20		300.0	Total/NA
Sulfate	8400	D2	1000	mg/L	500		300.0	Total/NA
Boron	0.56		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
Total Dissolved Solids	14000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-816 — Lab Sample ID: 550-68449-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	440	D2	400	mg/L	200		300.0	Total/NA
Sulfate	10000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.23		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
Total Dissolved Solids	17000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	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-MW100-816 — Lab Sample ID: 550-68449-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400	mg/L	200		300.0	Total/NA
Fluoride	24	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	7900	D2	400	mg/L	200		300.0	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron - DL	110	D2	0.50	mg/L	10		200.7 Rev 4.4	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	14.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW101-816 — Lab Sample ID: 550-68449-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	580	D2	400	mg/L	200		300.0	Total/NA
Sulfate	8600	D2	400	mg/L	200		300.0	Total/NA
Boron	0.55		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

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW101-816 (Continued) — Lab Sample ID: 550-68449-18

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	14000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	15.2	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: 550-68449-1

Client Sample ID: FC-CCR-MW7-816

Lab Sample ID: 550-68449-1
Date Collected: 08/21/16 13:36
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450	D2	200	mg/L			08/26/16 19:14	100
Fluoride	ND		0.40	mg/L			08/26/16 18:46	1
Sulfate	5900	D2	200	mg/L			08/31/16 20:10	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	11		0.050	mg/L		08/23/16 16:58	08/25/16 00:37	1
Calcium	430		2.0	mg/L		08/23/16 16:58	08/25/16 00:37	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10000	D2	100	mg/L			08/25/16 15:07	1
pH	7.1	H5	1.7	SU			08/23/16 16:25	1
Temperature	10.3	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW8-816

Lab Sample ID: 550-68449-2
Date Collected: 08/21/16 12:42
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	980	D2	200	mg/L			08/26/16 21:03	100
Fluoride	0.61		0.40	mg/L			08/26/16 20:36	1
Sulfate	8600	D2	200	mg/L			08/31/16 20:37	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	19		0.050	mg/L		08/23/16 16:58	08/25/16 00:43	1
Calcium	460		2.0	mg/L		08/23/16 16:58	08/25/16 00:43	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	15000	D2	100	mg/L			08/25/16 15:07	1
pH	6.9	H5	1.7	SU			08/23/16 16:25	1
Temperature	10.8	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW49A-816

Lab Sample ID: 550-68449-3
Date Collected: 08/21/16 14:38
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	560	D2	40	mg/L			08/26/16 21:58	20
Fluoride	ND	D1 D5	0.80	mg/L			08/26/16 21:31	2
Sulfate	20000	D2	1000	mg/L			08/31/16 21:05	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3		0.050	mg/L		08/23/16 16:33	08/25/16 01:19	1
Calcium	390		2.0	mg/L		08/23/16 16:33	08/25/16 01:19	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW49A-816

Lab Sample ID: 550-68449-3
Date Collected: 08/21/16 14:38
Matrix: Water
Date Received: 08/23/16 09:56

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	29000	D2	200	mg/L			08/25/16 15:07	1
pH	7.2	H5	1.7	SU			08/23/16 16:25	1
Temperature	11.9	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW60-816

Lab Sample ID: 550-68449-4
Date Collected: 08/21/16 10:47
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	430	D2	200	mg/L			08/31/16 21:32	100
Fluoride	6.5		0.40	mg/L			08/27/16 00:15	1
Sulfate	4900	D2	200	mg/L			08/31/16 21:32	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	64		0.050	mg/L		08/23/16 16:33	08/25/16 01:24	1
Calcium	440		2.0	mg/L		08/23/16 16:33	08/25/16 01:24	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8500	D2	100	mg/L			08/25/16 15:07	1
pH	7.4	H5	1.7	SU			08/23/16 16:25	1
Temperature	11.5	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW61-816

Lab Sample ID: 550-68449-5
Date Collected: 08/21/16 11:45
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300	D2	200	mg/L			08/31/16 21:59	100
Fluoride	1.2		0.40	mg/L			08/27/16 00:43	1
Sulfate	3400	D2	200	mg/L			08/31/16 21:59	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	38		0.050	mg/L		08/23/16 16:33	08/25/16 01:29	1
Calcium	470		2.0	mg/L		08/23/16 16:33	08/25/16 01:29	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5700	D2	100	mg/L			08/25/16 15:07	1
pH	8.5	H5	1.7	SU			08/23/16 16:25	1
Temperature	11.6	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW62-816

Lab Sample ID: 550-68449-6
Date Collected: 08/20/16 16:36
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120	D1	20	mg/L			08/31/16 22:27	10
Fluoride	1.5		0.40	mg/L			08/27/16 01:37	1
Sulfate	3300	D2	200	mg/L			08/31/16 22:54	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3		0.050	mg/L		08/23/16 16:33	08/25/16 01:35	1
Calcium	530		2.0	mg/L		08/23/16 16:33	08/25/16 01:35	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5800	D2	100	mg/L			08/24/16 15:22	1
pH	6.7	H5	1.7	SU			08/23/16 16:25	1
Temperature	11.9	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW63-816

Lab Sample ID: 550-68449-7
Date Collected: 08/20/16 10:58
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98	D1	20	mg/L			09/02/16 01:00	10
Fluoride	1.9		0.40	mg/L			08/27/16 03:00	1
Sulfate	2800	D2	200	mg/L			09/01/16 23:38	100

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		08/23/16 16:33	08/25/16 01:40	1
Calcium	530		2.0	mg/L		08/23/16 16:33	08/25/16 01:40	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4700	D2	40	mg/L			08/25/16 15:07	1
pH	6.9	H5	1.7	SU			08/23/16 16:25	1
Temperature	12.9	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW64-816

Lab Sample ID: 550-68449-8
Date Collected: 08/20/16 12:45
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46	D1	20	mg/L			09/01/16 01:11	10
Fluoride	1.3		0.40	mg/L			08/27/16 05:44	1
Sulfate	330	D2	20	mg/L			09/01/16 01:11	10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.65		0.050	mg/L		08/23/16 16:33	08/25/16 01:46	1
Calcium	89		2.0	mg/L		08/23/16 16:33	08/25/16 01:46	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW64-816

Lab Sample ID: 550-68449-8
Date Collected: 08/20/16 12:45
Matrix: Water
Date Received: 08/23/16 09:56

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	790		20	mg/L			08/25/16 15:07	1
pH	7.5	H5	1.7	SU			08/23/16 16:25	1
Temperature	7.3	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW65-816

Lab Sample ID: 550-68449-9
Date Collected: 08/20/16 15:50
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52		2.0	mg/L			09/01/16 01:39	1
Fluoride	1.7		0.40	mg/L			08/27/16 06:11	1
Sulfate	450	D2	20	mg/L			09/01/16 02:06	10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.79		0.050	mg/L		08/23/16 16:33	08/25/16 01:48	1
Calcium	100		2.0	mg/L		08/23/16 16:33	08/25/16 01:48	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		20	mg/L			08/25/16 15:07	1
pH	7.4	H5	1.7	SU			08/23/16 16:25	1
Temperature	11.2	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW66-816

Lab Sample ID: 550-68449-10
Date Collected: 08/20/16 13:53
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	mg/L			09/01/16 02:33	200
Fluoride	20	D2	8.0	mg/L			08/27/16 07:06	20
Sulfate	7600	D2	400	mg/L			09/01/16 02:33	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	480		2.0	mg/L		08/23/16 16:33	08/25/16 01:50	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	D2	0.50	mg/L		08/23/16 16:33	08/25/16 17:51	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	15000	D2	100	mg/L			08/25/16 15:07	1
pH	7.3	H5	1.7	SU			08/23/16 16:25	1
Temperature	10.5	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW67-816

Lab Sample ID: 550-68449-11
Date Collected: 08/20/16 19:27
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	mg/L			09/01/16 03:01	200
Fluoride	23	D2	8.0	mg/L			08/27/16 08:01	20
Sulfate	7500	D2	400	mg/L			09/01/16 03:01	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		2.0	mg/L		08/23/16 16:33	08/25/16 01:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	100	D2	0.50	mg/L		08/23/16 16:33	08/25/16 17:56	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	15000	D2	100	mg/L			08/25/16 15:07	1
pH	7.1	H5	1.7	SU			08/23/16 16:25	1
Temperature	10.9	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW68-816

Lab Sample ID: 550-68449-12
Date Collected: 08/20/16 17:20
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	mg/L			09/01/16 03:28	200
Fluoride	8.6	D2	8.0	mg/L			08/27/16 08:56	20
Sulfate	8100	D2	400	mg/L			09/01/16 03:28	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	460		2.0	mg/L		08/23/16 16:33	08/25/16 02:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	120	D2	0.50	mg/L		08/23/16 16:33	08/25/16 18:08	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2	100	mg/L			08/25/16 15:07	1
pH	7.0	H5	1.7	SU			08/23/16 16:25	1
Temperature	11.4	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW69-816

Lab Sample ID: 550-68449-13
Date Collected: 08/21/16 15:41
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	mg/L			09/01/16 03:56	200
Fluoride	16	D2	8.0	mg/L			08/27/16 11:13	20
Sulfate	8500	D2	400	mg/L			09/01/16 03:56	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW69-816

Lab Sample ID: 550-68449-13
Date Collected: 08/21/16 15:41
Matrix: Water
Date Received: 08/23/16 09:56

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	480		2.0	mg/L		08/23/16 16:33	08/25/16 02:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	110	D2	0.50	mg/L		08/23/16 16:33	08/25/16 18:14	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2	100	mg/L			08/25/16 15:07	1
pH	7.4	H5	1.7	SU			08/23/16 16:25	1
Temperature	13.2	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW70-816

Lab Sample ID: 550-68449-14
Date Collected: 08/20/16 14:55
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	100	mg/L			09/01/16 04:23	50
Fluoride	0.66		0.40	mg/L			08/27/16 15:47	1
Sulfate	5800	D2	100	mg/L			09/01/16 04:23	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	490		2.0	mg/L		08/23/16 16:33	08/25/16 02:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	91	D2	0.50	mg/L		08/23/16 16:33	08/25/16 18:19	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	12000	D2	100	mg/L			08/25/16 15:07	1
pH	7.0	H5	1.7	SU			08/23/16 16:25	1
Temperature	14.1	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW71-816

Lab Sample ID: 550-68449-15
Date Collected: 08/21/16 09:37
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	590	D2	40	mg/L			09/01/16 05:45	20
Fluoride	ND	D1 D5	0.80	mg/L			08/27/16 16:14	2
Sulfate	8400	D2	1000	mg/L			09/01/16 06:13	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.56		0.050	mg/L		08/23/16 16:33	08/25/16 02:25	1
Calcium	450		2.0	mg/L		08/23/16 16:33	08/25/16 02:25	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW71-816

Lab Sample ID: 550-68449-15
Date Collected: 08/21/16 09:37
Matrix: Water
Date Received: 08/23/16 09:56

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	14000	D2	100	mg/L			08/25/16 15:07	1
pH	7.1	H5	1.7	SU			08/23/16 16:25	1
Temperature	13.7	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW72-816

Lab Sample ID: 550-68449-16
Date Collected: 08/21/16 08:49
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	440	D2	400	mg/L			09/01/16 06:40	200
Fluoride	ND		0.40	mg/L			08/27/16 13:03	1
Sulfate	10000	D2	400	mg/L			09/01/16 06:40	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.23		0.050	mg/L		08/23/16 16:33	08/25/16 02:30	1
Calcium	450		2.0	mg/L		08/23/16 16:33	08/25/16 02:30	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	17000	D2	100	mg/L			08/25/16 15:07	1
pH	7.0	H5	1.7	SU			08/23/16 16:25	1
Temperature	14.1	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample ID: FC-CCR-MW100-816

Lab Sample ID: 550-68449-17
Date Collected: 08/20/16 19:27
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	mg/L			09/01/16 07:35	200
Fluoride	24	D1	0.80	mg/L			09/01/16 07:08	2
Sulfate	7900	D2	400	mg/L			09/01/16 07:35	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		2.0	mg/L		08/23/16 16:33	08/25/16 02:36	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	110	D2	0.50	mg/L		08/23/16 16:33	08/26/16 14:44	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2	100	mg/L			08/25/16 15:07	1
pH	7.1	H5	1.7	SU			08/23/16 16:25	1
Temperature	14.9	H5	0.1	Degrees C			08/23/16 16:25	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW101-816

Lab Sample ID: 550-68449-18

Date Collected: 08/21/16 09:37
Matrix: Water
Date Received: 08/23/16 09:56

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**580**	**D2**	400		mg/L			09/01/16 08:02	200
Fluoride	ND	D1 D5	0.80		mg/L			08/27/16 17:09	2
Sulfate	**8600**	**D2**	400		mg/L			09/01/16 08:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.55**		0.050		mg/L		08/23/16 16:33	08/25/16 02:41	1
Calcium	**450**		2.0		mg/L		08/23/16 16:33	08/25/16 02:41	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**14000**	**D2**	100		mg/L			08/25/16 15:07	1
pH	**7.1**	**H5**	1.7		SU			08/23/16 16:25	1
Temperature	**15.2**	**H5**	0.1		Degrees C			08/23/16 16:25	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-97021/2
Matrix: Water
Analysis Batch: 97021

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			08/26/16 09:15	1
Fluoride	ND		0.40		mg/L			08/26/16 09:15	1

Lab Sample ID: LCS 550-97021/5
Matrix: Water
Analysis Batch: 97021

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.6		mg/L		98	90 - 110
Fluoride	4.00	4.08		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-97021/6
Matrix: Water
Analysis Batch: 97021

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	19.6		mg/L		98	90 - 110	0	20
Fluoride	4.00	4.05		mg/L		101	90 - 110	1	20

Lab Sample ID: 550-68449-1 MS
Matrix: Water
Analysis Batch: 97021

Client Sample ID: FC-CCR-MW7-816
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	450	D2	2000	2280	D2	mg/L		92	80 - 120
Fluoride	ND	D1	400	376	D1	mg/L		94	80 - 120

Lab Sample ID: 550-68449-1 MSD
Matrix: Water
Analysis Batch: 97021

Client Sample ID: FC-CCR-MW7-816
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	450	D2	2000	2260	D2	mg/L		91	80 - 120	1	20
Fluoride	ND	D1	400	369	D1	mg/L		92	80 - 120	2	20

Lab Sample ID: MB 550-97348/2
Matrix: Water
Analysis Batch: 97348

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			08/31/16 15:25	1
Fluoride	ND		0.40		mg/L			08/31/16 15:25	1
Sulfate	ND		2.0		mg/L			08/31/16 15:25	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-97348/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 97348

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.5		mg/L		97	90 - 110
Fluoride	4.00	4.05		mg/L		101	90 - 110
Sulfate	20.0	20.1		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-97348/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 97348

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	19.5		mg/L		97	90 - 110	0	20
Fluoride	4.00	4.08		mg/L		102	90 - 110	1	20
Sulfate	20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-68763-B-1 MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 97348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	410	D2	200	610	D2	mg/L		100	80 - 120
Fluoride	ND	D1 D5	40.0	41.5	D1	mg/L		104	80 - 120
Sulfate	260	D2	200	447	D2	mg/L		96	80 - 120

Lab Sample ID: 550-68763-B-1 MSD ^10 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 97348

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	410	D2	200	605	D2	mg/L		97	80 - 120	1	20
Fluoride	ND	D1 D5	40.0	41.5	D1	mg/L		104	80 - 120	0	20
Sulfate	260	D2	200	443	D2	mg/L		94	80 - 120	1	20

Lab Sample ID: MB 550-97519/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 97519

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			09/01/16 11:41	1
Fluoride	ND		0.40	mg/L			09/01/16 11:41	1
Sulfate	ND		2.0	mg/L			09/01/16 11:41	1

Lab Sample ID: LCS 550-97519/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 97519

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.1		mg/L		101	90 - 110
Fluoride	4.00	4.08		mg/L		102	90 - 110
Sulfate	20.0	20.0		mg/L		100	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-97519/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 97519

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.1		mg/L		101	90 - 110	0	20
Fluoride			4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate			20.0	20.0		mg/L		100	90 - 110	0	20

Lab Sample ID: 550-68896-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 97519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	92		20.0	109	M3	mg/L		85	80 - 120		
Fluoride	ND		4.00	4.37		mg/L		101	80 - 120		
Sulfate	27		20.0	46.4		mg/L		99	80 - 120		

Lab Sample ID: 550-68896-B-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 97519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	92		20.0	109	M3	mg/L		86	80 - 120	0	20
Fluoride	ND		4.00	4.42		mg/L		102	80 - 120	1	20
Sulfate	27		20.0	46.6		mg/L		100	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-96619/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96760 — **Prep Batch: 96619**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		08/23/16 16:33	08/25/16 00:55	1
Calcium	ND		2.0		mg/L		08/23/16 16:33	08/25/16 00:55	1

Lab Sample ID: LCS 550-96619/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96760 — **Prep Batch: 96619**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron			1.00	0.993		mg/L		99	85 - 115		
Calcium			21.0	21.0		mg/L		100	85 - 115		

Lab Sample ID: LCSD 550-96619/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96760 — **Prep Batch: 96619**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1.00	1.03		mg/L		103	85 - 115	3	20
Calcium			21.0	21.9		mg/L		104	85 - 115	4	20

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

Lab Sample ID: 550-68450-B-4-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96760 — **Prep Batch: 96619**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	65	M3	1.00	65.7	M3	mg/L		25	70 - 130
Calcium	450		21.0	466	M3	mg/L		79	70 - 130

Lab Sample ID: 550-68450-B-4-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96760 — **Prep Batch: 96619**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	65	M3	1.00	66.3	M3	mg/L		83	70 - 130	1	20
Calcium	450		21.0	476	M3	mg/L		125	70 - 130	2	20

Lab Sample ID: MB 550-96624/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96759 — **Prep Batch: 96624**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		08/23/16 16:58	08/24/16 23:06	1
Calcium	ND		2.0	mg/L		08/23/16 16:58	08/24/16 23:06	1

Lab Sample ID: LCS 550-96624/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96759 — **Prep Batch: 96624**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.01		mg/L		101	85 - 115
Calcium	21.0	21.3		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-96624/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96759 — **Prep Batch: 96624**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.01		mg/L		101	85 - 115	1	20
Calcium	21.0	21.4		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-68420-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96759 — **Prep Batch: 96624**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.88		1.00	1.91		mg/L		103	70 - 130
Calcium	160		21.0	178	M3	mg/L		90	70 - 130

Lab Sample ID: 550-68420-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96759 — **Prep Batch: 96624**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.88		1.00	1.96		mg/L		107	70 - 130	2	20

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

Lab Sample ID: 550-68420-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96759 — **Prep Batch: 96624**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	160		21.0	177	M3	mg/L		87	70 - 130	0	20

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

Lab Sample ID: MB 550-96714/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96714

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			08/24/16 15:22	1

Lab Sample ID: LCS 550-96714/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96714

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

Lab Sample ID: LCSD 550-96714/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96714

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	992		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-68377-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96714

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1400			1460		mg/L				0.6	10

Lab Sample ID: MB 550-96816/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96816

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			08/25/16 15:07	1

Lab Sample ID: LCS 550-96816/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96816

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

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

Lab Sample ID: LCSD 550-96816/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96816

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	984		mg/L		98	90 - 110	0	10

Lab Sample ID: 550-68449-1 DU — **Client Sample ID: FC-CCR-MW7-816**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96816

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		9950	D2	mg/L				2	10

Lab Sample ID: 550-68449-12 DU — **Client Sample ID: FC-CCR-MW68-816**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96816

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	16000	D2		16100	D2	mg/L				3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-96614/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96614

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99.3	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-96614/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96614

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 550-96614/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96614

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: 550-68444-P-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 96614

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.2	H5		7.3	H5	SU				0.4	5
Temperature	9.7	H5		9.3	H5	Degrees C				4	

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

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

Lab Sample ID: 550-68449-9 DU
Matrix: Water
Analysis Batch: 96614

Client Sample ID: FC-CCR-MW65-816
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				0.4	5
Temperature	11.2	H5		10.9	H5	Degrees C				3	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

HPLC/IC

Analysis Batch: 97021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-1	FC-CCR-MW7-816	Total/NA	Water	300.0	
550-68449-1	FC-CCR-MW7-816	Total/NA	Water	300.0	
550-68449-2	FC-CCR-MW8-816	Total/NA	Water	300.0	
550-68449-2	FC-CCR-MW8-816	Total/NA	Water	300.0	
550-68449-3	FC-CCR-MW49A-816	Total/NA	Water	300.0	
550-68449-3	FC-CCR-MW49A-816	Total/NA	Water	300.0	
550-68449-4	FC-CCR-MW60-816	Total/NA	Water	300.0	
550-68449-5	FC-CCR-MW61-816	Total/NA	Water	300.0	
550-68449-6	FC-CCR-MW62-816	Total/NA	Water	300.0	
550-68449-7	FC-CCR-MW63-816	Total/NA	Water	300.0	
550-68449-8	FC-CCR-MW64-816	Total/NA	Water	300.0	
550-68449-9	FC-CCR-MW65-816	Total/NA	Water	300.0	
550-68449-10	FC-CCR-MW66-816	Total/NA	Water	300.0	
550-68449-11	FC-CCR-MW67-816	Total/NA	Water	300.0	
550-68449-12	FC-CCR-MW68-816	Total/NA	Water	300.0	
550-68449-13	FC-CCR-MW69-816	Total/NA	Water	300.0	
550-68449-14	FC-CCR-MW70-816	Total/NA	Water	300.0	
550-68449-15	FC-CCR-MW71-816	Total/NA	Water	300.0	
550-68449-16	FC-CCR-MW72-816	Total/NA	Water	300.0	
550-68449-18	FC-CCR-MW101-816	Total/NA	Water	300.0	
MB 550-97021/2	Method Blank	Total/NA	Water	300.0	
LCS 550-97021/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-97021/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-68449-1 MS	FC-CCR-MW7-816	Total/NA	Water	300.0	
550-68449-1 MSD	FC-CCR-MW7-816	Total/NA	Water	300.0	

Analysis Batch: 97348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-1	FC-CCR-MW7-816	Total/NA	Water	300.0	
550-68449-2	FC-CCR-MW8-816	Total/NA	Water	300.0	
550-68449-3	FC-CCR-MW49A-816	Total/NA	Water	300.0	
550-68449-4	FC-CCR-MW60-816	Total/NA	Water	300.0	
550-68449-5	FC-CCR-MW61-816	Total/NA	Water	300.0	
550-68449-6	FC-CCR-MW62-816	Total/NA	Water	300.0	
550-68449-6	FC-CCR-MW62-816	Total/NA	Water	300.0	
550-68449-8	FC-CCR-MW64-816	Total/NA	Water	300.0	
550-68449-9	FC-CCR-MW65-816	Total/NA	Water	300.0	
550-68449-9	FC-CCR-MW65-816	Total/NA	Water	300.0	
550-68449-10	FC-CCR-MW66-816	Total/NA	Water	300.0	
550-68449-11	FC-CCR-MW67-816	Total/NA	Water	300.0	
550-68449-12	FC-CCR-MW68-816	Total/NA	Water	300.0	
550-68449-13	FC-CCR-MW69-816	Total/NA	Water	300.0	
550-68449-14	FC-CCR-MW70-816	Total/NA	Water	300.0	
550-68449-15	FC-CCR-MW71-816	Total/NA	Water	300.0	
550-68449-15	FC-CCR-MW71-816	Total/NA	Water	300.0	
550-68449-16	FC-CCR-MW72-816	Total/NA	Water	300.0	
550-68449-17	FC-CCR-MW100-816	Total/NA	Water	300.0	
550-68449-17	FC-CCR-MW100-816	Total/NA	Water	300.0	
550-68449-18	FC-CCR-MW101-816	Total/NA	Water	300.0	
MB 550-97348/2	Method Blank	Total/NA	Water	300.0	
LCS 550-97348/5	Lab Control Sample	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 97348 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-97348/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-68763-B-1 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-68763-B-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 97519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-7	FC-CCR-MW63-816	Total/NA	Water	300.0	
550-68449-7	FC-CCR-MW63-816	Total/NA	Water	300.0	
MB 550-97519/2	Method Blank	Total/NA	Water	300.0	
LCS 550-97519/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-97519/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-68896-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-68896-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 96619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-3	FC-CCR-MW49A-816	Total/NA	Water	200.7	
550-68449-4	FC-CCR-MW60-816	Total/NA	Water	200.7	
550-68449-5	FC-CCR-MW61-816	Total/NA	Water	200.7	
550-68449-6	FC-CCR-MW62-816	Total/NA	Water	200.7	
550-68449-7	FC-CCR-MW63-816	Total/NA	Water	200.7	
550-68449-8	FC-CCR-MW64-816	Total/NA	Water	200.7	
550-68449-9	FC-CCR-MW65-816	Total/NA	Water	200.7	
550-68449-10 - DL	FC-CCR-MW66-816	Total/NA	Water	200.7	
550-68449-10	FC-CCR-MW66-816	Total/NA	Water	200.7	
550-68449-11 - DL	FC-CCR-MW67-816	Total/NA	Water	200.7	
550-68449-11	FC-CCR-MW67-816	Total/NA	Water	200.7	
550-68449-12	FC-CCR-MW68-816	Total/NA	Water	200.7	
550-68449-12 - DL	FC-CCR-MW68-816	Total/NA	Water	200.7	
550-68449-13	FC-CCR-MW69-816	Total/NA	Water	200.7	
550-68449-13 - DL	FC-CCR-MW69-816	Total/NA	Water	200.7	
550-68449-14 - DL	FC-CCR-MW70-816	Total/NA	Water	200.7	
550-68449-14	FC-CCR-MW70-816	Total/NA	Water	200.7	
550-68449-15	FC-CCR-MW71-816	Total/NA	Water	200.7	
550-68449-16	FC-CCR-MW72-816	Total/NA	Water	200.7	
550-68449-17 - DL	FC-CCR-MW100-816	Total/NA	Water	200.7	
550-68449-17	FC-CCR-MW100-816	Total/NA	Water	200.7	
550-68449-18	FC-CCR-MW101-816	Total/NA	Water	200.7	
MB 550-96619/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-96619/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-96619/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-68450-B-4-A MS	Matrix Spike	Total/NA	Water	200.7	
550-68450-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 96624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-1	FC-CCR-MW7-816	Total/NA	Water	200.7	
550-68449-2	FC-CCR-MW8-816	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 96624 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-96624/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-96624/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-96624/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-68420-A-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-68420-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 96759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-1	FC-CCR-MW7-816	Total/NA	Water	200.7 Rev 4.4	96624
550-68449-2	FC-CCR-MW8-816	Total/NA	Water	200.7 Rev 4.4	96624
MB 550-96624/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	96624
LCS 550-96624/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	96624
LCSD 550-96624/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	96624
550-68420-A-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	96624
550-68420-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	96624

Analysis Batch: 96760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-3	FC-CCR-MW49A-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-4	FC-CCR-MW60-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-5	FC-CCR-MW61-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-6	FC-CCR-MW62-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-7	FC-CCR-MW63-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-8	FC-CCR-MW64-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-9	FC-CCR-MW65-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-10	FC-CCR-MW66-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-11	FC-CCR-MW67-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-12	FC-CCR-MW68-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-13	FC-CCR-MW69-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-14	FC-CCR-MW70-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-15	FC-CCR-MW71-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-16	FC-CCR-MW72-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-17	FC-CCR-MW100-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-18	FC-CCR-MW101-816	Total/NA	Water	200.7 Rev 4.4	96619
MB 550-96619/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	96619
LCS 550-96619/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	96619
LCSD 550-96619/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	96619
550-68450-B-4-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	96619
550-68450-B-4-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	96619

Analysis Batch: 96863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-10 - DL	FC-CCR-MW66-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-11 - DL	FC-CCR-MW67-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-12 - DL	FC-CCR-MW68-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-13 - DL	FC-CCR-MW69-816	Total/NA	Water	200.7 Rev 4.4	96619
550-68449-14 - DL	FC-CCR-MW70-816	Total/NA	Water	200.7 Rev 4.4	96619

Analysis Batch: 96970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-17 - DL	FC-CCR-MW100-816	Total/NA	Water	200.7 Rev 4.4	96619

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

General Chemistry

Analysis Batch: 96614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-1	FC-CCR-MW7-816	Total/NA	Water	SM 4500 H+ B	
550-68449-2	FC-CCR-MW8-816	Total/NA	Water	SM 4500 H+ B	
550-68449-3	FC-CCR-MW49A-816	Total/NA	Water	SM 4500 H+ B	
550-68449-4	FC-CCR-MW60-816	Total/NA	Water	SM 4500 H+ B	
550-68449-5	FC-CCR-MW61-816	Total/NA	Water	SM 4500 H+ B	
550-68449-6	FC-CCR-MW62-816	Total/NA	Water	SM 4500 H+ B	
550-68449-7	FC-CCR-MW63-816	Total/NA	Water	SM 4500 H+ B	
550-68449-8	FC-CCR-MW64-816	Total/NA	Water	SM 4500 H+ B	
550-68449-9	FC-CCR-MW65-816	Total/NA	Water	SM 4500 H+ B	
550-68449-10	FC-CCR-MW66-816	Total/NA	Water	SM 4500 H+ B	
550-68449-11	FC-CCR-MW67-816	Total/NA	Water	SM 4500 H+ B	
550-68449-12	FC-CCR-MW68-816	Total/NA	Water	SM 4500 H+ B	
550-68449-13	FC-CCR-MW69-816	Total/NA	Water	SM 4500 H+ B	
550-68449-14	FC-CCR-MW70-816	Total/NA	Water	SM 4500 H+ B	
550-68449-15	FC-CCR-MW71-816	Total/NA	Water	SM 4500 H+ B	
550-68449-16	FC-CCR-MW72-816	Total/NA	Water	SM 4500 H+ B	
550-68449-17	FC-CCR-MW100-816	Total/NA	Water	SM 4500 H+ B	
550-68449-18	FC-CCR-MW101-816	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-96614/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-96614/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-96614/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-68444-P-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-68449-9 DU	FC-CCR-MW65-816	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 96714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-6	FC-CCR-MW62-816	Total/NA	Water	SM 2540C	
MB 550-96714/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-96714/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-96714/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-68377-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 96816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-68449-1	FC-CCR-MW7-816	Total/NA	Water	SM 2540C	
550-68449-2	FC-CCR-MW8-816	Total/NA	Water	SM 2540C	
550-68449-3	FC-CCR-MW49A-816	Total/NA	Water	SM 2540C	
550-68449-4	FC-CCR-MW60-816	Total/NA	Water	SM 2540C	
550-68449-5	FC-CCR-MW61-816	Total/NA	Water	SM 2540C	
550-68449-7	FC-CCR-MW63-816	Total/NA	Water	SM 2540C	
550-68449-8	FC-CCR-MW64-816	Total/NA	Water	SM 2540C	
550-68449-9	FC-CCR-MW65-816	Total/NA	Water	SM 2540C	
550-68449-10	FC-CCR-MW66-816	Total/NA	Water	SM 2540C	
550-68449-11	FC-CCR-MW67-816	Total/NA	Water	SM 2540C	
550-68449-12	FC-CCR-MW68-816	Total/NA	Water	SM 2540C	
550-68449-13	FC-CCR-MW69-816	Total/NA	Water	SM 2540C	
550-68449-14	FC-CCR-MW70-816	Total/NA	Water	SM 2540C	
550-68449-15	FC-CCR-MW71-816	Total/NA	Water	SM 2540C	
550-68449-16	FC-CCR-MW72-816	Total/NA	Water	SM 2540C	
550-68449-17	FC-CCR-MW100-816	Total/NA	Water	SM 2540C	
550-68449-18	FC-CCR-MW101-816	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 96816 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-96816/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-96816/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-96816/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-68449-1 DU	FC-CCR-MW7-816	Total/NA	Water	SM 2540C	
550-68449-12 DU	FC-CCR-MW68-816	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW7-816

Lab Sample ID: 550-68449-1
Date Collected: 08/21/16 13:36
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/26/16 18:46	BCB	TAL PHX
Total/NA	Analysis	300.0		100	97021	08/26/16 19:14	BCB	TAL PHX
Total/NA	Analysis	300.0		100	97348	08/31/16 20:10	BCB	TAL PHX
Total/NA	Prep	200.7			96624	08/23/16 16:58	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96759	08/25/16 00:37	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW8-816

Lab Sample ID: 550-68449-2
Date Collected: 08/21/16 12:42
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/26/16 20:36	BCB	TAL PHX
Total/NA	Analysis	300.0		100	97021	08/26/16 21:03	BCB	TAL PHX
Total/NA	Analysis	300.0		100	97348	08/31/16 20:37	BCB	TAL PHX
Total/NA	Prep	200.7			96624	08/23/16 16:58	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96759	08/25/16 00:43	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW49A-816

Lab Sample ID: 550-68449-3
Date Collected: 08/21/16 14:38
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	97021	08/26/16 21:31	BCB	TAL PHX
Total/NA	Analysis	300.0		20	97021	08/26/16 21:58	BCB	TAL PHX
Total/NA	Analysis	300.0		500	97348	08/31/16 21:05	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 01:19	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW60-816

Lab Sample ID: 550-68449-4
Date Collected: 08/21/16 10:47
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/27/16 00:15	BCB	TAL PHX
Total/NA	Analysis	300.0		100	97348	08/31/16 21:32	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 01:24	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW61-816

Lab Sample ID: 550-68449-5
Date Collected: 08/21/16 11:45
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/27/16 00:43	BCB	TAL PHX
Total/NA	Analysis	300.0		100	97348	08/31/16 21:59	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 01:29	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW62-816

Lab Sample ID: 550-68449-6
Date Collected: 08/20/16 16:36
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/27/16 01:37	BCB	TAL PHX
Total/NA	Analysis	300.0		10	97348	08/31/16 22:27	BCB	TAL PHX
Total/NA	Analysis	300.0		100	97348	08/31/16 22:54	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 01:35	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96714		ATH	TAL PHX
					(Start)	08/24/16 15:22		
					(End)	08/25/16 15:05		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW63-816

Lab Sample ID: 550-68449-7
Date Collected: 08/20/16 10:58
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/27/16 03:00	BCB	TAL PHX
Total/NA	Analysis	300.0		100	97519	09/01/16 23:38	BCB	TAL PHX
Total/NA	Analysis	300.0		10	97519	09/02/16 01:00	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 01:40	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW64-816

Lab Sample ID: 550-68449-8
Date Collected: 08/20/16 12:45
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/27/16 05:44	BCB	TAL PHX
Total/NA	Analysis	300.0		10	97348	09/01/16 01:11	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 01:46	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW65-816

Lab Sample ID: 550-68449-9
Date Collected: 08/20/16 15:50
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/27/16 06:11	BCB	TAL PHX
Total/NA	Analysis	300.0		1	97348	09/01/16 01:39	BCB	TAL PHX
Total/NA	Analysis	300.0		10	97348	09/01/16 02:06	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 01:48	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW66-816

Lab Sample ID: 550-68449-10
Date Collected: 08/20/16 13:53
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	97021	08/27/16 07:06	BCB	TAL PHX
Total/NA	Analysis	300.0		200	97348	09/01/16 02:33	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 01:50	CJD	TAL PHX
Total/NA	Prep	200.7	DL		96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	96863	08/25/16 17:51	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW67-816

Lab Sample ID: 550-68449-11
Date Collected: 08/20/16 19:27
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	97021	08/27/16 08:01	BCB	TAL PHX
Total/NA	Analysis	300.0		200	97348	09/01/16 03:01	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 01:56	CJD	TAL PHX
Total/NA	Prep	200.7	DL		96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	96863	08/25/16 17:56	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW68-816

Lab Sample ID: 550-68449-12
Date Collected: 08/20/16 17:20
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	97021	08/27/16 08:56	BCB	TAL PHX
Total/NA	Analysis	300.0		200	97348	09/01/16 03:28	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 02:09	CJD	TAL PHX
Total/NA	Prep	200.7	DL		96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	96863	08/25/16 18:08	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW69-816

Lab Sample ID: 550-68449-13
Date Collected: 08/21/16 15:41
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	97021	08/27/16 11:13	BCB	TAL PHX
Total/NA	Analysis	300.0		200	97348	09/01/16 03:56	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 02:14	CJD	TAL PHX
Total/NA	Prep	200.7	DL		96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	96863	08/25/16 18:14	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW70-816

Lab Sample ID: 550-68449-14
Date Collected: 08/20/16 14:55
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/27/16 15:47	BCB	TAL PHX
Total/NA	Analysis	300.0		50	97348	09/01/16 04:23	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 02:19	CJD	TAL PHX
Total/NA	Prep	200.7	DL		96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	96863	08/25/16 18:19	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW71-816

Lab Sample ID: 550-68449-15
Date Collected: 08/21/16 09:37
Matrix: Water
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	97021	08/27/16 16:14	BCB	TAL PHX
Total/NA	Analysis	300.0		20	97348	09/01/16 05:45	BCB	TAL PHX
Total/NA	Analysis	300.0		500	97348	09/01/16 06:13	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 02:25	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Client Sample ID: FC-CCR-MW72-816 — Lab Sample ID: 550-68449-16

Date Collected: 08/21/16 08:49 — **Matrix: Water**
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	97021	08/27/16 13:03	BCB	TAL PHX
Total/NA	Analysis	300.0		200	97348	09/01/16 06:40	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 02:30	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW100-816 — Lab Sample ID: 550-68449-17

Date Collected: 08/20/16 19:27 — **Matrix: Water**
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	97348	09/01/16 07:08	BCB	TAL PHX
Total/NA	Analysis	300.0		200	97348	09/01/16 07:35	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 02:36	CJD	TAL PHX
Total/NA	Prep	200.7	DL		96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	96970	08/26/16 14:44	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Client Sample ID: FC-CCR-MW101-816 — Lab Sample ID: 550-68449-18

Date Collected: 08/21/16 09:37 — **Matrix: Water**
Date Received: 08/23/16 09:56

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	97021	08/27/16 17:09	BCB	TAL PHX
Total/NA	Analysis	300.0		200	97348	09/01/16 08:02	BCB	TAL PHX
Total/NA	Prep	200.7			96619	08/23/16 16:33	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	96760	08/25/16 02:41	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	96816		ATH	TAL PHX
					(Start)	08/25/16 15:07		
					(End)	08/26/16 16:15		
Total/NA	Analysis	SM 4500 H+ B		1	96614	08/23/16 16:25	YET	TAL PHX

Laboratory References:

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

Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Laboratory: TestAmerica Phoenix

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arizona	State Program	9	AZ0728	06-09-17

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-68449-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	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

68449

Regulatory Program: CCR

TestAmerica Laboratories, Inc.

9/6/2016

Client Contact	Doug Lavarnway	Doug Lavarnway	Date: 08/22/16
APS Four Corners	928-587-0319	Lab Contact:	Carrier:
End of County Road 6675	**Analysis Turnaround Time**		
Fruitland, New Mexico 87416			
(928) 587-0319 Phone	TAT if different from Below _____		
(xxx) xxx-xxxx FAX			
Project Name: CCR			
Site: Four Corners			
P O #			

COC No: 1 of 6 COCs

Sampler:

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

Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 200.7 (B, Ca)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	Sample Specific Notes:
-01 FC-CCR-MW7-816	8/21/2016	1336	G	W	6	N	x	x	x	x	x	
-02 FC-CCR-MW8-816	8/21/2016	1242	G	W	6	N	x	x	x	x	x	
-03 FC-CCR-MW49A-816	8/21/2016	1438	G	W	6	N	x	x	x	x	x	
-04 FC-CCR-MW60-816	8/21/2016	1047	G	W	6	N	x	x	x	x	x	
-05 FC-CCR-MW61-816	8/21/2016	1145	G	W	6	N	x	x	x	x	x	
-06 FC-CCR-MW62-816	8/20/2016	1636	G	W	6	N	x	x	x	x	x	
-07 FC-CCR-MW63-816	8/20/2016	1058	G	W	6	N	x	x	x	x	x	
-08 FC-CCR-MW64-816	8/20/2016	1245	G	W	6	N	x	x	x	x	x	
-09 FC-CCR-MW65-816	8/20/2016	1550	G	W	6	N	x	x	x	x	x	
-10 FC-CCR-MW66-816	8/20/2016	1353	G	W	6	N	x	x	x	x	x	
-11 FC-CCR-MW67-816	8/20/2016	1927	G	W	6	N	x	x	x	x	x	
-12 FC-CCR-MW68-816	8/20/2016	1720	G	W	6	N	x	x	x	x	x	

550-68449 Chain of Custody

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

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

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

Special Instructions/QC Requirements & Comments:

3.1°C, 1.8°C, 0.1°C, 0.4°C, 0.7°C

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doug Lavarnway	APS	8/22/16 1520	Jeff Larkin	APS	8/22/16 1520
Jeff Larkin	APS	8/23/16 0950			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
					8-23-16 0950

CDD

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

Chain of Custody Record

68449

Regulatory Program: CCR

TestAmerica Laboratories, Inc.

Client Contact	Doug Lavarnway	Doug Lavarnway	Date: 08/22/16
APS Four Corners	928-587-0319	Lab Contact:	Carrier:
End of County Road 6675	**Analysis Turnaround Time**		
Fruitland, New Mexico 87416			
(928) 587-0319 Phone	TAT if different from Below _____		
(xxx) xxx-xxxx FAX			
Project Name: CCR			
Site: Four Corners			
P O #			

COC No: 2 of 6 COCs

Sampler:

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

Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 200.7 (B, Ca)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	Sample Specific Notes:
-13 FC-CCR-MW69-816	8/21/2016	1541	G	W	6	N	x	x	x	x	x	
-14 FC-CCR-MW70-816	8/20/2016	1455	G	W	6	N	x	x	x	x	x	
-15 FC-CCR-MW71-816	8/21/2016	937	G	W	6	N	x	x	x	x	x	
-16 FC-CCR-MW72-816	8/21/2016	849	G	W	6	N	x	x	x	x	x	
-17 FC-CCR-MW100-816	8/20/2016	1927	G	W	6	N	x	x	x	x	x	
-18 FC-CCR-MW101-816	8/21/2016	937	G	W	6	N	x	x	x	x	x	
~~FC-CCR-MW~~ SC 8/23/16												

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

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

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

Special Instructions/QC Requirements & Comments:

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doug Lavarnway	APS	8/22/16 1520	Jeff Cole	APS	8/22/16 1520
Jeff Cole	APS	8/22/16 0956			
			Received in Laboratory by:	Company:	Date/Time: 8-23-16 0956

CCB

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

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-68449-1

Login Number: 68449
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?	False	
There are no discrepancies between the containers received and the COC.	False	
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.	N/A	Check done at department level as required.