TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 550-62646-1
Client Project/Site: CCR April 2016
Revision: 1

For:
Arizona Public Service Company
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Joseph City, Arizona 86032

Attn: Doug Lavarnway

Authorized for release by:
5/31/2016 5:37:04 PM

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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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Definitions/Glossary

Client: Arizona Public Service Company
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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
D1	Sample required dilution due to matrix.
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
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.
B1	Target analyte detected in method blank at or above the method reporting limit.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H1	Sample analysis performed past holding time.
D2	Sample required dilution due to high concentration of analyte.
H1	Sample analysis performed past holding time.
R12	RPD/RSD exceeded the method acceptance limit. Result less than 5 times the PQL..

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: 550-62646-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-62646-1

Comments
This revised report contains the additionally requested analytes.

Receipt
The samples were received on 4/29/2016 3:47 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.1º C, 0.2º C, 0.9º C, 1.0º C and 1.3º C.

Receipt Exceptions
Some of the containers for the following sample had both MW-62 and MW-65 written on the container labels: FC-CCR-MW-62-042716 (550-62646-1). The samples were submitted as sets contained in plastic bags and could be differentiated from the set that was labeled as MW-65 only by sample color.

The request for the Radium 226/228 analysis on the COC was canceled by the client for the following samples: FC-CCR-DUP2-042716 (550-62646-7) and FC-CCR-EQP1-042716 (550-62646-8). Containers for this analysis were not submitted.

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

Metals
Method(s) 200.8 LL: The method blank for preparation batch 88629 contained barium above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

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

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

Subcontract Work
Method Radium 226/228: This method was subcontracted to Radiation Safety. The subcontract laboratory certification is different from that of the facility issuing the final report.

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Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-62646-2

Comments
No additional comments.

Receipt
The samples were received on 4/29/2016 3:47 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.1º C, 0.2º C, 0.9º C, 1.0º C and 1.3º C.

Receipt Exceptions

Some of the containers for the following sample had both MW-62 and MW-65 written on the container labels: FC-CCR-MW-62-042716 (550-62646-1). The samples were submitted as sets contained in plastic bags and could be differentiated from the set that was labeled

Job ID: 550-62646-2 (Continued)

Laboratory: TestAmerica Phoenix (Continued)

as MW-65 only by sample color.

The request for the Radium 226/228 analysis on the COC was canceled by the client for the following samples: FC-CCR-DUP2-042716 (550-62646-7) and FC-CCR-EQP1-042716 (550-62646-8). Containers for this analysis were not submitted.

General Chemistry
Method(s) SM 2540C: The requested analysis for Total Dissolved Solids by method SM 2540C was added after the 7 day holding time was exceeded for the following samples; FC-CCR-MW-63-042716 (550-62646-2). As such, the analysis was performed past holding time and result data is qualified with a H1 flag.

Method(s) SM 2540C: The requested analysis for Total Dissolved Solids by method SM 2540C was added after the 7 day holding time was exceeded for the following samples; FC-CCR-MW-62-042716 (550-62646-1), FC-CCR-MW-64-042716 (550-62646-3), FC-CCR-MW-65-042716 (550-62646-4), FC-CCR-MW-66-042716 (550-62646-5), FC-CCR-MW-67-042716 (550-62646-6), FC-CCR-DUP2-042716 (550-62646-7), FC-CCR-EQP1-042716 (550-62646-8), FC-CCR-MW-70-042716 (550-62646-9), (550-62646-C-9 DU), (550-62647-C-2) and (550-62647-C-2 DU). As such, the analysis was performed past holding time and result data is qualified with a H1 flag.

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 April 2016

TestAmerica Job ID: 550-62646-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-62646-1	FC-CCR-MW-62-042716	Water	04/27/16 15:01	04/29/16 15:47
550-62646-2	FC-CCR-MW-63-042716	Water	04/27/16 11:37	04/29/16 15:47
550-62646-3	FC-CCR-MW-64-042716	Water	04/27/16 10:30	04/29/16 15:47
550-62646-4	FC-CCR-MW-65-042716	Water	04/27/16 13:21	04/29/16 15:47
550-62646-5	FC-CCR-MW-66-042716	Water	04/27/16 12:30	04/29/16 15:47
550-62646-6	FC-CCR-MW-67-042716	Water	04/27/16 09:09	04/29/16 15:47
550-62646-7	FC-CCR-DUP2-042716	Water	04/27/16 09:09	04/29/16 15:47
550-62646-8	FC-CCR-EQP1-042716	Water	04/27/16 09:09	04/29/16 15:47
550-62646-9	FC-CCR-MW-70-042716	Water	04/27/16 14:09	04/29/16 15:47

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-62-042716 — Lab Sample ID: 550-62646-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.6	D1	0.80	mg/L	2		300.0	Total/NA
Chloride	150	D2	10	mg/L	5		300.0	Total/NA
Sulfate	3200	D2	200	mg/L	100		300.0	Total/NA
Calcium	530		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0010		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.033	B7	0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.0010		0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0062		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.00058		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0029		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.00078		0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	6100	D2 H1	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-MW-63-042716 — Lab Sample ID: 550-62646-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.0	D1	0.80	mg/L	2		300.0	Total/NA
Chloride	100	D2	10	mg/L	5		300.0	Total/NA
Sulfate	2300	D2	200	mg/L	100		300.0	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.3		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00099		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.021	B7	0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0059		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0026		0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4300	D2 H1	40	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-MW-64-042716 — Lab Sample ID: 550-62646-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.4		0.40	mg/L	1		300.0	Total/NA
Chloride	53		2.0	mg/L	1		300.0	Total/NA
Sulfate	340	D2	20	mg/L	10		300.0	Total/NA
Calcium	90		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.62		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.027	B7	0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.00071		0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0017		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0051		0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.00012		0.00010	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	810	H1	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-MW-65-042716 — Lab Sample ID: 550-62646-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.8		0.40	mg/L	1		300.0	Total/NA
Chloride	55		2.0	mg/L	1		300.0	Total/NA
Sulfate	460	D2	20	mg/L	10		300.0	Total/NA
Calcium	110		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 April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-65-042716 (Continued) — Lab Sample ID: 550-62646-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.76		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.017	B7	0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.0015		0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0012		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0078		0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1100	H1	20	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-MW-66-042716 — Lab Sample ID: 550-62646-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	18	D2	4.0	mg/L	10		300.0	Total/NA
Chloride	1000	D2	200	mg/L	100		300.0	Total/NA
Sulfate	6500	D2	200	mg/L	100		300.0	Total/NA
Lithium	0.29		0.20	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron - DL	86	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0013		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.024	B7	0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.0031		0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0076		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.00072		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.012		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.0018		0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.00070		0.00010	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	11000	D2 H1	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-MW-67-042716 — Lab Sample ID: 550-62646-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	19	D2	2.0	mg/L	5		300.0	Total/NA
Chloride	1300	D2	200	mg/L	100		300.0	Total/NA
Sulfate	6600	D2	200	mg/L	100		300.0	Total/NA
Lithium	0.31		0.20	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron - DL	86	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0025		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.018	B7	0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.00057		0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0028		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.044		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.043		0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.00038		0.00010	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	12000	D2 H1	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-DUP2-042716 — Lab Sample ID: 550-62646-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	21	D2	2.0	mg/L	5		300.0	Total/NA
Chloride	1300	D2	200	mg/L	100		300.0	Total/NA
Sulfate	6600	D2	200	mg/L	100		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-DUP2-042716 (Continued) — Lab Sample ID: 550-62646-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.32		0.20	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	530		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Boron - DL	88	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0029		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.017	B7	0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.00069		0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0027		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.043		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.043		0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.00037		0.00010	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	12000	D2 H1	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-EQP1-042716 — Lab Sample ID: 550-62646-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0010		0.00050	mg/L	1		200.8 LL	Total/NA

Client Sample ID: FC-CCR-MW-70-042716 — Lab Sample ID: 550-62646-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.3	D1	2.0	mg/L	5		300.0	Total/NA
Chloride	1000	D2	200	mg/L	100		300.0	Total/NA
Sulfate	6000	D2	200	mg/L	100		300.0	Total/NA
Lithium	0.33		0.20	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		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
Arsenic	0.0053		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.00062		0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0057		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0062		0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.20		0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.00038		0.00010	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	12000	D2 H1	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-62-042716

Lab Sample ID: 550-62646-1
Date Collected: 04/27/16 15:01
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.6	D1	0.80	mg/L			05/04/16 17:27	2
Chloride	150	D2	10	mg/L			05/04/16 00:45	5
Sulfate	3200	D2	200	mg/L			05/25/16 20:10	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 19:34	1
Lithium	ND		0.20	mg/L		05/03/16 11:21	05/04/16 19:34	1
Calcium	530		2.0	mg/L		05/03/16 11:21	05/04/16 19:34	1
Boron	2.0		0.050	mg/L		05/03/16 11:21	05/04/16 19:34	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:42	1
Arsenic	0.0010		0.00050	mg/L		05/02/16 11:12	05/03/16 10:42	1
Barium	0.033	B7	0.00050	mg/L		05/02/16 11:12	05/03/16 10:42	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:42	1
Chromium	0.0010		0.00050	mg/L		05/02/16 11:12	05/03/16 10:42	1
Cobalt	0.0062		0.00050	mg/L		05/02/16 11:12	05/03/16 10:42	1
Lead	0.00058		0.00050	mg/L		05/02/16 11:12	05/03/16 10:42	1
Molybdenum	0.0029		0.00050	mg/L		05/02/16 11:12	05/03/16 10:42	1
Selenium	0.00078		0.00050	mg/L		05/02/16 11:12	05/03/16 10:42	1
Thallium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:42	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/05/16 11:26	05/06/16 11:49	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6100	D2 H1	100	mg/L			05/27/16 15:33	1

Client Sample ID: FC-CCR-MW-63-042716

Lab Sample ID: 550-62646-2
Date Collected: 04/27/16 11:37
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.0	D1	0.80	mg/L			05/04/16 17:45	2
Chloride	100	D2	10	mg/L			05/04/16 01:04	5
Sulfate	2300	D2	200	mg/L			05/25/16 20:37	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 19:39	1
Lithium	ND		0.20	mg/L		05/03/16 11:21	05/04/16 19:39	1
Calcium	500		2.0	mg/L		05/03/16 11:21	05/04/16 19:39	1
Boron	1.3		0.050	mg/L		05/03/16 11:21	05/04/16 19:39	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-63-042716

Lab Sample ID: 550-62646-2
Date Collected: 04/27/16 11:37
Matrix: Water
Date Received: 04/29/16 15:47

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:44	1
Arsenic	**0.00099**		0.00050	mg/L		05/02/16 11:12	05/03/16 10:44	1
Barium	**0.021**	**B7**	0.00050	mg/L		05/02/16 11:12	05/03/16 10:44	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:44	1
Chromium	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:44	1
Cobalt	**0.0059**		0.00050	mg/L		05/02/16 11:12	05/03/16 10:44	1
Lead	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:44	1
Molybdenum	**0.0026**		0.00050	mg/L		05/02/16 11:12	05/03/16 10:44	1
Selenium	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:44	1
Thallium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:44	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/05/16 11:26	05/06/16 11:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4300**	**D2 H1**	40	mg/L			05/26/16 16:01	1

Client Sample ID: FC-CCR-MW-64-042716

Lab Sample ID: 550-62646-3
Date Collected: 04/27/16 10:30
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**1.4**		0.40	mg/L			05/03/16 23:13	1
Chloride	**53**		2.0	mg/L			05/03/16 23:13	1
Sulfate	**340**	**D2**	20	mg/L			05/25/16 21:05	10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 19:45	1
Lithium	ND		0.20	mg/L		05/03/16 11:21	05/04/16 19:45	1
Calcium	**90**		2.0	mg/L		05/03/16 11:21	05/04/16 19:45	1
Boron	**0.62**		0.050	mg/L		05/03/16 11:21	05/04/16 19:45	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:46	1
Arsenic	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:46	1
Barium	**0.027**	**B7**	0.00050	mg/L		05/02/16 11:12	05/03/16 10:46	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:46	1
Chromium	**0.00071**		0.00050	mg/L		05/02/16 11:12	05/03/16 10:46	1
Cobalt	**0.0017**		0.00050	mg/L		05/02/16 11:12	05/03/16 10:46	1
Lead	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:46	1
Molybdenum	**0.0051**		0.00050	mg/L		05/02/16 11:12	05/03/16 10:46	1
Selenium	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:46	1
Thallium	**0.00012**		0.00010	mg/L		05/02/16 11:12	05/03/16 10:46	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-64-042716

Lab Sample ID: 550-62646-3
Date Collected: 04/27/16 10:30
Matrix: Water
Date Received: 04/29/16 15:47

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/05/16 14:44	05/06/16 13:59	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	810	H1	20	mg/L			05/27/16 15:33	1

Client Sample ID: FC-CCR-MW-65-042716

Lab Sample ID: 550-62646-4
Date Collected: 04/27/16 13:21
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.8		0.40	mg/L			05/04/16 01:22	1
Chloride	55		2.0	mg/L			05/04/16 01:22	1
Sulfate	460	D2	20	mg/L			05/25/16 21:32	10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 19:47	1
Lithium	ND		0.20	mg/L		05/03/16 11:21	05/04/16 19:47	1
Calcium	110		2.0	mg/L		05/03/16 11:21	05/04/16 19:47	1
Boron	0.76		0.050	mg/L		05/03/16 11:21	05/04/16 19:47	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:48	1
Arsenic	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:48	1
Barium	0.017	B7	0.00050	mg/L		05/02/16 11:12	05/03/16 10:48	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:48	1
Chromium	0.0015		0.00050	mg/L		05/02/16 11:12	05/03/16 10:48	1
Cobalt	0.0012		0.00050	mg/L		05/02/16 11:12	05/03/16 10:48	1
Lead	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:48	1
Molybdenum	0.0078		0.00050	mg/L		05/02/16 11:12	05/03/16 10:48	1
Selenium	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:48	1
Thallium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:48	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/05/16 14:44	05/06/16 14:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100	H1	20	mg/L			05/27/16 15:33	1

Client Sample ID: FC-CCR-MW-66-042716

Lab Sample ID: 550-62646-5
Date Collected: 04/27/16 12:30
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	18	D2	4.0	mg/L			05/03/16 16:47	10

Client Sample ID: FC-CCR-MW-66-042716

Lab Sample ID: 550-62646-5
Date Collected: 04/27/16 12:30
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1000	D2	200	mg/L			05/25/16 22:00	100
Sulfate	6500	D2	200	mg/L			05/25/16 22:00	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 19:49	1
Lithium	0.29		0.20	mg/L		05/03/16 11:21	05/04/16 19:49	1
Calcium	480		2.0	mg/L		05/03/16 11:21	05/04/16 19:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	86	D2	0.50	mg/L		05/03/16 11:21	05/24/16 23:40	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:51	1
Arsenic	0.0013		0.00050	mg/L		05/02/16 11:12	05/03/16 10:51	1
Barium	0.024	B7	0.00050	mg/L		05/02/16 11:12	05/03/16 10:51	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:51	1
Chromium	0.0031		0.00050	mg/L		05/02/16 11:12	05/03/16 10:51	1
Cobalt	0.0076		0.00050	mg/L		05/02/16 11:12	05/03/16 10:51	1
Lead	0.00072		0.00050	mg/L		05/02/16 11:12	05/03/16 10:51	1
Molybdenum	0.012		0.00050	mg/L		05/02/16 11:12	05/03/16 10:51	1
Selenium	0.0018		0.00050	mg/L		05/02/16 11:12	05/03/16 10:51	1
Thallium	0.00070		0.00010	mg/L		05/02/16 11:12	05/03/16 10:51	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/05/16 14:44	05/06/16 14:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000	D2 H1	100	mg/L			05/27/16 15:33	1

Client Sample ID: FC-CCR-MW-67-042716

Lab Sample ID: 550-62646-6
Date Collected: 04/27/16 09:09
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	19	D2	2.0	mg/L			05/04/16 01:40	5
Chloride	1300	D2	200	mg/L			05/25/16 22:27	100
Sulfate	6600	D2	200	mg/L			05/25/16 22:27	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 19:59	1
Lithium	0.31		0.20	mg/L		05/03/16 11:21	05/04/16 19:59	1
Calcium	500		2.0	mg/L		05/03/16 11:21	05/04/16 19:59	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-67-042716

Lab Sample ID: 550-62646-6
Date Collected: 04/27/16 09:09
Matrix: Water
Date Received: 04/29/16 15:47

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	86	D2	0.50	mg/L		05/03/16 11:21	05/24/16 23:43	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:53	1
Arsenic	0.0025		0.00050	mg/L		05/02/16 11:12	05/03/16 10:53	1
Barium	0.018	B7	0.00050	mg/L		05/02/16 11:12	05/03/16 10:53	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:53	1
Chromium	0.00057		0.00050	mg/L		05/02/16 11:12	05/03/16 10:53	1
Cobalt	0.0028		0.00050	mg/L		05/02/16 11:12	05/03/16 10:53	1
Lead	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:53	1
Molybdenum	0.044		0.00050	mg/L		05/02/16 11:12	05/03/16 10:53	1
Selenium	0.043		0.00050	mg/L		05/02/16 11:12	05/03/16 10:53	1
Thallium	0.00038		0.00010	mg/L		05/02/16 11:12	05/03/16 10:53	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/05/16 14:44	05/06/16 14:03	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	12000	D2 H1	100	mg/L			05/27/16 15:33	1

Client Sample ID: FC-CCR-DUP2-042716

Lab Sample ID: 550-62646-7
Date Collected: 04/27/16 09:09
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	21	D2	2.0	mg/L			05/04/16 01:59	5
Chloride	1300	D2	200	mg/L			05/25/16 22:55	100
Sulfate	6600	D2	200	mg/L			05/25/16 22:55	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 20:04	1
Lithium	0.32		0.20	mg/L		05/03/16 11:21	05/04/16 20:04	1
Calcium	530		2.0	mg/L		05/03/16 11:21	05/04/16 20:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	88	D2	0.50	mg/L		05/03/16 11:21	05/24/16 23:45	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:55	1
Arsenic	0.0029		0.00050	mg/L		05/02/16 11:12	05/03/16 10:55	1
Barium	0.017	B7	0.00050	mg/L		05/02/16 11:12	05/03/16 10:55	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:55	1
Chromium	0.00069		0.00050	mg/L		05/02/16 11:12	05/03/16 10:55	1
Cobalt	0.0027		0.00050	mg/L		05/02/16 11:12	05/03/16 10:55	1

Client Sample ID: FC-CCR-DUP2-042716

Lab Sample ID: 550-62646-7
Date Collected: 04/27/16 09:09
Matrix: Water
Date Received: 04/29/16 15:47

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:55	1
Molybdenum	**0.043**		0.00050	mg/L		05/02/16 11:12	05/03/16 10:55	1
Selenium	**0.043**		0.00050	mg/L		05/02/16 11:12	05/03/16 10:55	1
Thallium	**0.00037**		0.00010	mg/L		05/02/16 11:12	05/03/16 10:55	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/05/16 14:44	05/06/16 14:05	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**12000**	**D2 H1**	100	mg/L			05/27/16 15:33	1

Client Sample ID: FC-CCR-EQP1-042716

Lab Sample ID: 550-62646-8
Date Collected: 04/27/16 09:09
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40	mg/L			05/04/16 02:17	1
Chloride	ND		2.0	mg/L			05/04/16 02:17	1
Sulfate	ND		2.0	mg/L			05/04/16 02:17	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 20:10	1
Lithium	ND		0.20	mg/L		05/03/16 11:21	05/04/16 20:10	1
Calcium	ND		2.0	mg/L		05/03/16 11:21	05/04/16 20:10	1
Boron	ND		0.050	mg/L		05/03/16 11:21	05/04/16 20:10	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:57	1
Arsenic	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:57	1
Barium	ND	B1	0.00050	mg/L		05/02/16 11:12	05/03/16 10:57	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:57	1
Chromium	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:57	1
Cobalt	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:57	1
Lead	**0.0010**		0.00050	mg/L		05/02/16 11:12	05/03/16 10:57	1
Molybdenum	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:57	1
Selenium	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:57	1
Thallium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:57	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/05/16 14:44	05/06/16 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	H1	20	mg/L			05/27/16 15:33	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-70-042716

Lab Sample ID: 550-62646-9

Date Collected: 04/27/16 14:09
Matrix: Water
Date Received: 04/29/16 15:47

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.3	D1	2.0	mg/L			05/04/16 02:36	5
Chloride	1000	D2	200	mg/L			05/25/16 23:22	100
Sulfate	6000	D2	200	mg/L			05/25/16 23:22	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 20:12	1
Lithium	0.33		0.20	mg/L		05/03/16 11:21	05/04/16 20:12	1
Calcium	480		2.0	mg/L		05/03/16 11:21	05/04/16 20:12	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		05/03/16 11:21	05/24/16 23:47	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:59	1
Arsenic	0.0053		0.00050	mg/L		05/02/16 11:12	05/03/16 10:59	1
Barium	0.012		0.00050	mg/L		05/18/16 10:57	05/19/16 13:41	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:59	1
Chromium	0.00062		0.00050	mg/L		05/02/16 11:12	05/03/16 10:59	1
Cobalt	0.0057		0.00050	mg/L		05/02/16 11:12	05/03/16 10:59	1
Lead	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:59	1
Molybdenum	0.0062		0.00050	mg/L		05/02/16 11:12	05/03/16 10:59	1
Selenium	0.20		0.00050	mg/L		05/02/16 11:12	05/03/16 10:59	1
Thallium	0.00038		0.00010	mg/L		05/02/16 11:12	05/03/16 10:59	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020	mg/L		05/05/16 14:44	05/06/16 14:08	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	12000	D2 H1	100	mg/L			05/27/16 15:33	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-88853/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88853

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40	mg/L			05/03/16 11:34	1
Chloride	ND		2.0	mg/L			05/03/16 11:34	1
Sulfate	ND		2.0	mg/L			05/03/16 11:34	1

Lab Sample ID: LCS 550-88853/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88853

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.84		mg/L		96	90 - 110
Chloride	20.0	21.2		mg/L		106	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-88853/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88853

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	4.00	3.84		mg/L		96	90 - 110	0	20
Chloride	20.0	21.2		mg/L		106	90 - 110	0	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-62735-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88853

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.48		4.00	4.51		mg/L		101	80 - 120
Chloride	20		20.0	41.9		mg/L		110	80 - 120
Sulfate	21		20.0	41.9		mg/L		107	80 - 120

Lab Sample ID: 550-62735-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88853

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.48		4.00	4.54		mg/L		101	80 - 120	1	20
Chloride	20		20.0	42.2		mg/L		111	80 - 120	1	20
Sulfate	21		20.0	42.1		mg/L		108	80 - 120	0	20

Lab Sample ID: MB 550-88854/30 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88854

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40	mg/L			05/03/16 20:09	1
Chloride	ND		2.0	mg/L			05/03/16 20:09	1
Sulfate	ND		2.0	mg/L			05/03/16 20:09	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-88854/31 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88854

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.85		mg/L		96	90 - 110
Chloride	20.0	21.3		mg/L		107	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-88854/32 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88854

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	4.00	3.85		mg/L		96	90 - 110	0	20
Chloride	20.0	21.3		mg/L		107	90 - 110	0	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-62646-3 MS — **Client Sample ID: FC-CCR-MW-64-042716**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88854

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.4		4.00	5.43		mg/L		100	80 - 120
Chloride	53		20.0	71.2		mg/L		93	80 - 120
Sulfate	260	E2 M3	20.0	268	E2 M3	mg/L		20	80 - 120

Lab Sample ID: 550-62646-3 MSD — **Client Sample ID: FC-CCR-MW-64-042716**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88854

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.4		4.00	5.49		mg/L		101	80 - 120	1	20
Chloride	53		20.0	71.2		mg/L		94	80 - 120	0	20
Sulfate	260	E2 M3	20.0	268	E2 M3	mg/L		20	80 - 120	0	20

Lab Sample ID: MB 550-88946/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88946

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40	mg/L			05/04/16 15:37	1
Chloride	ND		2.0	mg/L			05/04/16 15:37	1
Sulfate	ND		2.0	mg/L			05/04/16 15:37	1

Lab Sample ID: LCS 550-88946/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88946

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.87		mg/L		97	90 - 110
Chloride	20.0	21.3		mg/L		107	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-88946/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88946

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	3.87		mg/L		97	90 - 110	0	20
Chloride			20.0	21.3		mg/L		107	90 - 110	0	20
Sulfate			20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-62828-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88946

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.95		4.00	5.00		mg/L		101	80 - 120		
Chloride	73		20.0	89.1		mg/L		80	80 - 120		
Sulfate	66		20.0	83.2		mg/L		87	80 - 120		

Lab Sample ID: 550-62828-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88946

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.95		4.00	5.05		mg/L		103	80 - 120	1	20
Chloride	73		20.0	89.1		mg/L		80	80 - 120	0	20
Sulfate	66		20.0	83.3		mg/L		88	80 - 120	0	20

Lab Sample ID: MB 550-90365/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90365

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40		mg/L			05/25/16 17:53	1
Chloride	ND		2.0		mg/L			05/25/16 17:53	1
Sulfate	ND		2.0		mg/L			05/25/16 17:53	1

Lab Sample ID: LCS 550-90365/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90365

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	3.98		mg/L		100	90 - 110		
Chloride			20.0	19.9		mg/L		99	90 - 110		
Sulfate			20.0	19.7		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-90365/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90365

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	3.99		mg/L		100	90 - 110	0	20
Chloride			20.0	19.8		mg/L		99	90 - 110	0	20
Sulfate			20.0	19.7		mg/L		98	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-63949-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90365

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		4.00	4.28		mg/L		102	80 - 120
Chloride	54		20.0	73.4		mg/L		99	80 - 120
Sulfate	80		20.0	97.4		mg/L		88	80 - 120

Lab Sample ID: 550-63949-D-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90365

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.33		mg/L		103	80 - 120	1	20
Chloride	54		20.0	73.6		mg/L		100	80 - 120	0	20
Sulfate	80		20.0	97.4		mg/L		88	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-88752/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88934 — **Prep Batch: 88752**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/03/16 11:21	05/04/16 19:10	1
Lithium	ND		0.20	mg/L		05/03/16 11:21	05/04/16 19:10	1
Calcium	ND		2.0	mg/L		05/03/16 11:21	05/04/16 19:10	1
Boron	ND		0.050	mg/L		05/03/16 11:21	05/04/16 19:10	1

Lab Sample ID: LCS 550-88752/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88934 — **Prep Batch: 88752**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	1.02		mg/L		102	85 - 115
Lithium	1.00	1.04		mg/L		104	85 - 115
Calcium	21.0	21.4		mg/L		102	85 - 115
Boron	1.00	1.03		mg/L		103	85 - 115

Lab Sample ID: LCSD 550-88752/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88934 — **Prep Batch: 88752**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	1.03		mg/L		103	85 - 115	0	20
Lithium	1.00	1.05		mg/L		105	85 - 115	0	20
Calcium	21.0	21.6		mg/L		103	85 - 115	1	20
Boron	1.00	1.02		mg/L		102	85 - 115	1	20

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

Lab Sample ID: 550-62659-A-2-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88934 — **Prep Batch: 88752**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	ND		1.00	1.02		mg/L		102	70 - 130
Lithium	ND		1.00	1.21		mg/L		104	70 - 130
Calcium	54		21.0	71.2		mg/L		82	70 - 130
Boron	0.18		1.00	1.18		mg/L		101	70 - 130

Lab Sample ID: 550-62659-A-2-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88934 — **Prep Batch: 88752**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.02		mg/L		102	70 - 130	0	20
Lithium	ND		1.00	1.21		mg/L		104	70 - 130	0	20
Calcium	54		21.0	70.2		mg/L		77	70 - 130	1	20
Boron	0.18		1.00	1.20		mg/L		102	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-88629/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88759 — **Prep Batch: 88629**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0025	mg/L		05/02/16 11:12	05/03/16 10:30	1
Arsenic	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:30	1
Barium	0.00156	B1	0.00050	mg/L		05/02/16 11:12	05/03/16 10:30	1
Cadmium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:30	1
Chromium	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:30	1
Cobalt	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:30	1
Lead	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:30	1
Molybdenum	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:30	1
Selenium	ND		0.00050	mg/L		05/02/16 11:12	05/03/16 10:30	1
Thallium	ND		0.00010	mg/L		05/02/16 11:12	05/03/16 10:30	1

Lab Sample ID: LCS 550-88629/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88759 — **Prep Batch: 88629**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0987		mg/L		99	85 - 115
Arsenic	0.100	0.0992		mg/L		99	85 - 115
Barium	0.100	0.0999		mg/L		100	85 - 115
Cadmium	0.100	0.101		mg/L		101	85 - 115
Chromium	0.100	0.0978		mg/L		98	85 - 115
Cobalt	0.100	0.101		mg/L		101	85 - 115
Lead	0.100	0.102		mg/L		102	85 - 115
Molybdenum	0.100	0.103		mg/L		103	85 - 115
Selenium	0.100	0.0987		mg/L		99	85 - 115
Thallium	0.100	0.101		mg/L		101	85 - 115

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

Lab Sample ID: LCSD 550-88629/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88759 — **Prep Batch: 88629**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.0989		mg/L		99	85 - 115	0	20
Arsenic	0.100	0.0995		mg/L		100	85 - 115	0	20
Barium	0.100	0.100		mg/L		100	85 - 115	1	20
Cadmium	0.100	0.101		mg/L		101	85 - 115	0	20
Chromium	0.100	0.0986		mg/L		99	85 - 115	1	20
Cobalt	0.100	0.101		mg/L		101	85 - 115	0	20
Lead	0.100	0.102		mg/L		102	85 - 115	1	20
Molybdenum	0.100	0.103		mg/L		103	85 - 115	0	20
Selenium	0.100	0.0998		mg/L		100	85 - 115	1	20
Thallium	0.100	0.102		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-62566-D-1-F MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88759 — **Prep Batch: 88629**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.100	0.101		mg/L		101	70 - 130
Arsenic	0.00062		0.100	0.101		mg/L		101	70 - 130
Barium	0.013	B1	0.100	0.112		mg/L		100	70 - 130
Cadmium	ND		0.100	0.0997		mg/L		100	70 - 130
Chromium	0.00066		0.100	0.0988		mg/L		98	70 - 130
Cobalt	ND		0.100	0.0995		mg/L		99	70 - 130
Lead	0.0025		0.100	0.101		mg/L		98	70 - 130
Molybdenum	ND		0.100	0.105		mg/L		105	70 - 130
Selenium	ND		0.100	0.0989		mg/L		99	70 - 130
Thallium	ND		0.100	0.0988		mg/L		99	70 - 130

Lab Sample ID: 550-62566-D-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 88759 — **Prep Batch: 88629**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.100	0.0997		mg/L		100	70 - 130	1	20
Arsenic	0.00062		0.100	0.100		mg/L		99	70 - 130	1	20
Barium	0.013	B1	0.100	0.112		mg/L		99	70 - 130	0	20
Cadmium	ND		0.100	0.0987		mg/L		99	70 - 130	1	20
Chromium	0.00066		0.100	0.0962		mg/L		96	70 - 130	3	20
Cobalt	ND		0.100	0.0980		mg/L		98	70 - 130	2	20
Lead	0.0025		0.100	0.0987		mg/L		96	70 - 130	2	20
Molybdenum	ND		0.100	0.104		mg/L		103	70 - 130	2	20
Selenium	ND		0.100	0.0978		mg/L		98	70 - 130	1	20
Thallium	ND		0.100	0.0975		mg/L		97	70 - 130	1	20

Lab Sample ID: MB 550-89788/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89972 — **Prep Batch: 89788**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.00050		mg/L		05/18/16 10:27	05/19/16 13:15	1

Lab Sample ID: LCS 550-89788/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89972 — **Prep Batch: 89788**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-89788/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89972 — **Prep Batch: 89788**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.100	0.101		mg/L		101	85 - 115	0	20

Lab Sample ID: 550-63492-G-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89972 — **Prep Batch: 89788**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.14		0.100	0.238		mg/L		100	70 - 130

Lab Sample ID: 550-63492-G-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89972 — **Prep Batch: 89788**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.14		0.100	0.236		mg/L		98	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-88971/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89064 — **Prep Batch: 88971**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020		mg/L		05/05/16 11:26	05/06/16 11:26	1

Lab Sample ID: LCS 550-88971/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89064 — **Prep Batch: 88971**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.0100	0.0109		mg/L		109	85 - 115

Lab Sample ID: LCSD 550-88971/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89064 — **Prep Batch: 88971**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.0100	0.0104		mg/L		104	85 - 115	5	20

Lab Sample ID: 550-62647-F-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89064 — **Prep Batch: 88971**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND		0.0100	0.00920		mg/L		92	70 - 130

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Lab Sample ID: 550-62647-F-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89064 — **Prep Batch: 88971**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND		0.0100	0.0103		mg/L		103	70 - 130	11	20
Hg			0.0100	0.0103		mg/L					

Lab Sample ID: MB 550-88991/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89085 — **Prep Batch: 88991**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND		0.00020		mg/L		05/05/16 14:44	05/06/16 13:51	1

Lab Sample ID: LCS 550-88991/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89085 — **Prep Batch: 88991**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg			0.0100	0.0105		mg/L		105	85 - 115		

Lab Sample ID: LCSD 550-88991/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89085 — **Prep Batch: 88991**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg			0.0100	0.0109		mg/L		109	85 - 115	3	20

Lab Sample ID: 550-62646-3 MS — **Client Sample ID: FC-CCR-MW-64-042716**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89085 — **Prep Batch: 88991**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg	ND		0.0100	0.00998		mg/L		100	70 - 130		

Lab Sample ID: 550-62646-3 MSD — **Client Sample ID: FC-CCR-MW-64-042716**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 89085 — **Prep Batch: 88991**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND		0.0100	0.00897		mg/L		90	70 - 130	11	20

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

Lab Sample ID: MB 550-90312/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90312

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			05/26/16 16:01	1

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

Lab Sample ID: LCS 550-90312/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	996		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-90312/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90312

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

Lab Sample ID: 550-62990-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90312

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	54	R12	64.0	R12	mg/L		17	10

Lab Sample ID: MB 550-90472/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90472

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			05/27/16 15:33	1

Lab Sample ID: LCS 550-90472/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90472

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 550-90472/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90472

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	990		mg/L		99	90 - 110	1	10

Lab Sample ID: 550-62646-9 DU — **Client Sample ID: FC-CCR-MW-70-042716**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90472

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	12000	H1 D2	11600	D2 H1	mg/L		0.09	10

Lab Sample ID: 550-62647-C-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 90472

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	15000	D2 H1	14900	D2 H1	mg/L		0.5	10

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

HPLC/IC

Analysis Batch: 88853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-5	FC-CCR-MW-66-042716	Total/NA	Water	300.0	
550-62735-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-62735-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
LCS 550-88853/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-88853/6	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 550-88853/2	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 88854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	300.0	
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	300.0	
550-62646-3	FC-CCR-MW-64-042716	Total/NA	Water	300.0	
550-62646-3 MS	FC-CCR-MW-64-042716	Total/NA	Water	300.0	
550-62646-3 MSD	FC-CCR-MW-64-042716	Total/NA	Water	300.0	
550-62646-4	FC-CCR-MW-65-042716	Total/NA	Water	300.0	
550-62646-6	FC-CCR-MW-67-042716	Total/NA	Water	300.0	
550-62646-7	FC-CCR-DUP2-042716	Total/NA	Water	300.0	
550-62646-8	FC-CCR-EQP1-042716	Total/NA	Water	300.0	
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	300.0	
LCS 550-88854/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-88854/32	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 550-88854/30	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 88946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	300.0	
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	300.0	
550-62828-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-62828-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
LCS 550-88946/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-88946/6	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 550-88946/2	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 90365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	300.0	
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	300.0	
550-62646-3	FC-CCR-MW-64-042716	Total/NA	Water	300.0	
550-62646-4	FC-CCR-MW-65-042716	Total/NA	Water	300.0	
550-62646-5	FC-CCR-MW-66-042716	Total/NA	Water	300.0	
550-62646-6	FC-CCR-MW-67-042716	Total/NA	Water	300.0	
550-62646-7	FC-CCR-DUP2-042716	Total/NA	Water	300.0	
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	300.0	
550-63949-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-63949-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
LCS 550-90365/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-90365/6	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 550-90365/2	Method Blank	Total/NA	Water	300.0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Metals

Prep Batch: 88629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62566-D-1-F MS	Matrix Spike	Total/NA	Water	200.8	
550-62566-D-1-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	200.8	
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	200.8	
550-62646-3	FC-CCR-MW-64-042716	Total/NA	Water	200.8	
550-62646-4	FC-CCR-MW-65-042716	Total/NA	Water	200.8	
550-62646-5	FC-CCR-MW-66-042716	Total/NA	Water	200.8	
550-62646-6	FC-CCR-MW-67-042716	Total/NA	Water	200.8	
550-62646-7	FC-CCR-DUP2-042716	Total/NA	Water	200.8	
550-62646-8	FC-CCR-EQP1-042716	Total/NA	Water	200.8	
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	200.8	
LCS 550-88629/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-88629/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
MB 550-88629/1-A	Method Blank	Total/NA	Water	200.8	

Prep Batch: 88752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	200.7	
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	200.7	
550-62646-3	FC-CCR-MW-64-042716	Total/NA	Water	200.7	
550-62646-4	FC-CCR-MW-65-042716	Total/NA	Water	200.7	
550-62646-5 - DL	FC-CCR-MW-66-042716	Total/NA	Water	200.7	
550-62646-5	FC-CCR-MW-66-042716	Total/NA	Water	200.7	
550-62646-6 - DL	FC-CCR-MW-67-042716	Total/NA	Water	200.7	
550-62646-6	FC-CCR-MW-67-042716	Total/NA	Water	200.7	
550-62646-7	FC-CCR-DUP2-042716	Total/NA	Water	200.7	
550-62646-7 - DL	FC-CCR-DUP2-042716	Total/NA	Water	200.7	
550-62646-8	FC-CCR-EQP1-042716	Total/NA	Water	200.7	
550-62646-9 - DL	FC-CCR-MW-70-042716	Total/NA	Water	200.7	
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	200.7	
550-62659-A-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-62659-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
LCS 550-88752/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-88752/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
MB 550-88752/1-A	Method Blank	Total/NA	Water	200.7	

Analysis Batch: 88759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62566-D-1-F MS	Matrix Spike	Total/NA	Water	200.8 LL	88629
550-62566-D-1-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	88629
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	200.8 LL	88629
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	200.8 LL	88629
550-62646-3	FC-CCR-MW-64-042716	Total/NA	Water	200.8 LL	88629
550-62646-4	FC-CCR-MW-65-042716	Total/NA	Water	200.8 LL	88629
550-62646-5	FC-CCR-MW-66-042716	Total/NA	Water	200.8 LL	88629
550-62646-6	FC-CCR-MW-67-042716	Total/NA	Water	200.8 LL	88629
550-62646-7	FC-CCR-DUP2-042716	Total/NA	Water	200.8 LL	88629
550-62646-8	FC-CCR-EQP1-042716	Total/NA	Water	200.8 LL	88629
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	200.8 LL	88629
LCS 550-88629/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	88629
LCSD 550-88629/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	88629

Metals (Continued)

Analysis Batch: 88759 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-88629/1-A	Method Blank	Total/NA	Water	200.8 LL	88629

Analysis Batch: 88934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-3	FC-CCR-MW-64-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-4	FC-CCR-MW-65-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-5	FC-CCR-MW-66-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-6	FC-CCR-MW-67-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-7	FC-CCR-DUP2-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-8	FC-CCR-EQP1-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62659-A-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	88752
550-62659-A-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	88752
LCS 550-88752/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	88752
LCSD 550-88752/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	88752
MB 550-88752/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	88752

Prep Batch: 88971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	245.1	
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	245.1	
550-62647-F-2-B MS	Matrix Spike	Total/NA	Water	245.1	
550-62647-F-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
LCS 550-88971/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-88971/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
MB 550-88971/1-A	Method Blank	Total/NA	Water	245.1	

Prep Batch: 88991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-3	FC-CCR-MW-64-042716	Total/NA	Water	245.1	
550-62646-3 MS	FC-CCR-MW-64-042716	Total/NA	Water	245.1	
550-62646-3 MSD	FC-CCR-MW-64-042716	Total/NA	Water	245.1	
550-62646-4	FC-CCR-MW-65-042716	Total/NA	Water	245.1	
550-62646-5	FC-CCR-MW-66-042716	Total/NA	Water	245.1	
550-62646-6	FC-CCR-MW-67-042716	Total/NA	Water	245.1	
550-62646-7	FC-CCR-DUP2-042716	Total/NA	Water	245.1	
550-62646-8	FC-CCR-EQP1-042716	Total/NA	Water	245.1	
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	245.1	
LCS 550-88991/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-88991/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
MB 550-88991/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 89064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	245.1	88971
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	245.1	88971
550-62647-F-2-B MS	Matrix Spike	Total/NA	Water	245.1	88971
550-62647-F-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	88971
LCS 550-88971/2-A	Lab Control Sample	Total/NA	Water	245.1	88971

Metals (Continued)

Analysis Batch: 89064 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-88971/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	88971
MB 550-88971/1-A	Method Blank	Total/NA	Water	245.1	88971

Analysis Batch: 89085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-3	FC-CCR-MW-64-042716	Total/NA	Water	245.1	88991
550-62646-3 MS	FC-CCR-MW-64-042716	Total/NA	Water	245.1	88991
550-62646-3 MSD	FC-CCR-MW-64-042716	Total/NA	Water	245.1	88991
550-62646-4	FC-CCR-MW-65-042716	Total/NA	Water	245.1	88991
550-62646-5	FC-CCR-MW-66-042716	Total/NA	Water	245.1	88991
550-62646-6	FC-CCR-MW-67-042716	Total/NA	Water	245.1	88991
550-62646-7	FC-CCR-DUP2-042716	Total/NA	Water	245.1	88991
550-62646-8	FC-CCR-EQP1-042716	Total/NA	Water	245.1	88991
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	245.1	88991
LCS 550-88991/2-A	Lab Control Sample	Total/NA	Water	245.1	88991
LCSD 550-88991/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	88991
MB 550-88991/1-A	Method Blank	Total/NA	Water	245.1	88991

Prep Batch: 89788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	200.8	
550-63492-G-1-C MS	Matrix Spike	Total/NA	Water	200.8	
550-63492-G-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	
LCS 550-89788/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-89788/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
MB 550-89788/1-A	Method Blank	Total/NA	Water	200.8	

Analysis Batch: 89972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	200.8 LL	89788
550-63492-G-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	89788
550-63492-G-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	89788
LCS 550-89788/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	89788
LCSD 550-89788/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	89788
MB 550-89788/1-A	Method Blank	Total/NA	Water	200.8 LL	89788

Analysis Batch: 90314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-5 - DL	FC-CCR-MW-66-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-6 - DL	FC-CCR-MW-67-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-7 - DL	FC-CCR-DUP2-042716	Total/NA	Water	200.7 Rev 4.4	88752
550-62646-9 - DL	FC-CCR-MW-70-042716	Total/NA	Water	200.7 Rev 4.4	88752

General Chemistry

Analysis Batch: 90312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-2	FC-CCR-MW-63-042716	Total/NA	Water	SM 2540C	
550-62990-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
LCS 550-90312/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 90312 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-90312/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
MB 550-90312/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 90472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-62646-1	FC-CCR-MW-62-042716	Total/NA	Water	SM 2540C	
550-62646-3	FC-CCR-MW-64-042716	Total/NA	Water	SM 2540C	
550-62646-4	FC-CCR-MW-65-042716	Total/NA	Water	SM 2540C	
550-62646-5	FC-CCR-MW-66-042716	Total/NA	Water	SM 2540C	
550-62646-6	FC-CCR-MW-67-042716	Total/NA	Water	SM 2540C	
550-62646-7	FC-CCR-DUP2-042716	Total/NA	Water	SM 2540C	
550-62646-8	FC-CCR-EQP1-042716	Total/NA	Water	SM 2540C	
550-62646-9	FC-CCR-MW-70-042716	Total/NA	Water	SM 2540C	
550-62646-9 DU	FC-CCR-MW-70-042716	Total/NA	Water	SM 2540C	
550-62647-C-2 DU	Duplicate	Total/NA	Water	SM 2540C	
LCS 550-90472/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-90472/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
MB 550-90472/1	Method Blank	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-62-042716 — Lab Sample ID: 550-62646-1

Date Collected: 04/27/16 15:01
Matrix: Water
Date Received: 04/29/16 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	88854	05/04/16 00:45	BCB	TAL PHX
Total/NA	Analysis	300.0		2	88946	05/04/16 17:27	BCB	TAL PHX
Total/NA	Analysis	300.0		100	90365	05/25/16 20:10	KLH	TAL PHX
Total/NA	Prep	200.7			88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	88934	05/04/16 19:34	CJD	TAL PHX
Total/NA	Prep	200.8			88629	05/02/16 11:12	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	88759	05/03/16 10:42	TEK	TAL PHX
Total/NA	Prep	245.1			88971	05/05/16 11:26	JTG	TAL PHX
Total/NA	Analysis	245.1		1	89064	05/06/16 11:49	JTG	TAL PHX
Total/NA	Analysis	SM 2540C		1	90472		ATH	TAL PHX
					(Start)	05/27/16 15:33		
					(End)	05/31/16 16:56		

Client Sample ID: FC-CCR-MW-63-042716 — Lab Sample ID: 550-62646-2

Date Collected: 04/27/16 11:37
Matrix: Water
Date Received: 04/29/16 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	88854	05/04/16 01:04	BCB	TAL PHX
Total/NA	Analysis	300.0		2	88946	05/04/16 17:45	BCB	TAL PHX
Total/NA	Analysis	300.0		100	90365	05/25/16 20:37	KLH	TAL PHX
Total/NA	Prep	200.7			88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	88934	05/04/16 19:39	CJD	TAL PHX
Total/NA	Prep	200.8			88629	05/02/16 11:12	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	88759	05/03/16 10:44	TEK	TAL PHX
Total/NA	Prep	245.1			88971	05/05/16 11:26	JTG	TAL PHX
Total/NA	Analysis	245.1		1	89064	05/06/16 11:54	JTG	TAL PHX
Total/NA	Analysis	SM 2540C		1	90312		ATH	TAL PHX
					(Start)	05/26/16 16:01		
					(End)	05/27/16 17:13		

Client Sample ID: FC-CCR-MW-64-042716 — Lab Sample ID: 550-62646-3

Date Collected: 04/27/16 10:30
Matrix: Water
Date Received: 04/29/16 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	88854	05/03/16 23:13	BCB	TAL PHX
Total/NA	Analysis	300.0		10	90365	05/25/16 21:05	KLH	TAL PHX
Total/NA	Prep	200.7			88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	88934	05/04/16 19:45	CJD	TAL PHX
Total/NA	Prep	200.8			88629	05/02/16 11:12	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	88759	05/03/16 10:46	TEK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-64-042716 — Lab Sample ID: 550-62646-3

Date Collected: 04/27/16 10:30
Date Received: 04/29/16 15:47
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			88991	05/05/16 14:44	SGO	TAL PHX
Total/NA	Analysis	245.1		1	89085	05/06/16 13:59	JTG	TAL PHX
Total/NA	Analysis	SM 2540C		1	90472		ATH	TAL PHX
					(Start)	05/27/16 15:33		
					(End)	05/31/16 16:56		

Client Sample ID: FC-CCR-MW-65-042716 — Lab Sample ID: 550-62646-4

Date Collected: 04/27/16 13:21
Date Received: 04/29/16 15:47
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	88854	05/04/16 01:22	BCB	TAL PHX
Total/NA	Analysis	300.0		10	90365	05/25/16 21:32	KLH	TAL PHX
Total/NA	Prep	200.7			88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	88934	05/04/16 19:47	CJD	TAL PHX
Total/NA	Prep	200.8			88629	05/02/16 11:12	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	88759	05/03/16 10:48	TEK	TAL PHX
Total/NA	Prep	245.1			88991	05/05/16 14:44	SGO	TAL PHX
Total/NA	Analysis	245.1		1	89085	05/06/16 14:00	JTG	TAL PHX
Total/NA	Analysis	SM 2540C		1	90472		ATH	TAL PHX
					(Start)	05/27/16 15:33		
					(End)	05/31/16 16:56		

Client Sample ID: FC-CCR-MW-66-042716 — Lab Sample ID: 550-62646-5

Date Collected: 04/27/16 12:30
Date Received: 04/29/16 15:47
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	88853	05/03/16 16:47	BCB	TAL PHX
Total/NA	Analysis	300.0		100	90365	05/25/16 22:00	KLH	TAL PHX
Total/NA	Prep	200.7			88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	88934	05/04/16 19:49	CJD	TAL PHX
Total/NA	Prep	200.7	DL		88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	90314	05/24/16 23:40	CJD	TAL PHX
Total/NA	Prep	200.8			88629	05/02/16 11:12	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	88759	05/03/16 10:51	TEK	TAL PHX
Total/NA	Prep	245.1			88991	05/05/16 14:44	SGO	TAL PHX
Total/NA	Analysis	245.1		1	89085	05/06/16 14:02	JTG	TAL PHX
Total/NA	Analysis	SM 2540C		1	90472		ATH	TAL PHX
					(Start)	05/27/16 15:33		
					(End)	05/31/16 16:56		

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-MW-67-042716

Lab Sample ID: 550-62646-6
Date Collected: 04/27/16 09:09
Matrix: Water
Date Received: 04/29/16 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	88854	05/04/16 01:40	BCB	TAL PHX
Total/NA	Analysis	300.0		100	90365	05/25/16 22:27	KLH	TAL PHX
Total/NA	Prep	200.7			88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	88934	05/04/16 19:59	CJD	TAL PHX
Total/NA	Prep	200.7	DL		88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	90314	05/24/16 23:43	CJD	TAL PHX
Total/NA	Prep	200.8			88629	05/02/16 11:12	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	88759	05/03/16 10:53	TEK	TAL PHX
Total/NA	Prep	245.1			88991	05/05/16 14:44	SGO	TAL PHX
Total/NA	Analysis	245.1		1	89085	05/06/16 14:03	JTG	TAL PHX
Total/NA	Analysis	SM 2540C		1	90472		ATH	TAL PHX
					(Start)	05/27/16 15:33		
					(End)	05/31/16 16:56		

Client Sample ID: FC-CCR-DUP2-042716

Lab Sample ID: 550-62646-7
Date Collected: 04/27/16 09:09
Matrix: Water
Date Received: 04/29/16 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	88854	05/04/16 01:59	BCB	TAL PHX
Total/NA	Analysis	300.0		100	90365	05/25/16 22:55	KLH	TAL PHX
Total/NA	Prep	200.7			88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	88934	05/04/16 20:04	CJD	TAL PHX
Total/NA	Prep	200.7	DL		88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	90314	05/24/16 23:45	CJD	TAL PHX
Total/NA	Prep	200.8			88629	05/02/16 11:12	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	88759	05/03/16 10:55	TEK	TAL PHX
Total/NA	Prep	245.1			88991	05/05/16 14:44	SGO	TAL PHX
Total/NA	Analysis	245.1		1	89085	05/06/16 14:05	JTG	TAL PHX
Total/NA	Analysis	SM 2540C		1	90472		ATH	TAL PHX
					(Start)	05/27/16 15:33		
					(End)	05/31/16 16:56		

Client Sample ID: FC-CCR-EQP1-042716

Lab Sample ID: 550-62646-8
Date Collected: 04/27/16 09:09
Matrix: Water
Date Received: 04/29/16 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	88854	05/04/16 02:17	BCB	TAL PHX
Total/NA	Prep	200.7			88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	88934	05/04/16 20:10	CJD	TAL PHX
Total/NA	Prep	200.8			88629	05/02/16 11:12	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	88759	05/03/16 10:57	TEK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Client Sample ID: FC-CCR-EQP1-042716

Lab Sample ID: 550-62646-8
Date Collected: 04/27/16 09:09
Matrix: Water
Date Received: 04/29/16 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			88991	05/05/16 14:44	SGO	TAL PHX
Total/NA	Analysis	245.1		1	89085	05/06/16 14:06	JTG	TAL PHX
Total/NA	Analysis	SM 2540C		1	90472		ATH	TAL PHX
					(Start)	05/27/16 15:33		
					(End)	05/31/16 16:56		

Client Sample ID: FC-CCR-MW-70-042716

Lab Sample ID: 550-62646-9
Date Collected: 04/27/16 14:09
Matrix: Water
Date Received: 04/29/16 15:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	88854	05/04/16 02:36	BCB	TAL PHX
Total/NA	Analysis	300.0		100	90365	05/25/16 23:22	KLH	TAL PHX
Total/NA	Prep	200.7			88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	88934	05/04/16 20:12	CJD	TAL PHX
Total/NA	Prep	200.7	DL		88752	05/03/16 11:21	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	90314	05/24/16 23:47	CJD	TAL PHX
Total/NA	Prep	200.8			88629	05/02/16 11:12	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	88759	05/03/16 10:59	TEK	TAL PHX
Total/NA	Prep	200.8			89788	05/18/16 10:57	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	89972	05/19/16 13:41	TEK	TAL PHX
Total/NA	Prep	245.1			88991	05/05/16 14:44	SGO	TAL PHX
Total/NA	Analysis	245.1		1	89085	05/06/16 14:08	JTG	TAL PHX
Total/NA	Analysis	SM 2540C		1	90472		ATH	TAL PHX
					(Start)	05/27/16 15:33		
					(End)	05/31/16 16:56		

Laboratory References:

Radiation = Radiation Safety, 3245 North Washington Street, Chandler, AZ 85225

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 April 2016

TestAmerica Job ID: 550-62646-1

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	06-09-16 *

* Certification renewal pending - certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR April 2016

TestAmerica Job ID: 550-62646-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
Radium 226/228	General Sub Contract Method	NONE	Radiation

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
NONE = NONE
SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

Radiation = Radiation Safety, 3245 North Washington Street, Chandler, AZ 85225
TAL PHX = TestAmerica Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. · CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

TestAmerica Analytical Testing Corporation
4645 E. Cotton Center Blvd
Building #3, Suite #189
Phoenix, AZ 85040

Samples Received: May 02, 2016
Analysis Completed: May 16, 2016

Sample ID	Radium 226 Activity Method 903.1 (pCi/L)	Radium 228 Activity Method 904 (pCi/L)	Total Radium (pCi/L)
FC-CCR-MW-62-042716 (550-62646-1)	0.6 ± 0.1	< 0.8	0.6 ± 0.1
FC-CCR-MW-63-042716 (550-62464-2)	0.6 ± 0.1	< 0.8	0.6 ± 0.1
FC-CCR-MW-64-042716 (550-62464-3)	< 0.4	< 0.8	< 0.8
FC-CCR-MW-65-042716 (550-62464-4)	< 0.4	< 0.8	< 0.8
FC-CCR-MW-66-042716 (550-62464-5)	0.6 ± 0.1	< 0.8	0.6 ± 0.1
FC-CCR-MW-67-042716 (550-62646-6)	0.4 ± 0.1	1.7 ± 0.3	2.1 ± 0.3
FC-CCR-MW-70-042716 (550-62464-9)	< 0.4	1.0 ± 0.2	1.0 ± 0.2

5/16/2016
Robert L. Metzger, Ph.D., C.H.P. Date
Laboratory License Number: AZ0462

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-13308.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com		Page: Page 1 of 1
Company: Radiation Safety Eng., Inc.				Job #: 550-62646-1
Address: 3245 North Washington Street, ,	Due Date Requested: 5/11/2016			
City: Chandler	TAT Requested (days):			
State, Zip: AZ, 85225				
Phone:	PO #:			
Email:	WO #:			
Project Name: CCR April 2016	Project #: 55002330			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Radium 226/228)/ Radium 226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW-62-042716 (550-62646-1)	4/27/16	15:01 Arizona		Water			X	2	54994
FC-CCR-MW-63-042716 (550-62646-2)	4/27/16	11:37 Arizona		Water			X	2	54995
FC-CCR-MW-64-042716 (550-62646-3)	4/27/16	10:30 Arizona		Water			X	2	54996
FC-CCR-MW-65-042716 (550-62646-4)	4/27/16	13:21 Arizona		Water			X	2	54997
FC-CCR-MW-66-042716 (550-62646-5)	4/27/16	12:30 Arizona		Water			X	2	54998
FC-CCR-MW-67-042716 (550-62646-6)	4/27/16	09:09 Arizona		Water			X	2	54999
FC-CCR-MW-70-042716 (550-62646-9)	4/27/16	14:09 Arizona		Water			X	2	55000

Possible Hazard Identification
Unconfirmed

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
LOUIE BATEMAN	5/2/16 13:10	TA	AMIR HAERI	5/2/16 13:10	RSE
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Chain of Custody Record

62646

065193

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

TestAmerica Phoenix
4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
Phone: 602.437.3340 Fax:

Regulatory Program: ☐ DW ☐ NPDES ☒ RCRA ☐ Other:

Client Contact	Project Manager: DOUG LAVARNWAY	Site Contact:	Date: 04.28.16	COC No:
Company Name:	Tel/Fax: 928-288-1394	Lab Contact: LEN BAKER	Carrier:	1 of 1 COCs
Address: APS FOUR CORNERS	Analysis Turnaround Time			Sampler: Lavarnway
City/State/Zip: NEW MEXICO	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone:	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: CCR APRIL 2016	☐ 1 week			
Site: 4C	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

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 (Be, Li)	EPA 200.8 (Sb, As, Ba, Cd, Cr, Co, Pb, Mo, Se, Tl)	EPA 245.1 (Hg)	9320 Radium 226/228	EPA 300.0 (Fl)	Sample Specific Notes:
FL-CCR-MW-62-042716	042716	1501	G	GW	6			X	X	X	X	X	-01
FL-CCR-MW-63-042716		1345						X	X	X	X	X	-02
FL-CCR-MW-64-042716		1030						X	X	X	X	X	-03
FL-CCR-MW-65-042716		1321						X	X	X	X	X	-04
FL-CCR-MW-66-042716		1230						X	X	X	X	X	-05
FL-CCR-MW-67-042716		0909						X	X	X	X	X	-06
FL-CCR-DUP2-042716		0909						X	X	X	X	X	-07
FL-CCR-EQA1-042716		0909						X	X	X	X	X	-08
FL-CCR-MW-70-042716		1409						X	X	X	X	X	-09

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

550-62646 Chain of Custody

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.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Dispos ... longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: 0.1°C, 1.0°C, 0.9°C, 1.3°C, 0.2°C

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
JIM EDLEMAN	APS	04.29.16 1547			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 4-29-16 1547

5/31/2016

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-62646-1

Login Number: 62646
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.	False	Refer to Job Narrative for details.
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.	True	