TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

TestAmerica Job ID: 550-69590-1
Client Project/Site: CCR
Revision: 2

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

Attn: Doug Lavarnway

Authorized for release by:
10/19/2016 3:39:27 PM

Ken Baker, Project Manager II
(602)659-7624
ken.baker@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.testamericainc.com

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

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Sample Summary 5
Detection Summary 6
Client Sample Results 11
QC Sample Results 19
QC Association Summary 28
Lab Chronicle 34
Certification Summary 41
Method Summary 42
Chain of Custody 43
Receipt Checklists 45

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
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.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and/ or analysis requested past holding time.
D2	Sample required dilution due to high concentration of analyte.
H3	Sample was received and/ or analysis requested past holding time.

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: 550-69590-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-69590-1

Comments
This revised report contains the corrected results. Refer to the explanation below.

Receipt
The samples were received on 9/15/2016 8:03 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.0º C, 1.0º C, 1.2º C, 1.4º C and 1.5º C.

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

Metals
All samples (1-17) were re-digested for the 200.7 method and obtained results that correlate with the samples' history. The origir prep batch and the re-digested batch were re-ran to confirm the higher, historically matching, results, and all results confirmed w each other. The calibrations, sequencing, intensities, and method QC from the original run were all investigated and compared t the re-digested and re-run batches. It was found that the variabilities from the original Calcium and Boron results are undetermir The re-run results from the original prep batch were set to primary for this job. The original results were rejected.

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

General Chemistry
Method(s) SM 2540C: Reanalysis of the following samples was performed outside of the analytical holding time for Total Dissolved Solids by method SM 2450C due to excessive residue results in the first analysis: FC-CCR-MW7-916 (550-69590-1), FC-CCR-MW8-916 (550-69590-2), FC-CCR-MW49A-916 (550-69590-3), FC-CCR-MW67-916 (550-69590-11), FC-CCR-MW68-916 (550-69590-12), FC-CCR-MW69-916 (550-69590-13) and FC-CCR-MW72-916 (550-69590-16). Samples were initially analyzed with in holding time although required reanalysis because they yielded excessive residue exceeding the method upper limit of 0.2000 g. Due to constituents within the sample matrix, the samples do not adhere to the normal conductivity to TDS ratio. As the conductivity is used to estimated the sample volume used to perform the analysis, inherently this estimate was off and the samples dried with excessive residue results. Reanalysis was performed past the method holding using a smaller sample volume in which the dried residue adhered to the method requirement. Data results are qualified with H2 and D2 flags.

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: 550-69590-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-69590-1	FC-CCR-MW7-916	Water	09/13/16 15:10	09/15/16 08:03
550-69590-2	FC-CCR-MW8-916	Water	09/13/16 14:01	09/15/16 08:03
550-69590-3	FC-CCR-MW49A-916	Water	09/13/16 11:21	09/15/16 08:03
550-69590-4	FC-CCR-MW60-916	Water	09/13/16 12:21	09/15/16 08:03
550-69590-5	FC-CCR-MW61-916	Water	09/13/16 13:19	09/15/16 08:03
550-69590-6	FC-CCR-MW62-916	Water	09/12/16 17:16	09/15/16 08:03
550-69590-7	FC-CCR-MW63-916	Water	09/12/16 13:43	09/15/16 08:03
550-69590-8	FC-CCR-MW64-916	Water	09/12/16 14:39	09/15/16 08:03
550-69590-9	FC-CCR-MW65-916	Water	09/12/16 18:03	09/15/16 08:03
550-69590-10	FC-CCR-MW66-916	Water	09/12/16 16:18	09/15/16 08:03
550-69590-11	FC-CCR-MW67-916	Water	09/13/16 07:26	09/15/16 08:03
550-69590-12	FC-CCR-MW68-916	Water	09/13/16 08:10	09/15/16 08:03
550-69590-13	FC-CCR-MW69-916	Water	09/13/16 08:58	09/15/16 08:03
550-69590-14	FC-CCR-MW70-916	Water	09/12/16 18:51	09/15/16 08:03
550-69590-15	FC-CCR-MW71-916	Water	09/12/16 18:42	09/15/16 08:03
550-69590-16	FC-CCR-MW72-916	Water	09/13/16 10:09	09/15/16 08:03
550-69590-17	FC-CCR-MW100-916	Water	09/13/16 12:21	09/15/16 08:03

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW7-916 — Lab Sample ID: 550-69590-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	530	D2	400	mg/L	200		300.0	Total/NA
Sulfate	6200	D2	400	mg/L	200		300.0	Total/NA
Boron	10		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	10		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
Calcium	410		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	10000	D2 H2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW8-916 — Lab Sample ID: 550-69590-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	970	D2	200	mg/L	100		300.0	Total/NA
Fluoride	0.77		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
Boron	18		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	15000	D2 H2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-916 — Lab Sample ID: 550-69590-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	530	D2	400	mg/L	200		300.0	Total/NA
Fluoride	0.65		0.40	mg/L	1		300.0	Total/NA
Sulfate	19000	D2	400	mg/L	200		300.0	Total/NA
Boron	2.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.4		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
Calcium	400		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	28000	D2 H2	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-916 — Lab Sample ID: 550-69590-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	460	D2	400	mg/L	200		300.0	Total/NA
Chloride	440	D2	200	mg/L	100		300.0	Total/NA
Fluoride	7.2		0.40	mg/L	1		300.0	Total/NA
Sulfate	5000	D2	400	mg/L	200		300.0	Total/NA
Sulfate	5100	D2	200	mg/L	100		300.0	Total/NA
Boron	66		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	64		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
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: 550-69590-1

Client Sample ID: FC-CCR-MW60-916 (Continued) — Lab Sample ID: 550-69590-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	8600	D2	100	mg/L	1		SM 2540C	Total/NA
Total Dissolved Solids	8500	D2 H3	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW61-916 — Lab Sample ID: 550-69590-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	330	D2	20	mg/L	10		300.0	Total/NA
Fluoride	1.3		0.40	mg/L	1		300.0	Total/NA
Sulfate	3500	D2	400	mg/L	200		300.0	Total/NA
Boron	39		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	40		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		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	8.6	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-MW62-916 — Lab Sample ID: 550-69590-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	130		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	3300	D2	400	mg/L	200		300.0	Total/NA
Boron	2.4		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	590		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	570		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2400	D2	40	mg/L	1		SM 2540C	Total/NA
pH	6.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-916 — Lab Sample ID: 550-69590-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	110		2.0	mg/L	1		300.0	Total/NA
Fluoride	2.1		0.40	mg/L	1		300.0	Total/NA
Sulfate	2800	D2	400	mg/L	200		300.0	Total/NA
Boron	1.9		0.050	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
Calcium	560		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	550		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	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-916 — Lab Sample ID: 550-69590-8

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW64-916 (Continued) — Lab Sample ID: 550-69590-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	52		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	320	D2	20	mg/L	10		300.0	Total/NA
Boron	0.63		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.67		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	88		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	90		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	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-916 — Lab Sample ID: 550-69590-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	54		2.0	mg/L	1		300.0	Total/NA
Fluoride	2.0		0.40	mg/L	1		300.0	Total/NA
Sulfate	480	D2	20	mg/L	10		300.0	Total/NA
Boron	0.82		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.83		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	110		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	110		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	1100		20	mg/L	1		SM 2540C	Total/NA
pH	7.5	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-MW66-916 — Lab Sample ID: 550-69590-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	1000	mg/L	500		300.0	Total/NA
Fluoride	12		0.40	mg/L	1		300.0	Total/NA
Sulfate	8000	D2	1000	mg/L	500		300.0	Total/NA
Boron	110	E2	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		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	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-916 — Lab Sample ID: 550-69590-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	1000	mg/L	500		300.0	Total/NA
Fluoride	23	D2	4.0	mg/L	10		300.0	Total/NA
Sulfate	7900	D2	1000	mg/L	500		300.0	Total/NA
Boron	110	E2	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	540		2.0	mg/L	1		200.7 Rev 4.4	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 H2	100	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: 550-69590-1

Client Sample ID: FC-CCR-MW67-916 (Continued) — Lab Sample ID: 550-69590-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
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-MW68-916 — Lab Sample ID: 550-69590-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	1000	mg/L	500		300.0	Total/NA
Fluoride	9.7		0.40	mg/L	1		300.0	Total/NA
Sulfate	8500	D2	1000	mg/L	500		300.0	Total/NA
Boron	120	E2	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		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 H2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-916 — Lab Sample ID: 550-69590-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	1000	mg/L	500		300.0	Total/NA
Fluoride	16		0.40	mg/L	1		300.0	Total/NA
Sulfate	8700	D2	1000	mg/L	500		300.0	Total/NA
Boron	110	E2	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
Calcium	500		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	17000	D2 H2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-916 — Lab Sample ID: 550-69590-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	1000	mg/L	500		300.0	Total/NA
Fluoride	0.69		0.40	mg/L	1		300.0	Total/NA
Sulfate	5900	D2	1000	mg/L	500		300.0	Total/NA
Boron	93	E2	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	550		2.0	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	96	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	10.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW71-916 — Lab Sample ID: 550-69590-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	570	D2	400	mg/L	200		300.0	Total/NA
Sulfate	9300	D2	400	mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW71-916 (Continued) — Lab Sample ID: 550-69590-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.55		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.58		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-916 — Lab Sample ID: 550-69590-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450	D2	400	mg/L	200		300.0	Total/NA
Sulfate	10000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.22		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.24		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	17000	D2 H2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW100-916 — Lab Sample ID: 550-69590-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	760	D2	400	mg/L	200		300.0	Total/NA
Chloride	440	D2	200	mg/L	100		300.0	Total/NA
Fluoride	6.0		0.40	mg/L	1		300.0	Total/NA
Sulfate	8800	D2	400	mg/L	200		300.0	Total/NA
Sulfate	5100	D2	200	mg/L	100		300.0	Total/NA
Boron	67		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	65		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
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
Total Dissolved Solids	8400	D2 H3	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW7-916

Lab Sample ID: 550-69590-1
Date Collected: 09/13/16 15:10
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	530	D2	400	mg/L			09/22/16 03:19	200
Fluoride	ND		0.40	mg/L			09/22/16 02:52	1
Sulfate	6200	D2	400	mg/L			09/22/16 03:19	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	10		0.050	mg/L		10/06/16 10:51	10/08/16 00:31	1
Boron	10		0.050	mg/L		09/20/16 07:27	10/13/16 12:43	1
Calcium	440		2.0	mg/L		10/06/16 10:51	10/08/16 00:31	1
Calcium	410		2.0	mg/L		09/20/16 07:27	10/13/16 12:43	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10000	D2 H2	100	mg/L			09/21/16 19:50	1
pH	7.3	H5	1.7	SU			09/16/16 11:04	1
Temperature	10.6	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW8-916

Lab Sample ID: 550-69590-2
Date Collected: 09/13/16 14:01
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	970	D2	200	mg/L			09/27/16 00:54	100
Fluoride	0.77		0.40	mg/L			09/22/16 03:47	1
Sulfate	8600	D2	200	mg/L			09/27/16 00:54	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		10/06/16 10:51	10/08/16 00:37	1
Boron	18		0.050	mg/L		09/20/16 07:27	10/13/16 12:48	1
Calcium	480		2.0	mg/L		10/06/16 10:51	10/08/16 00:37	1
Calcium	430		2.0	mg/L		09/20/16 07:27	10/13/16 12:48	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	15000	D2 H2	100	mg/L			09/21/16 19:50	1
pH	7.2	H5	1.7	SU			09/16/16 11:04	1
Temperature	9.8	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW49A-916

Lab Sample ID: 550-69590-3
Date Collected: 09/13/16 11:21
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	530	D2	400	mg/L			09/22/16 05:09	200
Fluoride	0.65		0.40	mg/L			09/22/16 04:42	1
Sulfate	19000	D2	400	mg/L			09/22/16 05:09	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW49A-916

Lab Sample ID: 550-69590-3
Date Collected: 09/13/16 11:21
Matrix: Water
Date Received: 09/15/16 08:03

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.5		0.050	mg/L		10/06/16 10:51	10/08/16 00:43	1
Boron	2.4		0.050	mg/L		09/20/16 07:27	10/13/16 12:54	1
Calcium	440		2.0	mg/L		10/06/16 10:51	10/08/16 00:43	1
Calcium	400		2.0	mg/L		09/20/16 07:27	10/13/16 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	28000	D2 H2	200	mg/L			09/21/16 19:50	1
pH	7.4	H5	1.7	SU			09/16/16 11:04	1
Temperature	7.9	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW60-916

Lab Sample ID: 550-69590-4
Date Collected: 09/13/16 12:21
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	460	D2	400	mg/L			09/22/16 06:04	200
Chloride	440	D2	200	mg/L			10/13/16 00:33	100
Fluoride	7.2		0.40	mg/L			09/22/16 05:36	1
Sulfate	5000	D2	400	mg/L			09/22/16 06:04	200
Sulfate	5100	D2	200	mg/L			10/13/16 00:33	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	66		0.050	mg/L		10/06/16 10:51	10/08/16 00:49	1
Boron	64		0.050	mg/L		09/20/16 07:27	10/13/16 13:00	1
Calcium	470		2.0	mg/L		10/06/16 10:51	10/08/16 00:49	1
Calcium	450		2.0	mg/L		09/20/16 07:27	10/13/16 13:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8600	D2	100	mg/L			09/20/16 17:01	1
Total Dissolved Solids	8500	D2 H3	100	mg/L			10/13/16 20:45	1
pH	7.6	H5	1.7	SU			09/16/16 11:04	1
Temperature	10.4	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW61-916

Lab Sample ID: 550-69590-5
Date Collected: 09/13/16 13:19
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	330	D2	20	mg/L			09/27/16 01:21	10
Fluoride	1.3		0.40	mg/L			09/22/16 07:26	1
Sulfate	3500	D2	400	mg/L			09/22/16 07:53	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	39		0.050	mg/L		10/06/16 10:51	10/08/16 01:01	1
Boron	40		0.050	mg/L		09/20/16 07:27	10/13/16 13:06	1

Client Sample ID: FC-CCR-MW61-916

Lab Sample ID: 550-69590-5
Date Collected: 09/13/16 13:19
Matrix: Water
Date Received: 09/15/16 08:03

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	500		2.0	mg/L		10/06/16 10:51	10/08/16 01:01	1
Calcium	480		2.0	mg/L		09/20/16 07:27	10/13/16 13:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5700	D2	100	mg/L			09/20/16 17:01	1
pH	8.6	H5	1.7	SU			09/16/16 11:04	1
Temperature	10.9	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW62-916

Lab Sample ID: 550-69590-6
Date Collected: 09/12/16 17:16
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130		2.0	mg/L			09/22/16 08:21	1
Fluoride	1.5		0.40	mg/L			09/22/16 08:21	1
Sulfate	3300	D2	400	mg/L			09/22/16 08:48	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.4		0.050	mg/L		10/06/16 10:51	10/08/16 01:07	1
Boron	2.5		0.050	mg/L		09/20/16 07:27	10/13/16 13:12	1
Calcium	590		2.0	mg/L		10/06/16 10:51	10/08/16 01:07	1
Calcium	570		2.0	mg/L		09/20/16 07:27	10/13/16 13:12	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2400	D2	40	mg/L			09/19/16 13:00	1
pH	6.9	H5	1.7	SU			09/16/16 11:04	1
Temperature	11.1	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW63-916

Lab Sample ID: 550-69590-7
Date Collected: 09/12/16 13:43
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		2.0	mg/L			09/22/16 09:16	1
Fluoride	2.1		0.40	mg/L			09/22/16 09:16	1
Sulfate	2800	D2	400	mg/L			09/22/16 09:43	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.050	mg/L		10/06/16 10:51	10/08/16 01:12	1
Boron	2.0		0.050	mg/L		09/20/16 07:27	10/13/16 13:18	1
Calcium	560		2.0	mg/L		10/06/16 10:51	10/08/16 01:12	1
Calcium	550		2.0	mg/L		09/20/16 07:27	10/13/16 13:18	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW63-916

Lab Sample ID: 550-69590-7
Date Collected: 09/12/16 13:43
Matrix: Water
Date Received: 09/15/16 08:03

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4700	D2	40	mg/L			09/19/16 13:00	1
pH	7.1	H5	1.7	SU			09/16/16 11:04	1
Temperature	11.0	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW64-916

Lab Sample ID: 550-69590-8
Date Collected: 09/12/16 14:39
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52		2.0	mg/L			09/22/16 10:10	1
Fluoride	1.5		0.40	mg/L			09/22/16 10:10	1
Sulfate	320	D2	20	mg/L			09/22/16 10:38	10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.63		0.050	mg/L		10/06/16 10:51	10/08/16 01:18	1
Boron	0.67		0.050	mg/L		09/20/16 07:27	10/13/16 13:24	1
Calcium	88		2.0	mg/L		10/06/16 10:51	10/08/16 01:18	1
Calcium	90		2.0	mg/L		09/20/16 07:27	10/13/16 13:24	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	790		20	mg/L			09/19/16 13:00	1
pH	7.7	H5	1.7	SU			09/16/16 11:04	1
Temperature	11.1	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW65-916

Lab Sample ID: 550-69590-9
Date Collected: 09/12/16 18:03
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	54		2.0	mg/L			09/22/16 11:05	1
Fluoride	2.0		0.40	mg/L			09/22/16 11:05	1
Sulfate	480	D2	20	mg/L			09/22/16 11:33	10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.82		0.050	mg/L		10/06/16 10:51	10/08/16 01:21	1
Boron	0.83		0.050	mg/L		09/20/16 07:27	10/13/16 13:27	1
Calcium	110		2.0	mg/L		10/06/16 10:51	10/08/16 01:21	1
Calcium	110		2.0	mg/L		09/20/16 07:27	10/13/16 13:27	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		20	mg/L			09/19/16 13:00	1
pH	7.5	H5	1.7	SU			09/16/16 11:04	1
Temperature	11.5	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW66-916

Lab Sample ID: 550-69590-10
Date Collected: 09/12/16 16:18
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	1000	mg/L			09/22/16 13:22	500
Fluoride	12		0.40	mg/L			09/22/16 12:55	1
Sulfate	8000	D2	1000	mg/L			09/22/16 13:22	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	110	E2	0.050	mg/L		09/20/16 07:27	10/13/16 13:38	1
Calcium	510		2.0	mg/L		10/06/16 10:51	10/08/16 01:24	1
Calcium	470		2.0	mg/L		09/20/16 07:27	10/13/16 13:38	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		10/06/16 10:51	10/10/16 18:28	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	15000	D2	100	mg/L			09/19/16 13:00	1
pH	7.4	H5	1.7	SU			09/16/16 11:04	1
Temperature	12.3	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW67-916

Lab Sample ID: 550-69590-11
Date Collected: 09/13/16 07:26
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	1000	mg/L			09/22/16 14:17	500
Fluoride	23	D2	4.0	mg/L			09/27/16 01:48	10
Sulfate	7900	D2	1000	mg/L			09/22/16 14:17	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	110	E2	0.050	mg/L		09/20/16 07:27	10/13/16 13:44	1
Calcium	540		2.0	mg/L		10/06/16 10:51	10/08/16 01:30	1
Calcium	510		2.0	mg/L		09/20/16 07:27	10/13/16 13:44	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		10/06/16 10:51	10/10/16 18:33	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2 H2	100	mg/L			09/21/16 19:50	1
pH	7.3	H5	1.7	SU			09/16/16 11:04	1
Temperature	10.5	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW68-916

Lab Sample ID: 550-69590-12
Date Collected: 09/13/16 08:10
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	1000	mg/L			09/22/16 15:12	500
Fluoride	9.7		0.40	mg/L			09/22/16 14:45	1
Sulfate	8500	D2	1000	mg/L			09/22/16 15:12	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	120	E2	0.050	mg/L		09/20/16 07:27	10/13/16 13:50	1
Calcium	510		2.0	mg/L		10/06/16 10:51	10/08/16 01:36	1
Calcium	480		2.0	mg/L		09/20/16 07:27	10/13/16 13:50	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		10/06/16 10:51	10/10/16 18:39	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2 H2	100	mg/L			09/21/16 19:50	1
pH	7.1	H5	1.7	SU			09/16/16 11:04	1
Temperature	9.1	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW69-916

Lab Sample ID: 550-69590-13
Date Collected: 09/13/16 08:58
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	1000	mg/L			09/22/16 16:07	500
Fluoride	16		0.40	mg/L			09/22/16 15:39	1
Sulfate	8700	D2	1000	mg/L			09/22/16 16:07	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	110	E2	0.050	mg/L		09/20/16 07:27	10/13/16 13:56	1
Calcium	530		2.0	mg/L		10/06/16 10:51	10/08/16 01:42	1
Calcium	500		2.0	mg/L		09/20/16 07:27	10/13/16 13:56	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		10/06/16 10:51	10/10/16 18:45	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	17000	D2 H2	100	mg/L			09/21/16 19:50	1
pH	7.1	H5	1.7	SU			09/16/16 11:04	1
Temperature	9.9	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW70-916

Lab Sample ID: 550-69590-14
Date Collected: 09/12/16 18:51
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	1000	mg/L			09/22/16 17:02	500
Fluoride	0.69		0.40	mg/L			09/22/16 16:34	1
Sulfate	5900	D2	1000	mg/L			09/22/16 17:02	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	93	E2	0.050	mg/L		09/20/16 07:27	10/13/16 14:02	1
Calcium	550		2.0	mg/L		10/06/16 10:51	10/08/16 01:48	1
Calcium	500		2.0	mg/L		09/20/16 07:27	10/13/16 14:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	96	D2	0.50	mg/L		10/06/16 10:51	10/10/16 18:51	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	12000	D2	100	mg/L			09/19/16 13:00	1
pH	7.0	H5	1.7	SU			09/16/16 11:04	1
Temperature	10.0	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW71-916

Lab Sample ID: 550-69590-15
Date Collected: 09/12/16 18:42
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570	D2	400	mg/L			09/21/16 19:16	200
Fluoride	ND		0.40	mg/L			09/21/16 18:58	1
Sulfate	9300	D2	400	mg/L			09/21/16 19:16	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		10/06/16 10:51	10/08/16 02:02	1
Boron	0.58		0.050	mg/L		09/20/16 07:27	10/13/16 14:08	1
Calcium	500		2.0	mg/L		10/06/16 10:51	10/08/16 02:02	1
Calcium	460		2.0	mg/L		09/20/16 07:27	10/13/16 14:08	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2	100	mg/L			09/19/16 13:00	1
pH	7.2	H5	1.7	SU			09/16/16 11:04	1
Temperature	10.6	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW72-916

Lab Sample ID: 550-69590-16
Date Collected: 09/13/16 10:09
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450	D2	400	mg/L			09/21/16 19:53	200
Fluoride	ND		0.40	mg/L			09/21/16 19:35	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW72-916

Lab Sample ID: 550-69590-16
Date Collected: 09/13/16 10:09
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	10000	D2	400	mg/L			09/21/16 19:53	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.22		0.050	mg/L		10/06/16 10:51	10/08/16 02:08	1
Boron	0.24		0.050	mg/L		09/20/16 07:27	10/13/16 14:14	1
Calcium	480		2.0	mg/L		10/06/16 10:51	10/08/16 02:08	1
Calcium	470		2.0	mg/L		09/20/16 07:27	10/13/16 14:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	17000	D2 H2	100	mg/L			09/21/16 19:50	1
pH	7.1	H5	1.7	SU			09/16/16 11:04	1
Temperature	10.6	H5	0.1	Degrees C			09/16/16 11:04	1

Client Sample ID: FC-CCR-MW100-916

Lab Sample ID: 550-69590-17
Date Collected: 09/13/16 12:21
Matrix: Water
Date Received: 09/15/16 08:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	760	D2	400	mg/L			09/21/16 20:30	200
Chloride	440	D2	200	mg/L			10/13/16 00:51	100
Fluoride	6.0		0.40	mg/L			09/21/16 20:11	1
Sulfate	8800	D2	400	mg/L			09/21/16 20:30	200
Sulfate	5100	D2	200	mg/L			10/13/16 00:51	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	67		0.050	mg/L		10/06/16 10:51	10/08/16 02:14	1
Boron	65		0.050	mg/L		09/20/16 07:27	10/13/16 14:20	1
Calcium	490		2.0	mg/L		10/06/16 10:51	10/08/16 02:14	1
Calcium	440		2.0	mg/L		09/20/16 07:27	10/13/16 14:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8500	D2	100	mg/L			09/20/16 17:01	1
Total Dissolved Solids	8400	D2 H3	100	mg/L			10/13/16 20:45	1
pH	7.6	H5	1.7	SU			09/16/16 11:04	1
Temperature	10.7	H5	0.1	Degrees C			09/16/16 11:04	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-100510/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100510

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			10/12/16 17:53	1
Sulfate	ND		2.0		mg/L			10/12/16 17:53	1

Lab Sample ID: LCS 550-100510/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100510

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			20.0	20.4		mg/L		102	90 - 110		
Sulfate			20.0	20.6		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-100510/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100510

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	0	20
Sulfate			20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-70805-B-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100510

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	7.4		20.0	29.0		mg/L		108	80 - 120		
Sulfate	45		20.0	64.1		mg/L		96	80 - 120		

Lab Sample ID: 550-70805-B-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100510

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	7.4		20.0	29.0		mg/L		108	80 - 120	0	20
Sulfate	45		20.0	64.1		mg/L		95	80 - 120	0	20

Lab Sample ID: MB 550-98841/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98841

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			09/21/16 15:40	1
Fluoride	ND		0.40		mg/L			09/21/16 15:40	1
Sulfate	ND		2.0		mg/L			09/21/16 15:40	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-98841/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98841

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.3		mg/L		101	90 - 110
Fluoride	4.00	4.05		mg/L		101	90 - 110
Sulfate	20.0	20.5		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-98841/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98841

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.3		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.06		mg/L		101	90 - 110	0	20
Sulfate	20.0	20.5		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-69591-A-9 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	54		20.0	71.6		mg/L		90	80 - 120
Fluoride	2.0		4.00	6.15		mg/L		102	80 - 120
Sulfate	330	E2 M3	20.0	329	E2 M3	mg/L		1	80 - 120

Lab Sample ID: 550-69591-A-9 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	54		20.0	72.1		mg/L		93	80 - 120	1	20
Fluoride	2.0		4.00	6.24		mg/L		105	80 - 120	2	20
Sulfate	330	E2 M3	20.0	330	E2 M3	mg/L		5	80 - 120	0	20

Lab Sample ID: MB 550-98872/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98872

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			09/21/16 18:11	1
Fluoride	ND		0.40	mg/L			09/21/16 18:11	1
Sulfate	ND		2.0	mg/L			09/21/16 18:11	1

Lab Sample ID: LCS 550-98872/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98872

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

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-98872/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98872

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	19.9		mg/L		100	90 - 110	0	20
Fluoride	4.00	4.01		mg/L		100	90 - 110	0	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-68884-F-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98872

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10		20.0	31.4		mg/L		106	80 - 120
Fluoride	ND		4.00	4.20		mg/L		100	80 - 120
Sulfate	9.9		20.0	29.6		mg/L		98	80 - 120

Lab Sample ID: 550-68884-F-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98872

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10		20.0	31.7		mg/L		108	80 - 120	1	20
Fluoride	ND		4.00	4.28		mg/L		102	80 - 120	2	20
Sulfate	9.9		20.0	30.0		mg/L		100	80 - 120	1	20

Lab Sample ID: MB 550-99189/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 99189

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			09/26/16 19:52	1
Fluoride	ND		0.40	mg/L			09/26/16 19:52	1
Sulfate	ND		2.0	mg/L			09/26/16 19:52	1

Lab Sample ID: LCS 550-99189/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 99189

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.3		mg/L		101	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.2		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-99189/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 99189

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.3		mg/L		101	90 - 110	0	20
Fluoride	4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.2		mg/L		101	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-69976-B-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 99189

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	95	M3	20.0	111	M3	mg/L		81	80 - 120
Fluoride	ND		4.00	4.33		mg/L		101	80 - 120
Sulfate	190	M3	20.0	203	E2 M3	mg/L		53	80 - 120

Lab Sample ID: 550-69976-B-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 99189

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	95	M3	20.0	112	M3	mg/L		81	80 - 120	0	20
Fluoride	ND		4.00	4.34		mg/L		102	80 - 120	0	20
Sulfate	190	M3	20.0	203	E2 M3	mg/L		53	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-98617/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100558 — **Prep Batch: 98617**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		09/20/16 07:27	10/13/16 12:26	1
Calcium	ND		2.0	mg/L		09/20/16 07:27	10/13/16 12:26	1

Lab Sample ID: LCS 550-98617/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100558 — **Prep Batch: 98617**

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	21.1		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-98617/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100558 — **Prep Batch: 98617**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.02		mg/L		102	85 - 115	1	20
Calcium	21.0	21.2		mg/L		101	85 - 115	1	20

Lab Sample ID: 550-69628-D-1-A MS ^T — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100558 — **Prep Batch: 98617**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.12		1.00	1.13		mg/L		102	70 - 130
Calcium	4.9		21.0	25.8		mg/L		100	70 - 130

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

Lab Sample ID: 550-69628-D-1-B MSD ^T — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100558 — **Prep Batch: 98617**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.12		1.00	1.12		mg/L		101	70 - 130	1	20
Calcium	4.9		21.0	25.5		mg/L		98	70 - 130	1	20

Lab Sample ID: MB 550-99914/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100167 — **Prep Batch: 99914**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		10/06/16 10:51	10/08/16 00:06	1
Calcium	ND		2.0		mg/L		10/06/16 10:51	10/08/16 00:06	1

Lab Sample ID: MB 550-99914/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100559 — **Prep Batch: 99914**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		10/06/16 10:51	10/13/16 14:25	1
Calcium	ND		2.0		mg/L		10/06/16 10:51	10/13/16 14:25	1

Lab Sample ID: LCS 550-99914/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100167 — **Prep Batch: 99914**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	85 - 115
Calcium	21.0	21.8		mg/L		104	85 - 115

Lab Sample ID: LCS 550-99914/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100559 — **Prep Batch: 99914**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.04		mg/L		104	85 - 115
Calcium	21.0	22.0		mg/L		105	85 - 115

Lab Sample ID: LCSD 550-99914/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100167 — **Prep Batch: 99914**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.967		mg/L		97	85 - 115	4	20
Calcium	21.0	21.4		mg/L		102	85 - 115	2	20

Lab Sample ID: LCSD 550-99914/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100559 — **Prep Batch: 99914**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.05		mg/L		105	85 - 115	1	20

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

Lab Sample ID: LCSD 550-99914/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100559 — **Prep Batch: 99914**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium			21.0	21.4		mg/L		102	85 - 115	3	20

Lab Sample ID: 550-70466-D-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100167 — **Prep Batch: 99914**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron	0.37		1.00	1.37		mg/L		101	70 - 130		
Calcium	65		21.0	85.6		mg/L		100	70 - 130		

Lab Sample ID: 550-70466-D-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100559 — **Prep Batch: 99914**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron	0.40		1.00	1.44		mg/L		105	70 - 130		
Calcium	65		21.0	81.7		mg/L		81	70 - 130		

Lab Sample ID: 550-70466-D-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100167 — **Prep Batch: 99914**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.37		1.00	1.36		mg/L		99	70 - 130	1	20
Calcium	65		21.0	83.9		mg/L		92	70 - 130	2	20

Lab Sample ID: 550-70466-D-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100559 — **Prep Batch: 99914**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.40		1.00	1.45		mg/L		105	70 - 130	0	20
Calcium	65		21.0	82.0		mg/L		83	70 - 130	0	20

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

Lab Sample ID: MB 550-100573/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100573

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			10/13/16 20:45	1

Lab Sample ID: LCS 550-100573/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100573

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

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

Lab Sample ID: LCSD 550-100573/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100573

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	986		mg/L		99	90 - 110	2	10

Lab Sample ID: 550-69590-4 DU — **Client Sample ID: FC-CCR-MW60-916**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100573

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	8500	H3 D2		8610	D2 H3	mg/L				1	10

Lab Sample ID: 550-69590-17 DU — **Client Sample ID: FC-CCR-MW100-916**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 100573

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	8400	D2 H3		8460	D2	mg/L				0.7	10

Lab Sample ID: MB 550-98558/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98558

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			09/19/16 13:00	1

Lab Sample ID: LCS 550-98558/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98558

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 550-98558/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98558

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	982		mg/L		98	90 - 110	0	10

Lab Sample ID: 550-69563-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98558

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1200			1230		mg/L				0.7	10

Lab Sample ID: MB 550-98700/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98700

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			09/20/16 17:01	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Lab Sample ID: LCS 550-98700/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98700

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	984		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-98700/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98700

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110	2	10

Lab Sample ID: 550-69494-U-5 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98700

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1600			1600		mg/L				0.1	10

Lab Sample ID: 550-69590-5 DU — **Client Sample ID: FC-CCR-MW61-916**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98700

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	5700	D2		5570	D2	mg/L				3	10

Lab Sample ID: MB 550-98808/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98808

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			09/21/16 19:50	1

Lab Sample ID: LCS 550-98808/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98808

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 550-98808/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98808

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110	1	10

Lab Sample ID: 550-69628-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 98808

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	140			136		mg/L				0	10

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-98409/1
Matrix: Water
Analysis Batch: 98409

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-98409/13
Matrix: Water
Analysis Batch: 98409

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.0	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-98409/25
Matrix: Water
Analysis Batch: 98409

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.3	98.5 - 101.5		

Lab Sample ID: 550-69590-1 DU
Matrix: Water
Analysis Batch: 98409

Client Sample ID: FC-CCR-MW7-916
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.3	H5		7.3	H5	SU				0	5
Temperature	10.6	H5		9.8	H5	Degrees C				8	

Lab Sample ID: 550-69590-11 DU
Matrix: Water
Analysis Batch: 98409

Client Sample ID: FC-CCR-MW67-916
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.3	H5		7.3	H5	SU				0	5
Temperature	10.5	H5		9.6	H5	Degrees C				9	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

HPLC/IC

Analysis Batch: 98841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-15	FC-CCR-MW71-916	Total/NA	Water	300.0	
550-69590-15	FC-CCR-MW71-916	Total/NA	Water	300.0	
550-69590-16	FC-CCR-MW72-916	Total/NA	Water	300.0	
550-69590-16	FC-CCR-MW72-916	Total/NA	Water	300.0	
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	300.0	
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	300.0	
MB 550-98841/2	Method Blank	Total/NA	Water	300.0	
LCS 550-98841/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-98841/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-69591-A-9 MS	Matrix Spike	Total/NA	Water	300.0	
550-69591-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 98872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-1	FC-CCR-MW7-916	Total/NA	Water	300.0	
550-69590-1	FC-CCR-MW7-916	Total/NA	Water	300.0	
550-69590-2	FC-CCR-MW8-916	Total/NA	Water	300.0	
550-69590-3	FC-CCR-MW49A-916	Total/NA	Water	300.0	
550-69590-3	FC-CCR-MW49A-916	Total/NA	Water	300.0	
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	300.0	
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	300.0	
550-69590-5	FC-CCR-MW61-916	Total/NA	Water	300.0	
550-69590-5	FC-CCR-MW61-916	Total/NA	Water	300.0	
550-69590-6	FC-CCR-MW62-916	Total/NA	Water	300.0	
550-69590-6	FC-CCR-MW62-916	Total/NA	Water	300.0	
550-69590-7	FC-CCR-MW63-916	Total/NA	Water	300.0	
550-69590-7	FC-CCR-MW63-916	Total/NA	Water	300.0	
550-69590-8	FC-CCR-MW64-916	Total/NA	Water	300.0	
550-69590-8	FC-CCR-MW64-916	Total/NA	Water	300.0	
550-69590-9	FC-CCR-MW65-916	Total/NA	Water	300.0	
550-69590-9	FC-CCR-MW65-916	Total/NA	Water	300.0	
550-69590-10	FC-CCR-MW66-916	Total/NA	Water	300.0	
550-69590-10	FC-CCR-MW66-916	Total/NA	Water	300.0	
550-69590-11	FC-CCR-MW67-916	Total/NA	Water	300.0	
550-69590-12	FC-CCR-MW68-916	Total/NA	Water	300.0	
550-69590-12	FC-CCR-MW68-916	Total/NA	Water	300.0	
550-69590-13	FC-CCR-MW69-916	Total/NA	Water	300.0	
550-69590-13	FC-CCR-MW69-916	Total/NA	Water	300.0	
550-69590-14	FC-CCR-MW70-916	Total/NA	Water	300.0	
550-69590-14	FC-CCR-MW70-916	Total/NA	Water	300.0	
MB 550-98872/2	Method Blank	Total/NA	Water	300.0	
LCS 550-98872/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-98872/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-68884-F-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-68884-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 99189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-2	FC-CCR-MW8-916	Total/NA	Water	300.0	
550-69590-5	FC-CCR-MW61-916	Total/NA	Water	300.0	
550-69590-11	FC-CCR-MW67-916	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 99189 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-99189/2	Method Blank	Total/NA	Water	300.0	
LCS 550-99189/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-99189/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-69976-B-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-69976-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 100510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	300.0	
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	300.0	
MB 550-100510/2	Method Blank	Total/NA	Water	300.0	
LCS 550-100510/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-100510/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-70805-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-70805-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 98617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-1	FC-CCR-MW7-916	Total/NA	Water	200.7	
550-69590-2	FC-CCR-MW8-916	Total/NA	Water	200.7	
550-69590-3	FC-CCR-MW49A-916	Total/NA	Water	200.7	
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	200.7	
550-69590-5	FC-CCR-MW61-916	Total/NA	Water	200.7	
550-69590-6	FC-CCR-MW62-916	Total/NA	Water	200.7	
550-69590-7	FC-CCR-MW63-916	Total/NA	Water	200.7	
550-69590-8	FC-CCR-MW64-916	Total/NA	Water	200.7	
550-69590-9	FC-CCR-MW65-916	Total/NA	Water	200.7	
550-69590-10	FC-CCR-MW66-916	Total/NA	Water	200.7	
550-69590-11	FC-CCR-MW67-916	Total/NA	Water	200.7	
550-69590-12	FC-CCR-MW68-916	Total/NA	Water	200.7	
550-69590-13	FC-CCR-MW69-916	Total/NA	Water	200.7	
550-69590-14	FC-CCR-MW70-916	Total/NA	Water	200.7	
550-69590-15	FC-CCR-MW71-916	Total/NA	Water	200.7	
550-69590-16	FC-CCR-MW72-916	Total/NA	Water	200.7	
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	200.7	
MB 550-98617/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-98617/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-98617/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-69628-D-1-A MS ^T	Matrix Spike	Total/NA	Water	200.7	
550-69628-D-1-B MSD ^T	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 99914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-1	FC-CCR-MW7-916	Total/NA	Water	200.7	
550-69590-2	FC-CCR-MW8-916	Total/NA	Water	200.7	
550-69590-3	FC-CCR-MW49A-916	Total/NA	Water	200.7	
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	200.7	
550-69590-5	FC-CCR-MW61-916	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 99914 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-6	FC-CCR-MW62-916	Total/NA	Water	200.7	
550-69590-7	FC-CCR-MW63-916	Total/NA	Water	200.7	
550-69590-8	FC-CCR-MW64-916	Total/NA	Water	200.7	
550-69590-9	FC-CCR-MW65-916	Total/NA	Water	200.7	
550-69590-10	FC-CCR-MW66-916	Total/NA	Water	200.7	
550-69590-10 - DL	FC-CCR-MW66-916	Total/NA	Water	200.7	
550-69590-11 - DL	FC-CCR-MW67-916	Total/NA	Water	200.7	
550-69590-11	FC-CCR-MW67-916	Total/NA	Water	200.7	
550-69590-12 - DL	FC-CCR-MW68-916	Total/NA	Water	200.7	
550-69590-12	FC-CCR-MW68-916	Total/NA	Water	200.7	
550-69590-13 - DL	FC-CCR-MW69-916	Total/NA	Water	200.7	
550-69590-13	FC-CCR-MW69-916	Total/NA	Water	200.7	
550-69590-14 - DL	FC-CCR-MW70-916	Total/NA	Water	200.7	
550-69590-14	FC-CCR-MW70-916	Total/NA	Water	200.7	
550-69590-15	FC-CCR-MW71-916	Total/NA	Water	200.7	
550-69590-16	FC-CCR-MW72-916	Total/NA	Water	200.7	
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	200.7	
MB 550-99914/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-99914/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-99914/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-70466-D-1-D MS	Matrix Spike	Total/NA	Water	200.7	
550-70466-D-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 100167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-1	FC-CCR-MW7-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-2	FC-CCR-MW8-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-3	FC-CCR-MW49A-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-5	FC-CCR-MW61-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-6	FC-CCR-MW62-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-7	FC-CCR-MW63-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-8	FC-CCR-MW64-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-9	FC-CCR-MW65-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-10	FC-CCR-MW66-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-11	FC-CCR-MW67-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-12	FC-CCR-MW68-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-13	FC-CCR-MW69-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-14	FC-CCR-MW70-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-15	FC-CCR-MW71-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-16	FC-CCR-MW72-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	200.7 Rev 4.4	99914
MB 550-99914/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	99914
LCS 550-99914/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	99914
LCSD 550-99914/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	99914
550-70466-D-1-D MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	99914
550-70466-D-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	99914

Analysis Batch: 100293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-10 - DL	FC-CCR-MW66-916	Total/NA	Water	200.7 Rev 4.4	99914

Metals (Continued)

Analysis Batch: 100293 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-11 - DL	FC-CCR-MW67-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-12 - DL	FC-CCR-MW68-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-13 - DL	FC-CCR-MW69-916	Total/NA	Water	200.7 Rev 4.4	99914
550-69590-14 - DL	FC-CCR-MW70-916	Total/NA	Water	200.7 Rev 4.4	99914

Analysis Batch: 100558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-1	FC-CCR-MW7-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-2	FC-CCR-MW8-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-3	FC-CCR-MW49A-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-5	FC-CCR-MW61-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-6	FC-CCR-MW62-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-7	FC-CCR-MW63-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-8	FC-CCR-MW64-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-9	FC-CCR-MW65-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-10	FC-CCR-MW66-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-11	FC-CCR-MW67-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-12	FC-CCR-MW68-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-13	FC-CCR-MW69-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-14	FC-CCR-MW70-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-15	FC-CCR-MW71-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-16	FC-CCR-MW72-916	Total/NA	Water	200.7 Rev 4.4	98617
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	200.7 Rev 4.4	98617
MB 550-98617/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	98617
LCS 550-98617/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	98617
LCSD 550-98617/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	98617
550-69628-D-1-A MS ^T	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	98617
550-69628-D-1-B MSD ^T	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	98617

Analysis Batch: 100559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-99914/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	99914
LCS 550-99914/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	99914
LCSD 550-99914/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	99914
550-70466-D-1-D MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	99914
550-70466-D-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	99914

General Chemistry

Analysis Batch: 98409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-1	FC-CCR-MW7-916	Total/NA	Water	SM 4500 H+ B	
550-69590-2	FC-CCR-MW8-916	Total/NA	Water	SM 4500 H+ B	
550-69590-3	FC-CCR-MW49A-916	Total/NA	Water	SM 4500 H+ B	
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	SM 4500 H+ B	
550-69590-5	FC-CCR-MW61-916	Total/NA	Water	SM 4500 H+ B	
550-69590-6	FC-CCR-MW62-916	Total/NA	Water	SM 4500 H+ B	
550-69590-7	FC-CCR-MW63-916	Total/NA	Water	SM 4500 H+ B	
550-69590-8	FC-CCR-MW64-916	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 98409 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-9	FC-CCR-MW65-916	Total/NA	Water	SM 4500 H+ B	
550-69590-10	FC-CCR-MW66-916	Total/NA	Water	SM 4500 H+ B	
550-69590-11	FC-CCR-MW67-916	Total/NA	Water	SM 4500 H+ B	
550-69590-12	FC-CCR-MW68-916	Total/NA	Water	SM 4500 H+ B	
550-69590-13	FC-CCR-MW69-916	Total/NA	Water	SM 4500 H+ B	
550-69590-14	FC-CCR-MW70-916	Total/NA	Water	SM 4500 H+ B	
550-69590-15	FC-CCR-MW71-916	Total/NA	Water	SM 4500 H+ B	
550-69590-16	FC-CCR-MW72-916	Total/NA	Water	SM 4500 H+ B	
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-98409/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-98409/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-98409/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-69590-1 DU	FC-CCR-MW7-916	Total/NA	Water	SM 4500 H+ B	
550-69590-11 DU	FC-CCR-MW67-916	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 98558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-6	FC-CCR-MW62-916	Total/NA	Water	SM 2540C	
550-69590-7	FC-CCR-MW63-916	Total/NA	Water	SM 2540C	
550-69590-8	FC-CCR-MW64-916	Total/NA	Water	SM 2540C	
550-69590-9	FC-CCR-MW65-916	Total/NA	Water	SM 2540C	
550-69590-10	FC-CCR-MW66-916	Total/NA	Water	SM 2540C	
550-69590-14	FC-CCR-MW70-916	Total/NA	Water	SM 2540C	
550-69590-15	FC-CCR-MW71-916	Total/NA	Water	SM 2540C	
MB 550-98558/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-98558/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-98558/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-69563-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 98700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	SM 2540C	
550-69590-5	FC-CCR-MW61-916	Total/NA	Water	SM 2540C	
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	SM 2540C	
MB 550-98700/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-98700/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-98700/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-69494-U-5 DU	Duplicate	Total/NA	Water	SM 2540C	
550-69590-5 DU	FC-CCR-MW61-916	Total/NA	Water	SM 2540C	

Analysis Batch: 98808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-1	FC-CCR-MW7-916	Total/NA	Water	SM 2540C	
550-69590-2	FC-CCR-MW8-916	Total/NA	Water	SM 2540C	
550-69590-3	FC-CCR-MW49A-916	Total/NA	Water	SM 2540C	
550-69590-11	FC-CCR-MW67-916	Total/NA	Water	SM 2540C	
550-69590-12	FC-CCR-MW68-916	Total/NA	Water	SM 2540C	
550-69590-13	FC-CCR-MW69-916	Total/NA	Water	SM 2540C	
550-69590-16	FC-CCR-MW72-916	Total/NA	Water	SM 2540C	
MB 550-98808/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-98808/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 98808 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-98808/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-69628-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 100573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-69590-4	FC-CCR-MW60-916	Total/NA	Water	SM 2540C	
550-69590-17	FC-CCR-MW100-916	Total/NA	Water	SM 2540C	
MB 550-100573/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-100573/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-100573/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-69590-4 DU	FC-CCR-MW60-916	Total/NA	Water	SM 2540C	
550-69590-17 DU	FC-CCR-MW100-916	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW7-916

Lab Sample ID: 550-69590-1
Date Collected: 09/13/16 15:10
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 02:52	BCB	TAL PHX
Total/NA	Analysis	300.0		200	98872	09/22/16 03:19	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 00:31	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 12:43	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98808		BCB	TAL PHX
					(Start)	09/21/16 19:50		
					(End)	09/22/16 13:30		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW8-916

Lab Sample ID: 550-69590-2
Date Collected: 09/13/16 14:01
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 03:47	BCB	TAL PHX
Total/NA	Analysis	300.0		100	99189	09/27/16 00:54	KLH	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 00:37	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 12:48	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98808		BCB	TAL PHX
					(Start)	09/21/16 19:50		
					(End)	09/22/16 13:30		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW49A-916

Lab Sample ID: 550-69590-3
Date Collected: 09/13/16 11:21
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 04:42	BCB	TAL PHX
Total/NA	Analysis	300.0		200	98872	09/22/16 05:09	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 00:43	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 12:54	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98808		BCB	TAL PHX
					(Start)	09/21/16 19:50		
					(End)	09/22/16 13:30		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW60-916

Lab Sample ID: 550-69590-4
Date Collected: 09/13/16 12:21
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	100510	10/13/16 00:33	BCB	TAL PHX
Total/NA	Analysis	300.0		1	98872	09/22/16 05:36	BCB	TAL PHX
Total/NA	Analysis	300.0		200	98872	09/22/16 06:04	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 00:49	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:00	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98700		BCB	TAL PHX
					(Start)	09/20/16 17:01		
					(End)	09/21/16 15:05		
Total/NA	Analysis	SM 2540C		1	100573		BCB	TAL PHX
					(Start)	10/13/16 20:45		
					(End)	10/14/16 18:50		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW61-916

Lab Sample ID: 550-69590-5
Date Collected: 09/13/16 13:19
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 07:26	BCB	TAL PHX
Total/NA	Analysis	300.0		200	98872	09/22/16 07:53	BCB	TAL PHX
Total/NA	Analysis	300.0		10	99189	09/27/16 01:21	KLH	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:01	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:06	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98700		BCB	TAL PHX
					(Start)	09/20/16 17:01		
					(End)	09/21/16 15:05		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW62-916

Lab Sample ID: 550-69590-6
Date Collected: 09/12/16 17:16
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 08:21	BCB	TAL PHX
Total/NA	Analysis	300.0		200	98872	09/22/16 08:48	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:07	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:12	CJD	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	98558		BCB	TAL PHX
					(Start)	09/19/16 13:00		
					(End)	09/20/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW63-916 — Lab Sample ID: 550-69590-7

Date Collected: 09/12/16 13:43 — **Matrix: Water**
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 09:16	BCB	TAL PHX
Total/NA	Analysis	300.0		200	98872	09/22/16 09:43	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:12	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:18	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98558		BCB	TAL PHX
					(Start)	09/19/16 13:00		
					(End)	09/20/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW64-916 — Lab Sample ID: 550-69590-8

Date Collected: 09/12/16 14:39 — **Matrix: Water**
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 10:10	BCB	TAL PHX
Total/NA	Analysis	300.0		10	98872	09/22/16 10:38	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:18	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:24	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98558		BCB	TAL PHX
					(Start)	09/19/16 13:00		
					(End)	09/20/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW65-916 — Lab Sample ID: 550-69590-9

Date Collected: 09/12/16 18:03 — **Matrix: Water**
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 11:05	BCB	TAL PHX
Total/NA	Analysis	300.0		10	98872	09/22/16 11:33	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:21	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW65-916

Lab Sample ID: 550-69590-9
Date Collected: 09/12/16 18:03
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:27	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98558		BCB	TAL PHX
					(Start)	09/19/16 13:00		
					(End)	09/20/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW66-916

Lab Sample ID: 550-69590-10
Date Collected: 09/12/16 16:18
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 12:55	BCB	TAL PHX
Total/NA	Analysis	300.0		500	98872	09/22/16 13:22	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:24	CJD	TAL PHX
Total/NA	Prep	200.7	DL		99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	100293	10/10/16 18:28	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:38	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98558		BCB	TAL PHX
					(Start)	09/19/16 13:00		
					(End)	09/20/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW67-916

Lab Sample ID: 550-69590-11
Date Collected: 09/13/16 07:26
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500	98872	09/22/16 14:17	BCB	TAL PHX
Total/NA	Analysis	300.0		10	99189	09/27/16 01:48	KLH	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:30	CJD	TAL PHX
Total/NA	Prep	200.7	DL		99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	100293	10/10/16 18:33	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:44	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98808		BCB	TAL PHX
					(Start)	09/21/16 19:50		
					(End)	09/22/16 13:30		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW68-916

Lab Sample ID: 550-69590-12
Date Collected: 09/13/16 08:10
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 14:45	BCB	TAL PHX
Total/NA	Analysis	300.0		500	98872	09/22/16 15:12	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:36	CJD	TAL PHX
Total/NA	Prep	200.7	DL		99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	100293	10/10/16 18:39	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:50	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98808		BCB	TAL PHX
					(Start)	09/21/16 19:50		
					(End)	09/22/16 13:30		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW69-916

Lab Sample ID: 550-69590-13
Date Collected: 09/13/16 08:58
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 15:39	BCB	TAL PHX
Total/NA	Analysis	300.0		500	98872	09/22/16 16:07	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:42	CJD	TAL PHX
Total/NA	Prep	200.7	DL		99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	100293	10/10/16 18:45	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 13:56	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98808		BCB	TAL PHX
					(Start)	09/21/16 19:50		
					(End)	09/22/16 13:30		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW70-916

Lab Sample ID: 550-69590-14
Date Collected: 09/12/16 18:51
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98872	09/22/16 16:34	BCB	TAL PHX
Total/NA	Analysis	300.0		500	98872	09/22/16 17:02	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 01:48	CJD	TAL PHX
Total/NA	Prep	200.7	DL		99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4	DL	10	100293	10/10/16 18:51	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW70-916

Lab Sample ID: 550-69590-14
Date Collected: 09/12/16 18:51
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 14:02	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98558		BCB	TAL PHX
					(Start)	09/19/16 13:00		
					(End)	09/20/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW71-916

Lab Sample ID: 550-69590-15
Date Collected: 09/12/16 18:42
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98841	09/21/16 18:58	BCB	TAL PHX
Total/NA	Analysis	300.0		200	98841	09/21/16 19:16	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 02:02	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 14:08	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98558		BCB	TAL PHX
					(Start)	09/19/16 13:00		
					(End)	09/20/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Client Sample ID: FC-CCR-MW72-916

Lab Sample ID: 550-69590-16
Date Collected: 09/13/16 10:09
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98841	09/21/16 19:35	BCB	TAL PHX
Total/NA	Analysis	300.0		200	98841	09/21/16 19:53	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 02:08	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 14:14	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98808		BCB	TAL PHX
					(Start)	09/21/16 19:50		
					(End)	09/22/16 13:30		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-69590-1

Client Sample ID: FC-CCR-MW100-916

Lab Sample ID: 550-69590-17

Date Collected: 09/13/16 12:21
Matrix: Water
Date Received: 09/15/16 08:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	98841	09/21/16 20:11	BCB	TAL PHX
Total/NA	Analysis	300.0		200	98841	09/21/16 20:30	BCB	TAL PHX
Total/NA	Analysis	300.0		100	100510	10/13/16 00:51	BCB	TAL PHX
Total/NA	Prep	200.7			99914	10/06/16 10:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100167	10/08/16 02:14	CJD	TAL PHX
Total/NA	Prep	200.7			98617	09/20/16 07:27	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	100558	10/13/16 14:20	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	98700		BCB	TAL PHX
					(Start)	09/20/16 17:01		
					(End)	09/21/16 15:05		
Total/NA	Analysis	SM 2540C		1	100573		BCB	TAL PHX
					(Start)	10/13/16 20:45		
					(End)	10/14/16 18:50		
Total/NA	Analysis	SM 4500 H+ B		1	98409	09/16/16 11:04	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: 550-69590-1

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: 550-69590-1

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

Regulatory Program: 69590 CCR

TestAmerica Laboratories, Inc.

10/19/2016

Client Contact	**Doug Lavarnway**	**Doug Lavarnway**	COC No:
APS Four Corners	928-587-0319	**Lab Contact:**	**Carrier:** 3 of 6 COCs
End of County Road 6675	**Analysis Turnaround Time**		Sampler:
Fruitland, New Mexico 87416			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below _____		Walk-in Client:
(xxx) xxx-xxxx FAX			Lab Sampling:
Project Name: CCR			
Site: Four Corners			Job / SDG No.:
P O #			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 200.7 (B, Ca)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	Sample Specific Notes:
FC-CCR-MW7-916 -01	09/13/16	1510	G	W	4	N	x	x	x	x	x	
FC-CCR-MW8-916 -02	09/13/16	1401	G	W	4	N	x	x	x	x	x	
FC-CCR-MW49A-916 -03	09/13/16	1121	G	W	4	N	x	x	x	x	x	
FC-CCR-MW60-916 -04	09/13/16	1221	G	W	4	N	x	x	x	x	x	
FC-CCR-MW61-916 -05	09/13/16	1319	G	W	4	N	x	x	x	x	x	
FC-CCR-MW62-916 -06	09/12/16	1716	G	W	4	N	x	x	x	x	x	
FC-CCR-MW63-916 -07	09/12/16	1343	G	W	4	N	x	x	x	x	x	
FC-CCR-MW64-916 -08	09/12/16	1439	G	W	4	N	x	x	x	x	x	
FC-CCR-MW65-916 -09	09/12/16	1803	G	W	4	N	x	x	x	x	x	
FC-CCR-MW66-916 -10	09/12/16	1618	G	W	4	N	x	x	x	x	x	
FC-CCR-MW67-916 -11	09/13/16	0726	G	W	4	N	x	x	x	x	x	
FC-CCR-MW68-916 -12	09/13/16	0810	G	W	4	N	x	x	x	x	x	

550-69590 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:

1.0/1.4 | 1.0/1.2/1.5

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:
J. Dowarnay	APS	09/14/16 / 1118	D Rogers	Red J	9/14/16 11:18
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	Red J	09/15/16 / 803			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA	9-15-16 8:03

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

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

Chain of Custody Record

69590

Regulatory Program: CCR

TestAmerica Laboratories, Inc.

10/19/2016

Client Contact	Doug Lavarnway	Doug Lavarnway		COC No:
APS Four Corners	928-587-0319	Lab Contact:	Carrier:	7 of 6 COCs
End of County Road 6675	Analysis Turnaround Time			Sampler:
Fruitland, New Mexico 87416				For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX				Lab Sampling:
Project Name: CCR				
Site: Four Corners				Job / SDG No.:
P O #				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 200.7 (B, Ca)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	Sample Specific Notes:
FC-CCR-MW69-916 -13	09/13/16	0858	G	W	4	N	x	x	x	x	x	
FC-CCR-MW70-816 -14	09/12/16	1851	G	W	4	N	x	x	x	x	x	
FC-CCR-MW71-916 -15	09/12/16	1842	G	W	4	N	x	x	x	x	x	
FC-CCR-MW72-916 -16	09/13/16	1009	G	W	4	N	x	x	x	x	x	
FC-CCR-MW100-916 -17	09/13/16	1221	G	W	4	N	x	x	x	x	x	
~~FC-CCR-MW101-916~~			G	W	4	N	x	x	x	x	x	

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

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

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

Special Instructions/QC Requirements & Comments:

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
J. Lavarnway	APS	09/14/16/1118	D Rogers	Red T	9/14/16 11:18a
[signature]	Red T	09/15/16 8:03	[signature]		
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
			[signature]	TA	9-15-16 8:03

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

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-69590-1

Login Number: 69590
List Number: 1
Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

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