TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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Tel: (602)437-3340

TestAmerica Job ID: 550-71660-1
TestAmerica Sample Delivery Group: Four Corners
Client Project/Site: CCR

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

Attn: Doug Lavarnway

Authorized for release by:
11/15/2016 4:02:38 PM

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LINKS

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

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

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
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.
D2	Sample required dilution due to high concentration of analyte.
D1	Sample required dilution due to matrix.

Metals

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
D1	Sample required dilution due to 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.

General Chemistry

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

Glossary

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

Job ID: 550-71660-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-71660-1

Comments
No additional comments.

Receipt
The samples were received on 10/22/2016 10:51 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.1º C, 2.6º C, 2.6º C and 2.6º C.

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

Metals
Method(s) 200.7 Rev 4.4: The following sample was diluted due to the nature of the sample matrix: FC-CCR-MW49A-1016 (550-71660-2). Elevated reporting limits (RLs) are provided.

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

General Chemistry
Method(s) SM 2540C:

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

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-71660-1	FC-CCR-MW7-1016	Water	10/20/16 10:43	10/22/16 10:51
550-71660-2	FC-CCR-MW49A-1016	Water	10/20/16 08:17	10/22/16 10:51
550-71660-3	FC-CCR-MW60-1016	Water	10/20/16 09:45	10/22/16 10:51
550-71660-4	FC-CCR-MW61-1016	Water	10/20/16 09:07	10/22/16 10:51
550-71660-5	FC-CCR-MW62-1016	Water	10/19/16 16:41	10/22/16 10:51
550-71660-6	FC-CCR-MW63-1016	Water	10/19/16 12:29	10/22/16 10:51
550-71660-7	FC-CCR-MW64-1016	Water	10/19/16 11:58	10/22/16 10:51
550-71660-8	FC-CCR-MW65-1016	Water	10/19/16 15:46	10/22/16 10:51
550-71660-9	FC-CCR-MW66-1016	Water	10/19/16 17:22	10/22/16 10:51
550-71660-10	FC-CCR-MW67-1016	Water	10/20/16 12:51	10/22/16 10:51
550-71660-11	FC-CCR-MW68-1016	Water	10/20/16 13:41	10/22/16 10:51
550-71660-12	FC-CCR-MW69-1016	Water	10/20/16 14:16	10/22/16 10:51
550-71660-13	FC-CCR-MW70-1016	Water	10/19/16 14:29	10/22/16 10:51
550-71660-14	FC-CCR-MW71-1016	Water	10/20/16 11:30	10/22/16 10:51
550-71660-15	FC-CCR-MW72-1016	Water	10/20/16 12:07	10/22/16 10:51
550-71660-16	FC-CCR-MW100-1016	Water	10/20/16 09:07	10/22/16 10:51
550-71660-17	FC-CCR-MW101-1016	Water	10/19/16 12:29	10/22/16 10:51

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW7-1016 — Lab Sample ID: 550-71660-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	540	D2	100	mg/L	50		300.0	Total/NA
Sulfate	6000	D2	200	mg/L	100		300.0	Total/NA
Boron	10		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	390		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	10000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-1016 — Lab Sample ID: 550-71660-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	540	D2	100	mg/L	50		300.0	Total/NA
Sulfate	19000	D2	400	mg/L	200		300.0	Total/NA
Boron	2.2	D1	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	390	D1	20	mg/L	10		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	28000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.5	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-MW60-1016 — Lab Sample ID: 550-71660-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	460	D2	100	mg/L	50		300.0	Total/NA
Fluoride	2.8		0.40	mg/L	1		300.0	Total/NA
Sulfate	5000	D2	200	mg/L	100		300.0	Total/NA
Boron	61		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	410		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	8300	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	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-MW61-1016 — Lab Sample ID: 550-71660-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.95		0.40	mg/L	1		300.0	Total/NA
Sulfate	3500	D2	100	mg/L	50		300.0	Total/NA
Boron	37		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	5600	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW62-1016 — Lab Sample ID: 550-71660-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	120	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.2		0.40	mg/L	1		300.0	Total/NA
Sulfate	3300	D2	100	mg/L	50		300.0	Total/NA
Boron	2.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW62-1016 (Continued) — Lab Sample ID: 550-71660-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	6000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-1016 — Lab Sample ID: 550-71660-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	100		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.8		0.40	mg/L	1		300.0	Total/NA
Sulfate	2700	D2	400	mg/L	200		300.0	Total/NA
Boron	1.7		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
Total Dissolved Solids	4500	D2	40	mg/L	1		SM 2540C	Total/NA
pH	7.2	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-MW64-1016 — Lab Sample ID: 550-71660-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	53		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	330	D2	100	mg/L	50		300.0	Total/NA
Boron	0.64		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	83		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	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-1016 — Lab Sample ID: 550-71660-8

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	450	D2	100	mg/L	50		300.0	Total/NA
Boron	0.77		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	95		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	1000		20	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW66-1016 — Lab Sample ID: 550-71660-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	800	mg/L	400		300.0	Total/NA
Fluoride	17	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	9100	D2	800	mg/L	400		300.0	Total/NA
Boron	130	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	440		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

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW66-1016 (Continued) — Lab Sample ID: 550-71660-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-1016 — Lab Sample ID: 550-71660-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	800	mg/L	400		300.0	Total/NA
Fluoride	16	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	8300	D2	800	mg/L	400		300.0	Total/NA
Boron	120	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	480		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	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-1016 — Lab Sample ID: 550-71660-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	800	mg/L	400		300.0	Total/NA
Fluoride	6.8	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	11000	D2	800	mg/L	400		300.0	Total/NA
Boron	120	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	430		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	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-1016 — Lab Sample ID: 550-71660-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	800	mg/L	400		300.0	Total/NA
Fluoride	9.0	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	9800	D2	800	mg/L	400		300.0	Total/NA
Boron	120	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	450		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	18000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-1016 — Lab Sample ID: 550-71660-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400	mg/L	200		300.0	Total/NA
Sulfate	6400	D2	400	mg/L	200		300.0	Total/NA
Boron	91	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	450		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	12000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW71-1016 — Lab Sample ID: 550-71660-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	580	D2	400	mg/L	200		300.0	Total/NA
Sulfate	9100	D2	400	mg/L	200		300.0	Total/NA
Boron	0.55		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	410		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-1016 — Lab Sample ID: 550-71660-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	480	D2	400	mg/L	200		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.23		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	400		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	17000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW100-1016 — Lab Sample ID: 550-71660-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	98		2.0	mg/L	1		300.0	Total/NA
Fluoride	2.0		0.40	mg/L	1		300.0	Total/NA
Sulfate	2600	D2	200	mg/L	100		300.0	Total/NA
Boron	1.7		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
Total Dissolved Solids	4400	D2	40	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW101-1016 — Lab Sample ID: 550-71660-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	310	D2	200	mg/L	100		300.0	Total/NA
Fluoride	0.84		0.40	mg/L	1		300.0	Total/NA
Sulfate	3700	D2	200	mg/L	100		300.0	Total/NA
Boron	38		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	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	13.8	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: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW7-1016

Lab Sample ID: 550-71660-1
Date Collected: 10/20/16 10:43
Matrix: Water
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	540	D2	100	mg/L			11/01/16 21:50	50
Fluoride	ND		0.40	mg/L			11/01/16 21:32	1
Sulfate	6000	D2	200	mg/L			11/02/16 15:56	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	10		0.050	mg/L		10/28/16 11:16	11/05/16 14:16	1
Calcium	390		2.0	mg/L		10/28/16 11:16	11/05/16 14:16	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10000	D2	100	mg/L			10/26/16 13:00	1
pH	7.4	H5	1.7	SU			10/24/16 15:36	1
Temperature	11.2	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW49A-1016

Lab Sample ID: 550-71660-2
Date Collected: 10/20/16 08:17
Matrix: Water
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	540	D2	100	mg/L			11/01/16 22:27	50
Fluoride	ND		0.40	mg/L			11/01/16 22:08	1
Sulfate	19000	D2	400	mg/L			11/02/16 16:23	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2	D1	0.50	mg/L		10/28/16 11:16	11/05/16 14:22	10
Calcium	390	D1	20	mg/L		10/28/16 11:16	11/05/16 14:22	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	28000	D2	200	mg/L			10/26/16 13:00	1
pH	7.5	H5	1.7	SU			10/24/16 15:36	1
Temperature	10.4	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW60-1016

Lab Sample ID: 550-71660-3
Date Collected: 10/20/16 09:45
Matrix: Water
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	460	D2	100	mg/L			11/01/16 23:04	50
Fluoride	2.8		0.40	mg/L			11/01/16 22:45	1
Sulfate	5000	D2	200	mg/L			11/02/16 16:51	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	61		0.050	mg/L		10/28/16 11:16	11/05/16 14:25	1
Calcium	410		2.0	mg/L		10/28/16 11:16	11/05/16 14:25	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW60-1016 — Lab Sample ID: 550-71660-3

Date Collected: 10/20/16 09:45 — **Matrix: Water**
Date Received: 10/22/16 10:51

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8300	D2	100	mg/L			10/26/16 13:00	1
pH	7.6	H5	1.7	SU			10/24/16 15:36	1
Temperature	9.8	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW61-1016 — Lab Sample ID: 550-71660-4

Date Collected: 10/20/16 09:07 — **Matrix: Water**
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300	D2	100	mg/L			11/02/16 00:17	50
Fluoride	0.95		0.40	mg/L			11/01/16 23:59	1
Sulfate	3500	D2	100	mg/L			11/02/16 00:17	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	37		0.050	mg/L		10/28/16 11:16	11/05/16 14:31	1
Calcium	420		2.0	mg/L		10/28/16 11:16	11/05/16 14:31	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5600	D2	100	mg/L			10/26/16 13:00	1
pH	8.6	H5	1.7	SU			10/24/16 15:36	1
Temperature	9.8	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW62-1016 — Lab Sample ID: 550-71660-5

Date Collected: 10/19/16 16:41 — **Matrix: Water**
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120	D2	100	mg/L			11/02/16 00:54	50
Fluoride	1.2		0.40	mg/L			11/02/16 00:36	1
Sulfate	3300	D2	100	mg/L			11/02/16 00:54	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.050	mg/L		10/28/16 11:16	11/05/16 14:37	1
Calcium	480		2.0	mg/L		10/28/16 11:16	11/05/16 14:37	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6000	D2	100	mg/L			10/25/16 18:00	1
pH	7.0	H5	1.7	SU			10/24/16 15:36	1
Temperature	10.1	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW63-1016

Lab Sample ID: 550-71660-6
Date Collected: 10/19/16 12:29
Matrix: Water
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		2.0	mg/L			11/02/16 14:18	1
Fluoride	1.8		0.40	mg/L			11/02/16 14:18	1
Sulfate	2700	D2	400	mg/L			11/02/16 14:36	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.050	mg/L		10/28/16 11:16	11/05/16 14:42	1
Calcium	470		2.0	mg/L		10/28/16 11:16	11/05/16 14:42	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4500	D2	40	mg/L			10/26/16 13:00	1
pH	7.2	H5	1.7	SU			10/24/16 15:36	1
Temperature	10.4	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW64-1016

Lab Sample ID: 550-71660-7
Date Collected: 10/19/16 11:58
Matrix: Water
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		2.0	mg/L			11/02/16 14:55	1
Fluoride	1.5		0.40	mg/L			11/02/16 14:55	1
Sulfate	330	D2	100	mg/L			11/02/16 15:13	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.64		0.050	mg/L		10/28/16 11:16	11/05/16 14:48	1
Calcium	83		2.0	mg/L		10/28/16 11:16	11/05/16 14:48	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	790		20	mg/L			10/26/16 13:00	1
pH	7.8	H5	1.7	SU			10/24/16 15:36	1
Temperature	10.8	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW65-1016

Lab Sample ID: 550-71660-8
Date Collected: 10/19/16 15:46
Matrix: Water
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	54		2.0	mg/L			11/02/16 15:31	1
Fluoride	2.0		0.40	mg/L			11/02/16 15:31	1
Sulfate	450	D2	100	mg/L			11/02/16 15:50	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.77		0.050	mg/L		10/28/16 11:16	11/05/16 14:51	1
Calcium	95		2.0	mg/L		10/28/16 11:16	11/05/16 14:51	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW65-1016 — Lab Sample ID: 550-71660-8

Date Collected: 10/19/16 15:46 — **Matrix: Water**
Date Received: 10/22/16 10:51

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		20	mg/L			10/26/16 13:00	1
pH	7.6	H5	1.7	SU			10/24/16 15:36	1
Temperature	12.5	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW66-1016 — Lab Sample ID: 550-71660-9

Date Collected: 10/19/16 17:22 — **Matrix: Water**
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	800	mg/L			11/02/16 16:27	400
Fluoride	17	D1	0.80	mg/L			11/02/16 16:08	2
Sulfate	9100	D2	800	mg/L			11/02/16 16:27	400

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2	0.50	mg/L		10/28/16 11:16	11/09/16 20:59	10
Calcium	440		2.0	mg/L		10/28/16 11:16	11/05/16 14:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2	100	mg/L			10/26/16 13:00	1
pH	7.4	H5	1.7	SU			10/24/16 15:36	1
Temperature	13.7	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW67-1016 — Lab Sample ID: 550-71660-10

Date Collected: 10/20/16 12:51 — **Matrix: Water**
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	800	mg/L			11/02/16 17:03	400
Fluoride	16	D1	0.80	mg/L			11/02/16 16:45	2
Sulfate	8300	D2	800	mg/L			11/02/16 17:03	400

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	120	D2	0.50	mg/L		10/28/16 11:16	11/09/16 21:13	10
Calcium	480		2.0	mg/L		10/28/16 11:16	11/05/16 15:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2	100	mg/L			10/26/16 13:00	1
pH	7.3	H5	1.7	SU			10/24/16 15:36	1
Temperature	13.3	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW68-1016 — Lab Sample ID: 550-71660-11

Date Collected: 10/20/16 13:41 — **Matrix: Water**
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	800	mg/L			11/02/16 18:17	400
Fluoride	6.8	D1	0.80	mg/L			11/02/16 17:59	2
Sulfate	11000	D2	800	mg/L			11/02/16 18:17	400

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	120	D2	0.50	mg/L		10/28/16 11:16	11/09/16 21:19	10
Calcium	430		2.0	mg/L		10/28/16 11:16	11/05/16 15:11	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	16000	D2	100	mg/L			10/27/16 18:19	1
pH	7.1	H5	1.7	SU			10/24/16 15:36	1
Temperature	12.4	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW69-1016 — Lab Sample ID: 550-71660-12

Date Collected: 10/20/16 14:16 — **Matrix: Water**
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	800	mg/L			11/02/16 19:15	400
Fluoride	9.0	D1	0.80	mg/L			11/02/16 18:35	2
Sulfate	9800	D2	800	mg/L			11/02/16 19:15	400

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	120	D2	0.50	mg/L		10/28/16 11:16	11/09/16 21:25	10
Calcium	450		2.0	mg/L		10/28/16 11:16	11/05/16 15:17	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	18000	D2	100	mg/L			10/27/16 18:19	1
pH	7.4	H5	1.7	SU			10/24/16 15:36	1
Temperature	11.8	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW70-1016 — Lab Sample ID: 550-71660-13

Date Collected: 10/19/16 14:29 — **Matrix: Water**
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	mg/L			11/02/16 19:52	200
Fluoride	ND		0.40	mg/L			11/02/16 19:34	1
Sulfate	6400	D2	400	mg/L			11/02/16 19:52	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	91	D2	0.50	mg/L		10/28/16 11:16	11/09/16 21:30	10
Calcium	450		2.0	mg/L		10/28/16 11:16	11/05/16 15:23	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW70-1016 — Lab Sample ID: 550-71660-13

Date Collected: 10/19/16 14:29 — **Matrix: Water**
Date Received: 10/22/16 10:51

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	12000	D2	100	mg/L			10/26/16 13:00	1
pH	7.1	H5	1.7	SU			10/24/16 15:36	1
Temperature	11.7	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW71-1016 — Lab Sample ID: 550-71660-14

Date Collected: 10/20/16 11:30 — **Matrix: Water**
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	580	D2	400	mg/L			11/02/16 20:29	200
Fluoride	ND		0.40	mg/L			11/02/16 20:11	1
Sulfate	9100	D2	400	mg/L			11/02/16 20:29	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		10/28/16 11:16	11/05/16 15:29	1
Calcium	410		2.0	mg/L		10/28/16 11:16	11/05/16 15:29	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	15000	D2	100	mg/L			10/27/16 18:19	1
pH	7.3	H5	1.7	SU			10/24/16 15:36	1
Temperature	12.0	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW72-1016 — Lab Sample ID: 550-71660-15

Date Collected: 10/20/16 12:07 — **Matrix: Water**
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	480	D2	400	mg/L			11/02/16 21:06	200
Fluoride	ND		0.40	mg/L			11/02/16 20:47	1
Sulfate	11000	D2	400	mg/L			11/02/16 21:06	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.23		0.050	mg/L		10/28/16 11:16	11/05/16 15:35	1
Calcium	400		2.0	mg/L		10/28/16 11:16	11/05/16 15:35	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	17000	D2	100	mg/L			10/27/16 18:19	1
pH	7.1	H5	1.7	SU			10/24/16 15:36	1
Temperature	12.2	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW100-1016

Lab Sample ID: 550-71660-16
Date Collected: 10/20/16 09:07
Matrix: Water
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98		2.0	mg/L			11/02/16 22:01	1
Fluoride	2.0		0.40	mg/L			11/02/16 22:01	1
Sulfate	2600	D2	200	mg/L			11/02/16 22:19	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.050	mg/L		10/28/16 11:16	11/05/16 15:41	1
Calcium	480		2.0	mg/L		10/28/16 11:16	11/05/16 15:41	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4400	D2	40	mg/L			10/27/16 18:19	1
pH	7.2	H5	1.7	SU			10/24/16 15:36	1
Temperature	12.6	H5	0.1	Degrees C			10/24/16 15:36	1

Client Sample ID: FC-CCR-MW101-1016

Lab Sample ID: 550-71660-17
Date Collected: 10/19/16 12:29
Matrix: Water
Date Received: 10/22/16 10:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310	D2	200	mg/L			11/02/16 22:56	100
Fluoride	0.84		0.40	mg/L			11/02/16 22:38	1
Sulfate	3700	D2	200	mg/L			11/02/16 22:56	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	38		0.050	mg/L		10/28/16 11:16	11/05/16 15:47	1
Calcium	440		2.0	mg/L		10/28/16 11:16	11/05/16 15:47	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5700	D2	100	mg/L			10/26/16 13:00	1
pH	8.6	H5	1.7	SU			10/24/16 15:36	1
Temperature	13.8	H5	0.1	Degrees C			10/24/16 15:36	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-102104/2
Matrix: Water
Analysis Batch: 102104

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/01/16 10:15	1
Fluoride	ND		0.40		mg/L			11/01/16 10:15	1
Sulfate	ND		2.0		mg/L			11/01/16 10:15	1

Lab Sample ID: LCS 550-102104/5
Matrix: Water
Analysis Batch: 102104

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	3.97		mg/L		99	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-102104/6
Matrix: Water
Analysis Batch: 102104

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	3.96		mg/L		99	90 - 110	0	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-71659-C-6 MS
Matrix: Water
Analysis Batch: 102104

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	E2 M3	20.0	115	E2 M3	mg/L		73	80 - 120
Fluoride	1.8		4.00	5.42		mg/L		91	80 - 120
Sulfate	910	E2 M3	20.0	891	E2 M3	mg/L		-83	80 - 120

Lab Sample ID: 550-71659-C-6 MSD
Matrix: Water
Analysis Batch: 102104

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	E2 M3	20.0	115	E2 M3	mg/L		75	80 - 120	0	20
Fluoride	1.8		4.00	5.48		mg/L		93	80 - 120	1	20
Sulfate	910	E2 M3	20.0	892	E2 M3	mg/L		-75	80 - 120	0	20

Lab Sample ID: MB 550-102118/30
Matrix: Water
Analysis Batch: 102118

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/02/16 06:33	1
Fluoride	ND		0.40		mg/L			11/02/16 06:33	1
Sulfate	ND		2.0		mg/L			11/02/16 06:33	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-102118/31 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.2		mg/L		101	90 - 110
Fluoride	4.00	4.12		mg/L		103	90 - 110
Sulfate	20.0	20.2		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-102118/32 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102118

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	4.11		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-72113-G-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	ND		20.0	20.5		mg/L		102	80 - 120
Fluoride	ND		4.00	4.14		mg/L		103	80 - 120
Sulfate	ND		20.0	20.3		mg/L		102	80 - 120

Lab Sample ID: 550-72113-G-2 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		20.0	20.8		mg/L		104	80 - 120	1	20
Fluoride	ND		4.00	4.21		mg/L		105	80 - 120	2	20
Sulfate	ND		20.0	20.6		mg/L		103	80 - 120	1	20

Lab Sample ID: MB 550-102270/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102270

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			11/02/16 02:26	1
Fluoride	ND		0.40	mg/L			11/02/16 02:26	1
Sulfate	ND		2.0	mg/L			11/02/16 02:26	1

Lab Sample ID: LCS 550-102270/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102270

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.15		mg/L		104	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-102270/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102270

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.5		mg/L		103	90 - 110	0	20
Fluoride			4.00	4.13		mg/L		103	90 - 110	0	20
Sulfate			20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-71453-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102270

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	14		20.0	35.5		mg/L		108	80 - 120		
Fluoride	0.55		4.00	4.70		mg/L		104	80 - 120		
Sulfate	130	E2 M3	20.0	139	E2 M3	mg/L		61	80 - 120		

Lab Sample ID: 550-71453-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102270

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	14		20.0	35.4		mg/L		107	80 - 120	0	20
Fluoride	0.55		4.00	4.69		mg/L		104	80 - 120	0	20
Sulfate	130	E2 M3	20.0	139	E2 M3	mg/L		61	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-101703/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102551 — **Prep Batch: 101703**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		10/28/16 11:16	11/05/16 14:00	1
Calcium	ND		2.0		mg/L		10/28/16 11:16	11/05/16 14:00	1

Lab Sample ID: LCS 550-101703/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102551 — **Prep Batch: 101703**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron			1.00	0.950		mg/L		95	85 - 115		
Calcium			21.0	19.4		mg/L		93	85 - 115		

Lab Sample ID: LCSD 550-101703/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102551 — **Prep Batch: 101703**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1.00	0.943		mg/L		94	85 - 115	1	20
Calcium			21.0	19.5		mg/L		93	85 - 115	0	20

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

Lab Sample ID: 550-71788-N-2-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102551 — **Prep Batch: 101703**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.35		1.00	1.31		mg/L		96	70 - 130
Calcium	150	M3	21.0	166	M3	mg/L		63	70 - 130

Lab Sample ID: 550-71788-N-2-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 102551 — **Prep Batch: 101703**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.35		1.00	1.30		mg/L		95	70 - 130	1	20
Calcium	150	M3	21.0	165	M3	mg/L		59	70 - 130	1	20

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

Lab Sample ID: MB 550-101430/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101430

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			10/25/16 18:00	1

Lab Sample ID: LCS 550-101430/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101430

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	958		mg/L		96	90 - 110		

Lab Sample ID: LCSD 550-101430/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101430

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	960		mg/L		96	90 - 110	0	10

Lab Sample ID: 550-71596-C-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101430

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	910			904		mg/L				0.4	10

Lab Sample ID: MB 550-101487/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101487

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			10/26/16 13:00	1

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

Lab Sample ID: 550-71563-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101487

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1700			1660		mg/L				0.7	10

Lab Sample ID: 550-71660-10 DU — **Client Sample ID: FC-CCR-MW67-1016**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101487

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	16000	D2		16200	D2	mg/L				0.2	10

Lab Sample ID: MB 550-101660/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101660

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			10/27/16 18:19	1

Lab Sample ID: LCS 550-101660/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101660

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	954		mg/L		95	90 - 110		

Lab Sample ID: LCSD 550-101660/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101660

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	972		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-71744-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101660

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	630			634		mg/L				0	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-101340/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 101340

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

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

Lab Sample ID: LCSSRM 550-101340/25
Matrix: Water
Analysis Batch: 101340

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		100.4	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-101340/34
Matrix: Water
Analysis Batch: 101340

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		100.4	98.5 - 101.5		

Lab Sample ID: 550-71660-1 DU
Matrix: Water
Analysis Batch: 101340

Client Sample ID: FC-CCR-MW7-1016
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0.3	5
Temperature	11.2	H5		10.7	H5	Degrees C				5	

Lab Sample ID: 550-71660-11 DU
Matrix: Water
Analysis Batch: 101340

Client Sample ID: FC-CCR-MW68-1016
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.1	H5		7.1	H5	SU				0.1	5
Temperature	12.4	H5		12.0	H5	Degrees C				3	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

HPLC/IC

Analysis Batch: 102104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-1	FC-CCR-MW7-1016	Total/NA	Water	300.0	
550-71660-1	FC-CCR-MW7-1016	Total/NA	Water	300.0	
550-71660-2	FC-CCR-MW49A-1016	Total/NA	Water	300.0	
550-71660-2	FC-CCR-MW49A-1016	Total/NA	Water	300.0	
550-71660-3	FC-CCR-MW60-1016	Total/NA	Water	300.0	
550-71660-3	FC-CCR-MW60-1016	Total/NA	Water	300.0	
550-71660-4	FC-CCR-MW61-1016	Total/NA	Water	300.0	
550-71660-4	FC-CCR-MW61-1016	Total/NA	Water	300.0	
550-71660-5	FC-CCR-MW62-1016	Total/NA	Water	300.0	
550-71660-5	FC-CCR-MW62-1016	Total/NA	Water	300.0	
MB 550-102104/2	Method Blank	Total/NA	Water	300.0	
LCS 550-102104/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-102104/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-71659-C-6 MS	Matrix Spike	Total/NA	Water	300.0	
550-71659-C-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 102118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-1	FC-CCR-MW7-1016	Total/NA	Water	300.0	
550-71660-2	FC-CCR-MW49A-1016	Total/NA	Water	300.0	
550-71660-3	FC-CCR-MW60-1016	Total/NA	Water	300.0	
MB 550-102118/30	Method Blank	Total/NA	Water	300.0	
LCS 550-102118/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-102118/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-72113-G-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-72113-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 102270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-6	FC-CCR-MW63-1016	Total/NA	Water	300.0	
550-71660-6	FC-CCR-MW63-1016	Total/NA	Water	300.0	
550-71660-7	FC-CCR-MW64-1016	Total/NA	Water	300.0	
550-71660-7	FC-CCR-MW64-1016	Total/NA	Water	300.0	
550-71660-8	FC-CCR-MW65-1016	Total/NA	Water	300.0	
550-71660-8	FC-CCR-MW65-1016	Total/NA	Water	300.0	
550-71660-9	FC-CCR-MW66-1016	Total/NA	Water	300.0	
550-71660-9	FC-CCR-MW66-1016	Total/NA	Water	300.0	
550-71660-10	FC-CCR-MW67-1016	Total/NA	Water	300.0	
550-71660-10	FC-CCR-MW67-1016	Total/NA	Water	300.0	
550-71660-11	FC-CCR-MW68-1016	Total/NA	Water	300.0	
550-71660-11	FC-CCR-MW68-1016	Total/NA	Water	300.0	
550-71660-12	FC-CCR-MW69-1016	Total/NA	Water	300.0	
550-71660-12	FC-CCR-MW69-1016	Total/NA	Water	300.0	
550-71660-13	FC-CCR-MW70-1016	Total/NA	Water	300.0	
550-71660-13	FC-CCR-MW70-1016	Total/NA	Water	300.0	
550-71660-14	FC-CCR-MW71-1016	Total/NA	Water	300.0	
550-71660-14	FC-CCR-MW71-1016	Total/NA	Water	300.0	
550-71660-15	FC-CCR-MW72-1016	Total/NA	Water	300.0	
550-71660-15	FC-CCR-MW72-1016	Total/NA	Water	300.0	
550-71660-16	FC-CCR-MW100-1016	Total/NA	Water	300.0	
550-71660-16	FC-CCR-MW100-1016	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 102270 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-17	FC-CCR-MW101-1016	Total/NA	Water	300.0	
550-71660-17	FC-CCR-MW101-1016	Total/NA	Water	300.0	
MB 550-102270/2	Method Blank	Total/NA	Water	300.0	
LCS 550-102270/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-102270/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-71453-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-71453-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 101703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-1	FC-CCR-MW7-1016	Total/NA	Water	200.7	
550-71660-2	FC-CCR-MW49A-1016	Total/NA	Water	200.7	
550-71660-3	FC-CCR-MW60-1016	Total/NA	Water	200.7	
550-71660-4	FC-CCR-MW61-1016	Total/NA	Water	200.7	
550-71660-5	FC-CCR-MW62-1016	Total/NA	Water	200.7	
550-71660-6	FC-CCR-MW63-1016	Total/NA	Water	200.7	
550-71660-7	FC-CCR-MW64-1016	Total/NA	Water	200.7	
550-71660-8	FC-CCR-MW65-1016	Total/NA	Water	200.7	
550-71660-9	FC-CCR-MW66-1016	Total/NA	Water	200.7	
550-71660-10	FC-CCR-MW67-1016	Total/NA	Water	200.7	
550-71660-11	FC-CCR-MW68-1016	Total/NA	Water	200.7	
550-71660-12	FC-CCR-MW69-1016	Total/NA	Water	200.7	
550-71660-13	FC-CCR-MW70-1016	Total/NA	Water	200.7	
550-71660-14	FC-CCR-MW71-1016	Total/NA	Water	200.7	
550-71660-15	FC-CCR-MW72-1016	Total/NA	Water	200.7	
550-71660-16	FC-CCR-MW100-1016	Total/NA	Water	200.7	
550-71660-17	FC-CCR-MW101-1016	Total/NA	Water	200.7	
MB 550-101703/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-101703/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-101703/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-71788-N-2-C MS	Matrix Spike	Total/NA	Water	200.7	
550-71788-N-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 102551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-1	FC-CCR-MW7-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-2	FC-CCR-MW49A-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-3	FC-CCR-MW60-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-4	FC-CCR-MW61-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-5	FC-CCR-MW62-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-6	FC-CCR-MW63-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-7	FC-CCR-MW64-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-8	FC-CCR-MW65-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-9	FC-CCR-MW66-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-10	FC-CCR-MW67-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-11	FC-CCR-MW68-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-12	FC-CCR-MW69-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-13	FC-CCR-MW70-1016	Total/NA	Water	200.7 Rev 4.4	101703

Metals (Continued)

Analysis Batch: 102551 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-14	FC-CCR-MW71-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-15	FC-CCR-MW72-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-16	FC-CCR-MW100-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-17	FC-CCR-MW101-1016	Total/NA	Water	200.7 Rev 4.4	101703
MB 550-101703/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	101703
LCS 550-101703/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	101703
LCSD 550-101703/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	101703
550-71788-N-2-C MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	101703
550-71788-N-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	101703

Analysis Batch: 102863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-9	FC-CCR-MW66-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-10	FC-CCR-MW67-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-11	FC-CCR-MW68-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-12	FC-CCR-MW69-1016	Total/NA	Water	200.7 Rev 4.4	101703
550-71660-13	FC-CCR-MW70-1016	Total/NA	Water	200.7 Rev 4.4	101703

General Chemistry

Analysis Batch: 101340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-1	FC-CCR-MW7-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-2	FC-CCR-MW49A-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-3	FC-CCR-MW60-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-4	FC-CCR-MW61-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-5	FC-CCR-MW62-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-6	FC-CCR-MW63-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-7	FC-CCR-MW64-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-8	FC-CCR-MW65-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-9	FC-CCR-MW66-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-10	FC-CCR-MW67-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-11	FC-CCR-MW68-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-12	FC-CCR-MW69-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-13	FC-CCR-MW70-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-14	FC-CCR-MW71-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-15	FC-CCR-MW72-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-16	FC-CCR-MW100-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-17	FC-CCR-MW101-1016	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-101340/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-101340/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-101340/34	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-71660-1 DU	FC-CCR-MW7-1016	Total/NA	Water	SM 4500 H+ B	
550-71660-11 DU	FC-CCR-MW68-1016	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 101430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-5	FC-CCR-MW62-1016	Total/NA	Water	SM 2540C	
MB 550-101430/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-101430/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 101430 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-101430/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-71596-C-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 101487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-1	FC-CCR-MW7-1016	Total/NA	Water	SM 2540C	
550-71660-2	FC-CCR-MW49A-1016	Total/NA	Water	SM 2540C	
550-71660-3	FC-CCR-MW60-1016	Total/NA	Water	SM 2540C	
550-71660-4	FC-CCR-MW61-1016	Total/NA	Water	SM 2540C	
550-71660-6	FC-CCR-MW63-1016	Total/NA	Water	SM 2540C	
550-71660-7	FC-CCR-MW64-1016	Total/NA	Water	SM 2540C	
550-71660-8	FC-CCR-MW65-1016	Total/NA	Water	SM 2540C	
550-71660-9	FC-CCR-MW66-1016	Total/NA	Water	SM 2540C	
550-71660-10	FC-CCR-MW67-1016	Total/NA	Water	SM 2540C	
550-71660-13	FC-CCR-MW70-1016	Total/NA	Water	SM 2540C	
550-71660-17	FC-CCR-MW101-1016	Total/NA	Water	SM 2540C	
MB 550-101487/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-101487/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-101487/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-71563-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	
550-71660-10 DU	FC-CCR-MW67-1016	Total/NA	Water	SM 2540C	

Analysis Batch: 101660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-71660-11	FC-CCR-MW68-1016	Total/NA	Water	SM 2540C	
550-71660-12	FC-CCR-MW69-1016	Total/NA	Water	SM 2540C	
550-71660-14	FC-CCR-MW71-1016	Total/NA	Water	SM 2540C	
550-71660-15	FC-CCR-MW72-1016	Total/NA	Water	SM 2540C	
550-71660-16	FC-CCR-MW100-1016	Total/NA	Water	SM 2540C	
MB 550-101660/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-101660/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-101660/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-71744-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW7-1016 — Lab Sample ID: 550-71660-1

Date Collected: 10/20/16 10:43 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102104	11/01/16 21:32	BCB	TAL PHX
Total/NA	Analysis	300.0		50	102104	11/01/16 21:50	BCB	TAL PHX
Total/NA	Analysis	300.0		100	102118	11/02/16 15:56	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 14:16	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW49A-1016 — Lab Sample ID: 550-71660-2

Date Collected: 10/20/16 08:17 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102104	11/01/16 22:08	BCB	TAL PHX
Total/NA	Analysis	300.0		50	102104	11/01/16 22:27	BCB	TAL PHX
Total/NA	Analysis	300.0		200	102118	11/02/16 16:23	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	102551	11/05/16 14:22	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW60-1016 — Lab Sample ID: 550-71660-3

Date Collected: 10/20/16 09:45 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102104	11/01/16 22:45	BCB	TAL PHX
Total/NA	Analysis	300.0		50	102104	11/01/16 23:04	BCB	TAL PHX
Total/NA	Analysis	300.0		100	102118	11/02/16 16:51	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 14:25	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW61-1016 — Lab Sample ID: 550-71660-4

Date Collected: 10/20/16 09:07 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102104	11/01/16 23:59	BCB	TAL PHX
Total/NA	Analysis	300.0		50	102104	11/02/16 00:17	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 14:31	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW62-1016 — Lab Sample ID: 550-71660-5

Date Collected: 10/19/16 16:41 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102104	11/02/16 00:36	BCB	TAL PHX
Total/NA	Analysis	300.0		50	102104	11/02/16 00:54	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 14:37	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101430		BCB	TAL PHX
					(Start)	10/25/16 18:00		
					(End)	10/26/16 15:00		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW63-1016 — Lab Sample ID: 550-71660-6

Date Collected: 10/19/16 12:29 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102270	11/02/16 14:18	BCB	TAL PHX
Total/NA	Analysis	300.0		200	102270	11/02/16 14:36	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 14:42	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW64-1016 — Lab Sample ID: 550-71660-7

Date Collected: 10/19/16 11:58 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102270	11/02/16 14:55	BCB	TAL PHX
Total/NA	Analysis	300.0		50	102270	11/02/16 15:13	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 14:48	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW65-1016 — Lab Sample ID: 550-71660-8

Date Collected: 10/19/16 15:46 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102270	11/02/16 15:31	BCB	TAL PHX
Total/NA	Analysis	300.0		50	102270	11/02/16 15:50	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 14:51	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW66-1016 — Lab Sample ID: 550-71660-9

Date Collected: 10/19/16 17:22 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	102270	11/02/16 16:08	BCB	TAL PHX
Total/NA	Analysis	300.0		400	102270	11/02/16 16:27	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 14:54	CJD	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	102863	11/09/16 20:59	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW67-1016 — Lab Sample ID: 550-71660-10

Date Collected: 10/20/16 12:51
Date Received: 10/22/16 10:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	102270	11/02/16 16:45	BCB	TAL PHX
Total/NA	Analysis	300.0		400	102270	11/02/16 17:03	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 15:06	CJD	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	102863	11/09/16 21:13	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW68-1016 — Lab Sample ID: 550-71660-11

Date Collected: 10/20/16 13:41
Date Received: 10/22/16 10:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	102270	11/02/16 17:59	BCB	TAL PHX
Total/NA	Analysis	300.0		400	102270	11/02/16 18:17	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 15:11	CJD	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	102863	11/09/16 21:19	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101660		BCB	TAL PHX
					(Start)	10/27/16 18:19		
					(End)	10/28/16 15:20		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW69-1016 — Lab Sample ID: 550-71660-12

Date Collected: 10/20/16 14:16
Date Received: 10/22/16 10:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	102270	11/02/16 18:35	BCB	TAL PHX
Total/NA	Analysis	300.0		400	102270	11/02/16 19:15	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 15:17	CJD	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	102863	11/09/16 21:25	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101660		BCB	TAL PHX
					(Start)	10/27/16 18:19		
					(End)	10/28/16 15:20		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW70-1016 — Lab Sample ID: 550-71660-13

Date Collected: 10/19/16 14:29 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102270	11/02/16 19:34	BCB	TAL PHX
Total/NA	Analysis	300.0		200	102270	11/02/16 19:52	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 15:23	CJD	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	102863	11/09/16 21:30	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW71-1016 — Lab Sample ID: 550-71660-14

Date Collected: 10/20/16 11:30 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102270	11/02/16 20:11	BCB	TAL PHX
Total/NA	Analysis	300.0		200	102270	11/02/16 20:29	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 15:29	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101660		BCB	TAL PHX
					(Start)	10/27/16 18:19		
					(End)	10/28/16 15:20		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW72-1016 — Lab Sample ID: 550-71660-15

Date Collected: 10/20/16 12:07 — **Matrix: Water**
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102270	11/02/16 20:47	BCB	TAL PHX
Total/NA	Analysis	300.0		200	102270	11/02/16 21:06	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 15:35	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101660		BCB	TAL PHX
					(Start)	10/27/16 18:19		
					(End)	10/28/16 15:20		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-71660-1
SDG: Four Corners

Client Sample ID: FC-CCR-MW100-1016

Lab Sample ID: 550-71660-16
Date Collected: 10/20/16 09:07
Matrix: Water
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102270	11/02/16 22:01	BCB	TAL PHX
Total/NA	Analysis	300.0		100	102270	11/02/16 22:19	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 15:41	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101660		BCB	TAL PHX
					(Start)	10/27/16 18:19		
					(End)	10/28/16 15:20		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	YET	TAL PHX

Client Sample ID: FC-CCR-MW101-1016

Lab Sample ID: 550-71660-17
Date Collected: 10/19/16 12:29
Matrix: Water
Date Received: 10/22/16 10:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	102270	11/02/16 22:38	BCB	TAL PHX
Total/NA	Analysis	300.0		100	102270	11/02/16 22:56	BCB	TAL PHX
Total/NA	Prep	200.7			101703	10/28/16 11:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	102551	11/05/16 15:47	CJD	TAL PHX
Total/NA	Analysis	SM 2540C		1	101487		BCB	TAL PHX
					(Start)	10/26/16 13:00		
					(End)	10/27/16 15:15		
Total/NA	Analysis	SM 4500 H+ B		1	101340	10/24/16 15:36	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: 550-71660-1
SDG: Four Corners

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: 550-71660-1
SDG: Four Corners

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

71660

11/15/2016

Regulatory Program: CCR

TestAmerica Laboratories, Inc.

Client Contact	Doug Lavarnway	Doug Lavarnway	10/21/16	COC No:
APS Four Corners	928-587-0319	Lab Contact:	Carrier:	1 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-MW7-1016	10/20/2016	1043	G	W	5	N	x	x	x	x	x	
FC-CCR-MW49A-1016	10/20/2016	817	G	W	5	N	x	x	x	x	x	
FC-CCR-MW60-1016	10/20/2016	945	G	W	5	N	x	x	x	x	x	
FC-CCR-MW61-1016	10/20/2016	907	G	W	5	N	x	x	x	x	x	
FC-CCR-MW62-1016	10/19/2016	1641	G	W	5	N	x	x	x	x	x	
FC-CCR-MW63-1016	10/19/2016	1229	G	W	5	N	x	x	x	x	x	
FC-CCR-MW64-1016	10/19/2016	1158	G	W	5	N	x	x	x	x	x	
FC-CCR-MW65-1016	10/19/2016	1546	G	W	5	N	x	x	x	x	x	
FC-CCR-MW66-1016	10/19/2016	1722	G	W	5	N	x	x	x	x	x	
FC-CCR-MW67-1016	10/20/2016	1251	G	W	5	N	x	x	x	x	x	
FC-CCR-MW68-1016	10/20/2016	1341	G	W	5	N	x	x	x	x	x	

550-71660 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:

2.6°C, 2.6°C, 2.6°C, 2.1°C

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doug Lavarnway	APS	10/21 1245	D Rogers	Red J	10/21/16 12:45
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
[illegible]	RED J	10-22 10-51	[illegible]	TA	10-22-16 1051

V.C.

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: CCR

TestAmerica Laboratories, Inc.

Client Contact	Doug Lavarnway	Doug Lavarnway	10/21/16
APS Four Corners	928-587-0319	**Lab Contact:**	**Carrier:**
End of County Road 6675	**Analysis Turnaround Time**		
Fruitland, New Mexico 87416			
(928) 587-0319 Phone	TAT if different from Below _____		
(xxx) xxx-xxxx FAX			
Project Name: CCR			
Site: Four Corners			
P O #			

COC No: 2 of 6 COCs

Sampler:

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

Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 200.7 (B, Ca)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	Sample Specific Notes:
FC-CCR-MW69-1016	10/20/2016	1416	G	W	5	N	x	x	x	x	x	
FC-CCR-MW70-1016	10/19/2016	1429	G	W	5	N	x	x	x	x	x	
FC-CCR-MW71-1016	10/20/2016	1130	G	W	5	N	x	x	x	x	x	
FC-CCR-MW72-1016	10/20/2016	1207	G	W	5	N	x	x	x	x	x	
FC-CCR-MW100-1016	10/20/2016	907	G	W	5	N	x	x	x	x	x	
FC-CCR-MW101-1016	10/19/2016	1229	G	W	5	N	x	x	x	x	x	

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

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

Special Instructions/QC Requirements & Comments:

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doug Lavarnway	APS	10/21 1245	D Rogers	Red J	10/21/16 12:45
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
[illegible]	RED J	10:51	[illegible]	TA	10/22-16 1051

P.C.

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

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-71660-1
SDG Number: Four Corners

Login Number: 71660
List Number: 1
Creator: Doerr, Bret C

List Source: TestAmerica Phoenix

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