TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 550-76918-1
Client Project/Site: CCR Four Corners

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

Attn: Doug Lavarnway

Authorized for release by:
2/20/2017 10:13:43 AM

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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.

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 13
QC Sample Results 25
QC Association Summary 36
Lab Chronicle 42
Certification Summary 50
Method Summary 51
Chain of Custody 52
Receipt Checklists 57

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.

Metals

Qualifier	Qualifier Description
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
D2	Sample required dilution due to high concentration of analyte.

General Chemistry

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

Glossary

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

Job ID: 550-76918-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-76918-1

Comments
No additional comments.

Receipt
The samples were received on 2/4/2017 9:36 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.4º C, 0.5º C, 0.5º C, 0.9º C and 0.9º C.

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

Metals
Method(s) 200.7 Rev 4.4: The following samples was diluted to bring the concentration of target analytes within the calibration range: (550-77184-A-1-D ^10), (550-77184-A-1-B MS ^) and (550-77184-A-1-C MSD). Elevated reporting limits (RLs) are provided.

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

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

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-76918-1	FC-CCR-MW7-117	Water	02/02/17 14:51	02/04/17 09:36
550-76918-2	FC-CCR-MW49A-117	Water	02/02/17 12:49	02/04/17 09:36
550-76918-3	FC-CCR-MW60-117	Water	02/02/17 14:07	02/04/17 09:36
550-76918-4	FC-CCR-MW61-117	Water	02/02/17 13:34	02/04/17 09:36
550-76918-5	FC-CCR-MW62-117	Water	02/01/17 11:00	02/04/17 09:36
550-76918-6	FC-CCR-MW63-117	Water	01/31/17 14:31	02/04/17 09:36
550-76918-7	FC-CCR-MW64-117	Water	01/31/17 15:40	02/04/17 09:36
550-76918-8	FC-CCR-MW65-117	Water	02/01/17 11:45	02/04/17 09:36
550-76918-9	FC-CCR-MW66-117	Water	02/01/17 10:15	02/04/17 09:36
550-76918-10	FC-CCR-MW67-117	Water	02/01/17 13:50	02/04/17 09:36
550-76918-11	FC-CCR-MW68-117	Water	02/01/17 14:18	02/04/17 09:36
550-76918-12	FC-CCR-MW69-117	Water	02/01/17 15:02	02/04/17 09:36
550-76918-13	FC-CCR-MW70-117	Water	02/01/17 12:53	02/04/17 09:36
550-76918-14	FC-CCR-MW71-117	Water	02/02/17 10:00	02/04/17 09:36
550-76918-15	FC-CCR-MW72-117	Water	02/02/17 09:08	02/04/17 09:36
550-76918-16	FC-CCR-MW73-117	Water	02/02/17 11:41	02/04/17 09:36
550-76918-17	FC-CCR-MW74-117	Water	02/02/17 10:50	02/04/17 09:36
550-76918-18	FC-CCR-MW100-117	Water	01/31/17 14:31	02/04/17 09:36
550-76918-19	FC-CCR-MW101-117	Water	02/02/17 09:08	02/04/17 09:36
550-76918-20	FC-CCR-MW40R-117	Water	02/02/17 15:24	02/04/17 09:36
550-76918-21	FC-CCR-MW50A-117	Water	02/02/17 15:59	02/04/17 09:36

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW7-117 — Lab Sample ID: 550-76918-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	460	D2	200	mg/L	100		300.0	Total/NA
Sulfate	6400	D2	200	mg/L	100		300.0	Total/NA
Boron	9.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	400	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	500	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	36		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800	M3	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	450		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	450		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9700	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-117 — Lab Sample ID: 550-76918-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	530	D2	400	mg/L	200		300.0	Total/NA
Sulfate	19000	D2	400	mg/L	200		300.0	Total/NA
Boron	2.0		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
Magnesium	1300	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	77		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	6700	D2	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	890		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	890		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	29000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-117 — Lab Sample ID: 550-76918-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	440	D2	200	mg/L	100		300.0	Total/NA
Fluoride	7.2		0.40	mg/L	1		300.0	Total/NA
Sulfate	5200	D2	200	mg/L	100		300.0	Total/NA
Boron	66		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	28		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8200	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW61-117 — Lab Sample ID: 550-76918-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300	D2	100	mg/L	50		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW61-117 (Continued) — Lab Sample ID: 550-76918-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.2		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	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1000		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	90		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	66		6.0	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	24		6.0	mg/L	1		SM 2320B	Total/NA
Alkalinity, Phenolphthalein	12		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5300	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW62-117 — Lab Sample ID: 550-76918-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	110	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4		0.40	mg/L	1		300.0	Total/NA
Sulfate	3400	D2	100	mg/L	50		300.0	Total/NA
Boron	2.1		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
Magnesium	340		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	10		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	660		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	740		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	740		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5600	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-117 — Lab Sample ID: 550-76918-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	95		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	2600	D2	100	mg/L	50		300.0	Total/NA
Boron	1.4		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	260		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.6		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	360		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	470		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	470		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	4200	D2	40	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-117 — Lab Sample ID: 550-76918-7

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW64-117 (Continued) — Lab Sample ID: 550-76918-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.4		0.40	mg/L	1		300.0	Total/NA
Sulfate	340	D2	40	mg/L	20		300.0	Total/NA
Boron	0.61		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	85		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	34		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	120		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	800		20	mg/L	1		SM 2540C	Total/NA
pH	8.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-117 — Lab Sample ID: 550-76918-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	51		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.8		0.40	mg/L	1		300.0	Total/NA
Sulfate	410	D2	40	mg/L	20		300.0	Total/NA
Boron	0.76		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	96		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	56		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.6		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	140		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	310		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	310		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	970		20	mg/L	1		SM 2540C	Total/NA
pH	7.9	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-MW66-117 — Lab Sample ID: 550-76918-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	mg/L	200		300.0	Total/NA
Fluoride	18		0.40	mg/L	1		300.0	Total/NA
Sulfate	10000	D2	400	mg/L	200		300.0	Total/NA
Boron	130	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2300	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	40		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	500		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	240		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	240		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	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-MW67-117 — Lab Sample ID: 550-76918-10

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW67-117 (Continued) — Lab Sample ID: 550-76918-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	mg/L	200		300.0	Total/NA
Fluoride	16		0.40	mg/L	1		300.0	Total/NA
Sulfate	9400	D2	400	mg/L	200		300.0	Total/NA
Boron	120	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2300	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	30		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	470		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	350		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	350		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	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-MW68-117 — Lab Sample ID: 550-76918-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	400	mg/L	200		300.0	Total/NA
Fluoride	6.4		0.40	mg/L	1		300.0	Total/NA
Sulfate	10000	D2	400	mg/L	200		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
Magnesium	2300	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	21		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	570		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	400		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	400		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	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-MW69-117 — Lab Sample ID: 550-76918-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400	mg/L	200		300.0	Total/NA
Fluoride	11		0.40	mg/L	1		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Boron	130	D2	0.50	mg/L	10		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2600	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	40		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	550		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	320		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	18000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	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-MW70-117 — Lab Sample ID: 550-76918-13

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW70-117 (Continued) — Lab Sample ID: 550-76918-13

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	90	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
Magnesium	1300	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	770		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	470		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	470		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	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-MW71-117 — Lab Sample ID: 550-76918-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	610	D2	200	mg/L	100		300.0	Total/NA
Sulfate	14000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.62		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
Magnesium	2300	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	32		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1200		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	550		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	550		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	17000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-117 — Lab Sample ID: 550-76918-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	430	D2	200	mg/L	100		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	420		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2200	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	27		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	700		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	560		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	560		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.5	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-117 — Lab Sample ID: 550-76918-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	380	D2	200	mg/L	100		300.0	Total/NA
Sulfate	5400	D2	200	mg/L	100		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW73-117 (Continued) — Lab Sample ID: 550-76918-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.6		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
Magnesium	580		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	28		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	560		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	560		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8800	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	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-MW74-117 — Lab Sample ID: 550-76918-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	590	D2	200	mg/L	100		300.0	Total/NA
Fluoride	1.6		0.40	mg/L	1		300.0	Total/NA
Sulfate	7600	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	420		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	600		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	26		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2200		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	380		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	380		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.0	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW100-117 — Lab Sample ID: 550-76918-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	93	D2	40	mg/L	20		300.0	Total/NA
Fluoride	1.7		0.40	mg/L	1		300.0	Total/NA
Sulfate	2500	D2	400	mg/L	200		300.0	Total/NA
Boron	1.4		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
Magnesium	260		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.5		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	350		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	470		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	470		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	4200	D2	40	mg/L	1		SM 2540C	Total/NA
pH	7.6	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-MW101-117 — Lab Sample ID: 550-76918-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450	D2	100	mg/L	50		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW101-117 (Continued) — Lab Sample ID: 550-76918-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.21		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2300	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	28		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	710		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	560		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	560		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	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-MW40R-117 — Lab Sample ID: 550-76918-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1900	D2	400	mg/L	200		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Boron	18		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
Magnesium	1100	D2	20	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	60		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3400	D2	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	360		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	360		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	18000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW50A-117 — Lab Sample ID: 550-76918-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	440	D2	200	mg/L	100		300.0	Total/NA
Fluoride	0.52		0.40	mg/L	1		300.0	Total/NA
Sulfate	4400	D2	200	mg/L	100		300.0	Total/NA
Boron	3.1		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
Magnesium	320		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	32		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	290		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	290		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.1	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 Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW7-117

Lab Sample ID: 550-76918-1
Date Collected: 02/02/17 14:51
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	460	D2	200	mg/L			02/10/17 04:55	100
Fluoride	ND		0.40	mg/L			02/10/17 04:36	1
Sulfate	6400	D2	200	mg/L			02/10/17 04:55	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	9.0		0.050	mg/L		02/13/17 16:40	02/15/17 22:05	1
Calcium	400	M3	2.0	mg/L		02/13/17 16:40	02/15/17 22:05	1
Magnesium	500	M3	2.0	mg/L		02/13/17 16:40	02/15/17 22:05	1
Potassium	36		0.50	mg/L		02/13/17 16:40	02/15/17 22:05	1
Sodium	1800	M3	0.50	mg/L		02/13/17 16:40	02/15/17 22:05	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	450		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	450		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	9700	D2	100	mg/L			02/07/17 11:02	1
pH	7.8	H5	1.7	SU			02/14/17 15:30	1
Temperature	8.9	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW49A-117

Lab Sample ID: 550-76918-2
Date Collected: 02/02/17 12:49
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	530	D2	400	mg/L			02/10/17 05:32	200
Fluoride	ND		0.40	mg/L			02/10/17 05:13	1
Sulfate	19000	D2	400	mg/L			02/10/17 05:32	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.050	mg/L		02/13/17 16:40	02/15/17 22:11	1
Calcium	390		2.0	mg/L		02/13/17 16:40	02/15/17 22:11	1
Magnesium	1300	D2	20	mg/L		02/13/17 16:40	02/16/17 14:54	10
Potassium	77		0.50	mg/L		02/13/17 16:40	02/15/17 22:11	1
Sodium	6700	D2	5.0	mg/L		02/13/17 16:40	02/16/17 14:54	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	890		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	890		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	29000	D2	200	mg/L			02/07/17 11:02	1
pH	7.8	H5	1.7	SU			02/14/17 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW49A-117

Lab Sample ID: 550-76918-2
Date Collected: 02/02/17 12:49
Matrix: Water
Date Received: 02/04/17 09:36

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	8.9	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW60-117

Lab Sample ID: 550-76918-3
Date Collected: 02/02/17 14:07
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	440	D2	200	mg/L			02/10/17 06:08	100
Fluoride	7.2		0.40	mg/L			02/10/17 05:50	1
Sulfate	5200	D2	200	mg/L			02/10/17 06:08	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		02/13/17 16:40	02/15/17 22:17	1
Calcium	450		2.0	mg/L		02/13/17 16:40	02/15/17 22:17	1
Magnesium	500		2.0	mg/L		02/13/17 16:40	02/15/17 22:17	1
Potassium	28		0.50	mg/L		02/13/17 16:40	02/15/17 22:17	1
Sodium	1100		0.50	mg/L		02/13/17 16:40	02/15/17 22:17	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	120		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	8200	D2	100	mg/L			02/07/17 11:02	1
pH	7.8	H5	1.7	SU			02/14/17 15:30	1
Temperature	8.9	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW61-117

Lab Sample ID: 550-76918-4
Date Collected: 02/02/17 13:34
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300	D2	100	mg/L			02/10/17 07:22	50
Fluoride	1.2		0.40	mg/L			02/10/17 07:04	1
Sulfate	3500	D2	100	mg/L			02/10/17 07:22	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		02/13/17 16:40	02/15/17 22:23	1
Calcium	470		2.0	mg/L		02/13/17 16:40	02/15/17 22:23	1
Magnesium	120		2.0	mg/L		02/13/17 16:40	02/15/17 22:23	1
Potassium	20		0.50	mg/L		02/13/17 16:40	02/15/17 22:23	1
Sodium	1000		0.50	mg/L		02/13/17 16:40	02/15/17 22:23	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW61-117

Lab Sample ID: 550-76918-4
Date Collected: 02/02/17 13:34
Matrix: Water
Date Received: 02/04/17 09:36

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	90		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	66		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	24		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	12		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	5300	D2	100	mg/L			02/07/17 11:02	1
pH	8.6	H5	1.7	SU			02/14/17 15:30	1
Temperature	9.9	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW62-117

Lab Sample ID: 550-76918-5
Date Collected: 02/01/17 11:00
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110	D2	100	mg/L			02/10/17 07:59	50
Fluoride	1.4		0.40	mg/L			02/10/17 07:40	1
Sulfate	3400	D2	100	mg/L			02/10/17 07:59	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.050	mg/L		02/13/17 16:40	02/15/17 22:29	1
Calcium	510		2.0	mg/L		02/13/17 16:40	02/15/17 22:29	1
Magnesium	340		2.0	mg/L		02/13/17 16:40	02/15/17 22:29	1
Potassium	10		0.50	mg/L		02/13/17 16:40	02/15/17 22:29	1
Sodium	660		0.50	mg/L		02/13/17 16:40	02/15/17 22:29	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	740		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	740		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	5600	D2	100	mg/L			02/06/17 09:22	1
pH	7.6	H5	1.7	SU			02/14/17 15:30	1
Temperature	9.9	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW63-117

Lab Sample ID: 550-76918-6
Date Collected: 01/31/17 14:31
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95		2.0	mg/L			02/10/17 08:17	1
Fluoride	1.5		0.40	mg/L			02/10/17 08:17	1
Sulfate	2600	D2	100	mg/L			02/10/17 08:36	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.4		0.050	mg/L		02/13/17 16:40	02/15/17 22:35	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW63-117

Lab Sample ID: 550-76918-6
Matrix: Water
Date Collected: 01/31/17 14:31
Date Received: 02/04/17 09:36

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	510		2.0	mg/L		02/13/17 16:40	02/15/17 22:35	1
Magnesium	260		2.0	mg/L		02/13/17 16:40	02/15/17 22:35	1
Potassium	5.6		0.50	mg/L		02/13/17 16:40	02/15/17 22:35	1
Sodium	360		0.50	mg/L		02/13/17 16:40	02/15/17 22:35	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	470		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	470		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	4200	D2	40	mg/L			02/06/17 09:22	1
pH	7.7	H5	1.7	SU			02/14/17 15:30	1
Temperature	9.6	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW64-117

Lab Sample ID: 550-76918-7
Matrix: Water
Date Collected: 01/31/17 15:40
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48		2.0	mg/L			02/10/17 08:54	1
Fluoride	1.4		0.40	mg/L			02/10/17 08:54	1
Sulfate	340	D2	40	mg/L			02/10/17 09:12	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.61		0.050	mg/L		02/13/17 16:40	02/15/17 22:41	1
Calcium	85		2.0	mg/L		02/13/17 16:40	02/15/17 22:41	1
Magnesium	34		2.0	mg/L		02/13/17 16:40	02/15/17 22:41	1
Potassium	5.7		0.50	mg/L		02/13/17 16:40	02/15/17 22:41	1
Sodium	120		0.50	mg/L		02/13/17 16:40	02/15/17 22:41	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	230		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	800		20	mg/L			02/06/17 09:22	1
pH	8.1	H5	1.7	SU			02/14/17 15:30	1
Temperature	9.7	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW65-117

Lab Sample ID: 550-76918-8
Date Collected: 02/01/17 11:45
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51		2.0	mg/L			02/10/17 09:31	1
Fluoride	1.8		0.40	mg/L			02/10/17 09:31	1
Sulfate	410	D2	40	mg/L			02/10/17 09:49	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.76		0.050	mg/L		02/13/17 16:40	02/15/17 22:43	1
Calcium	96		2.0	mg/L		02/13/17 16:40	02/15/17 22:43	1
Magnesium	56		2.0	mg/L		02/13/17 16:40	02/15/17 22:43	1
Potassium	3.6		0.50	mg/L		02/13/17 16:40	02/15/17 22:43	1
Sodium	140		0.50	mg/L		02/13/17 16:40	02/15/17 22:43	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	310		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	310		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	970		20	mg/L			02/06/17 09:22	1
pH	7.9	H5	1.7	SU			02/14/17 15:30	1
Temperature	9.8	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW66-117

Lab Sample ID: 550-76918-9
Date Collected: 02/01/17 10:15
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	mg/L			02/10/17 12:53	200
Fluoride	18		0.40	mg/L			02/10/17 12:35	1
Sulfate	10000	D2	400	mg/L			02/10/17 12:53	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2	0.50	mg/L		02/13/17 16:40	02/16/17 15:00	10
Calcium	470		2.0	mg/L		02/13/17 16:40	02/15/17 22:46	1
Magnesium	2300	D2	20	mg/L		02/13/17 16:40	02/16/17 15:00	10
Potassium	40		0.50	mg/L		02/13/17 16:40	02/15/17 22:46	1
Sodium	500		0.50	mg/L		02/13/17 16:40	02/15/17 22:46	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	240		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	240		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	16000	D2	100	mg/L			02/06/17 09:22	1
pH	7.5	H5	1.7	SU			02/14/17 15:30	1
Temperature	10.0	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW67-117

Lab Sample ID: 550-76918-10
Date Collected: 02/01/17 13:50
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	mg/L			02/10/17 13:30	200
Fluoride	16		0.40	mg/L			02/10/17 13:12	1
Sulfate	9400	D2	400	mg/L			02/10/17 13:30	200

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		02/13/17 16:40	02/16/17 15:05	10
Calcium	510		2.0	mg/L		02/13/17 16:40	02/15/17 22:52	1
Magnesium	2300	D2	20	mg/L		02/13/17 16:40	02/16/17 15:05	10
Potassium	30		0.50	mg/L		02/13/17 16:40	02/15/17 22:52	1
Sodium	470		0.50	mg/L		02/13/17 16:40	02/15/17 22:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	350		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	350		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	16000	D2	100	mg/L			02/06/17 09:22	1
pH	7.5	H5	1.7	SU			02/14/17 15:30	1
Temperature	10.8	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW68-117

Lab Sample ID: 550-76918-11
Date Collected: 02/01/17 14:18
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	400	mg/L			02/14/17 01:24	200
Fluoride	6.4		0.40	mg/L			02/14/17 01:05	1
Sulfate	10000	D2	400	mg/L			02/14/17 01:24	200

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		02/13/17 16:40	02/16/17 15:11	10
Calcium	450		2.0	mg/L		02/13/17 16:40	02/15/17 23:03	1
Magnesium	2300	D2	20	mg/L		02/13/17 16:40	02/16/17 15:11	10
Potassium	21		0.50	mg/L		02/13/17 16:40	02/15/17 23:03	1
Sodium	570		0.50	mg/L		02/13/17 16:40	02/15/17 23:03	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	400		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	400		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	16000	D2	100	mg/L			02/06/17 09:22	1
pH	7.5	H5	1.7	SU			02/14/17 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW68-117

Lab Sample ID: 550-76918-11
Date Collected: 02/01/17 14:18
Matrix: Water
Date Received: 02/04/17 09:36

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	12.3	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW69-117

Lab Sample ID: 550-76918-12
Date Collected: 02/01/17 15:02
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	mg/L			02/14/17 02:00	200
Fluoride	11		0.40	mg/L			02/14/17 01:42	1
Sulfate	12000	D2	400	mg/L			02/14/17 02:00	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2	0.50	mg/L		02/13/17 16:40	02/16/17 15:20	10
Calcium	460		2.0	mg/L		02/13/17 16:40	02/15/17 23:15	1
Magnesium	2600	D2	20	mg/L		02/13/17 16:40	02/16/17 15:20	10
Potassium	40		0.50	mg/L		02/13/17 16:40	02/15/17 23:15	1
Sodium	550		0.50	mg/L		02/13/17 16:40	02/15/17 23:15	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	320		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	18000	D2	100	mg/L			02/06/17 09:22	1
pH	7.6	H5	1.7	SU			02/14/17 15:30	1
Temperature	12.2	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW70-117

Lab Sample ID: 550-76918-13
Date Collected: 02/01/17 12:53
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	mg/L			02/14/17 03:14	200
Fluoride	ND		0.40	mg/L			02/14/17 02:56	1
Sulfate	6400	D2	400	mg/L			02/14/17 03:14	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	90	D2	0.50	mg/L		02/13/17 16:40	02/16/17 15:17	10
Calcium	480		2.0	mg/L		02/13/17 16:40	02/15/17 23:09	1
Magnesium	1300	D2	20	mg/L		02/13/17 16:40	02/16/17 15:17	10
Potassium	17		0.50	mg/L		02/13/17 16:40	02/15/17 23:09	1
Sodium	770		0.50	mg/L		02/13/17 16:40	02/15/17 23:09	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW70-117

Lab Sample ID: 550-76918-13
Date Collected: 02/01/17 12:53
Matrix: Water
Date Received: 02/04/17 09:36

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	470		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	470		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	11000	D2	100	mg/L			02/06/17 09:22	1
pH	7.5	H5	1.7	SU			02/14/17 15:30	1
Temperature	12.6	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW71-117

Lab Sample ID: 550-76918-14
Date Collected: 02/02/17 10:00
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	610	D2	200	mg/L			02/14/17 03:51	100
Fluoride	ND		0.40	mg/L			02/14/17 03:32	1
Sulfate	14000	D2	400	mg/L			02/16/17 21:19	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.62		0.050	mg/L		02/13/17 16:40	02/15/17 23:21	1
Calcium	440		2.0	mg/L		02/13/17 16:40	02/15/17 23:21	1
Magnesium	2300	D2	20	mg/L		02/13/17 16:40	02/16/17 15:26	10
Potassium	32		0.50	mg/L		02/13/17 16:40	02/15/17 23:21	1
Sodium	1200		0.50	mg/L		02/13/17 16:40	02/15/17 23:21	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	550		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	550		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	17000	D2	100	mg/L			02/07/17 11:02	1
pH	7.6	H5	1.7	SU			02/14/17 15:30	1
Temperature	12.9	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW72-117

Lab Sample ID: 550-76918-15
Date Collected: 02/02/17 09:08
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	430	D2	200	mg/L			02/14/17 04:28	100
Fluoride	ND		0.40	mg/L			02/14/17 04:09	1
Sulfate	11000	D2	400	mg/L			02/16/17 21:38	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		02/13/17 16:40	02/15/17 23:27	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW72-117

Lab Sample ID: 550-76918-15
Date Collected: 02/02/17 09:08
Matrix: Water
Date Received: 02/04/17 09:36

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	420		2.0	mg/L		02/13/17 16:40	02/15/17 23:27	1
Magnesium	2200	D2	20	mg/L		02/13/17 16:40	02/16/17 15:31	10
Potassium	27		0.50	mg/L		02/13/17 16:40	02/15/17 23:27	1
Sodium	700		0.50	mg/L		02/13/17 16:40	02/15/17 23:27	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	560		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	560		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	16000	D2	100	mg/L			02/07/17 11:02	1
pH	7.5	H5	1.7	SU			02/14/17 15:30	1
Temperature	13.5	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW73-117

Lab Sample ID: 550-76918-16
Date Collected: 02/02/17 11:41
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	380	D2	200	mg/L			02/14/17 05:04	100
Fluoride	ND		0.40	mg/L			02/14/17 04:46	1
Sulfate	5400	D2	200	mg/L			02/14/17 05:04	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.6		0.050	mg/L		02/13/17 16:40	02/15/17 23:33	1
Calcium	480		2.0	mg/L		02/13/17 16:40	02/15/17 23:33	1
Magnesium	580		2.0	mg/L		02/13/17 16:40	02/15/17 23:33	1
Potassium	28		0.50	mg/L		02/13/17 16:40	02/15/17 23:33	1
Sodium	1100		0.50	mg/L		02/13/17 16:40	02/15/17 23:33	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	560		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	560		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	8800	D2	100	mg/L			02/07/17 11:02	1
pH	7.5	H5	1.7	SU			02/14/17 15:30	1
Temperature	12.5	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW74-117

Lab Sample ID: 550-76918-17
Date Collected: 02/02/17 10:50
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	590	D2	200	mg/L			02/14/17 05:41	100
Fluoride	1.6		0.40	mg/L			02/14/17 05:23	1
Sulfate	7600	D2	200	mg/L			02/14/17 05:41	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		02/13/17 16:40	02/15/17 23:39	1
Calcium	420		2.0	mg/L		02/13/17 16:40	02/15/17 23:39	1
Magnesium	600		2.0	mg/L		02/13/17 16:40	02/15/17 23:39	1
Potassium	26		0.50	mg/L		02/13/17 16:40	02/15/17 23:39	1
Sodium	2200		0.50	mg/L		02/13/17 16:40	02/15/17 23:39	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	380		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	380		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	12000	D2	100	mg/L			02/08/17 10:34	1
pH	8.0	H5	1.7	SU			02/14/17 15:30	1
Temperature	12.3	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW100-117

Lab Sample ID: 550-76918-18
Date Collected: 01/31/17 14:31
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93	D2	40	mg/L			02/14/17 06:55	20
Fluoride	1.7		0.40	mg/L			02/14/17 06:36	1
Sulfate	2500	D2	400	mg/L			02/16/17 21:56	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.4		0.050	mg/L		02/13/17 16:40	02/15/17 23:45	1
Calcium	500		2.0	mg/L		02/13/17 16:40	02/15/17 23:45	1
Magnesium	260		2.0	mg/L		02/13/17 16:40	02/15/17 23:45	1
Potassium	5.5		0.50	mg/L		02/13/17 16:40	02/15/17 23:45	1
Sodium	350		0.50	mg/L		02/13/17 16:40	02/15/17 23:45	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	470		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	470		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	4200	D2	40	mg/L			02/06/17 09:22	1
pH	7.6	H5	1.7	SU			02/14/17 15:30	1
Temperature	12.2	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW101-117

Lab Sample ID: 550-76918-19
Date Collected: 02/02/17 09:08
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450	D2	100	mg/L			02/14/17 07:32	50
Fluoride	ND		0.40	mg/L			02/14/17 07:13	1
Sulfate	11000	D2	400	mg/L			02/16/17 22:15	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.21		0.050	mg/L		02/13/17 16:40	02/15/17 23:51	1
Calcium	430		2.0	mg/L		02/13/17 16:40	02/15/17 23:51	1
Magnesium	2300	D2	20	mg/L		02/13/17 16:40	02/16/17 15:37	10
Potassium	28		0.50	mg/L		02/13/17 16:40	02/15/17 23:51	1
Sodium	710		0.50	mg/L		02/13/17 16:40	02/15/17 23:51	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	560		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	560		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	16000	D2	100	mg/L			02/08/17 10:34	1
pH	7.5	H5	1.7	SU			02/14/17 15:30	1
Temperature	12.6	H5	0.1	Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW40R-117

Lab Sample ID: 550-76918-20
Date Collected: 02/02/17 15:24
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900	D2	400	mg/L			02/14/17 08:08	200
Fluoride	ND		0.40	mg/L			02/14/17 07:50	1
Sulfate	12000	D2	400	mg/L			02/14/17 08:08	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	18		0.050	mg/L		02/13/17 16:40	02/15/17 23:57	1
Calcium	410		2.0	mg/L		02/13/17 16:40	02/15/17 23:57	1
Magnesium	1100	D2	20	mg/L		02/13/17 16:40	02/16/17 15:43	10
Potassium	60		0.50	mg/L		02/13/17 16:40	02/15/17 23:57	1
Sodium	3400	D2	5.0	mg/L		02/13/17 16:40	02/16/17 15:43	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	360		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	360		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Total Dissolved Solids	18000	D2	200	mg/L			02/08/17 10:34	1
pH	7.8	H5	1.7	SU			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW40R-117

Lab Sample ID: 550-76918-20
Date Collected: 02/02/17 15:24
Matrix: Water
Date Received: 02/04/17 09:36

General Chemistry (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature	13.9	H5	0.1		Degrees C			02/14/17 15:30	1

Client Sample ID: FC-CCR-MW50A-117

Lab Sample ID: 550-76918-21
Date Collected: 02/02/17 15:59
Matrix: Water
Date Received: 02/04/17 09:36

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	440	D2	200		mg/L			02/15/17 03:10	100
Fluoride	0.52		0.40		mg/L			02/15/17 02:51	1
Sulfate	4400	D2	200		mg/L			02/15/17 03:10	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.1		0.050		mg/L		02/13/17 17:01	02/14/17 18:12	1
Calcium	410		2.0		mg/L		02/13/17 17:01	02/14/17 18:12	1
Magnesium	320		2.0		mg/L		02/13/17 17:01	02/14/17 18:12	1
Potassium	32		0.50		mg/L		02/13/17 17:01	02/14/17 18:12	1
Sodium	1100		0.50		mg/L		02/13/17 17:01	02/14/17 18:12	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	290		6.0		mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	290		6.0		mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			02/08/17 08:55	1
Total Dissolved Solids	7000	D2	100		mg/L			02/08/17 10:34	1
pH	7.9	H5	1.7		SU			02/14/17 15:30	1
Temperature	13.1	H5	0.1		Degrees C			02/14/17 15:30	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-109916/30 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109916

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			02/09/17 22:47	1
Fluoride	ND		0.40	mg/L			02/09/17 22:47	1
Sulfate	ND		2.0	mg/L			02/09/17 22:47	1

Lab Sample ID: LCS 550-109916/31 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109916

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.6		mg/L		108	90 - 110
Fluoride	4.00	4.14		mg/L		104	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-109916/32 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109916

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.6		mg/L		108	90 - 110	0	20
Fluoride	4.00	4.15		mg/L		104	90 - 110	0	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-76853-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109916

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	19		20.0	40.1		mg/L		106	80 - 120
Fluoride	ND		4.00	4.33		mg/L		101	80 - 120
Sulfate	170	E2 M3	20.0	176	E2 M3	mg/L		41	80 - 120

Lab Sample ID: 550-76853-E-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109916

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	19		20.0	40.6		mg/L		109	80 - 120	1	20
Fluoride	ND		4.00	4.44		mg/L		104	80 - 120	3	20
Sulfate	170	E2 M3	20.0	176	E2 M3	mg/L		43	80 - 120	0	20

Lab Sample ID: MB 550-110099/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110099

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			02/13/17 18:02	1
Fluoride	ND		0.40	mg/L			02/13/17 18:02	1
Sulfate	ND		2.0	mg/L			02/13/17 18:02	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-110099/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.3		mg/L		107	90 - 110
Fluoride	4.00	4.08		mg/L		102	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-110099/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110099

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.3		mg/L		107	90 - 110	0	20
Fluoride	4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-77342-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110099

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	130	E2 M3	20.0	141	E2 M3	mg/L		52	80 - 120
Fluoride	ND		4.00	4.27		mg/L		101	80 - 120
Sulfate	73		20.0	89.3		mg/L		80	80 - 120

Lab Sample ID: 550-77342-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110099

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	130	E2 M3	20.0	141	E2 M3	mg/L		53	80 - 120	0	20
Fluoride	ND		4.00	4.35		mg/L		103	80 - 120	2	20
Sulfate	73		20.0	89.6		mg/L		82	80 - 120	0	20

Lab Sample ID: MB 550-110161/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110161

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			02/14/17 12:26	1
Fluoride	ND		0.40	mg/L			02/14/17 12:26	1
Sulfate	ND		2.0	mg/L			02/14/17 12:26	1

Lab Sample ID: LCS 550-110161/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110161

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.7		mg/L		109	90 - 110
Fluoride	4.00	4.31		mg/L		108	90 - 110
Sulfate	20.0	21.0		mg/L		105	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-110161/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110161

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.7		mg/L		109	90 - 110	0	20
Fluoride	4.00	4.31		mg/L		108	90 - 110	0	20
Sulfate	20.0	21.0		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-77538-A-5 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110161

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	11		20.0	31.9		mg/L		107	80 - 120
Fluoride	ND		4.00	4.52		mg/L		106	80 - 120
Sulfate	3.6		20.0	24.6		mg/L		105	80 - 120

Lab Sample ID: 550-77538-A-5 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110161

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	11		20.0	31.7		mg/L		106	80 - 120	0	20
Fluoride	ND		4.00	4.50		mg/L		105	80 - 120	1	20
Sulfate	3.6		20.0	24.5		mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-110382/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110382

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			02/16/17 11:39	1
Fluoride	ND		0.40	mg/L			02/16/17 11:39	1
Sulfate	ND		2.0	mg/L			02/16/17 11:39	1

Lab Sample ID: LCS 550-110382/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.7		mg/L		109	90 - 110
Fluoride	4.00	4.37		mg/L		109	90 - 110
Sulfate	20.0	20.9		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-110382/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110382

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.8		mg/L		109	90 - 110	0	20
Fluoride	4.00	4.38		mg/L		110	90 - 110	0	20
Sulfate	20.0	21.0		mg/L		105	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-77052-G-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110382

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	170	E2 M3	20.0	176	E2 M3	mg/L		39	80 - 120
Fluoride	2.7		4.00	6.87		mg/L		105	80 - 120
Sulfate	97	M3	20.0	112	E2 M3	mg/L		72	80 - 120

Lab Sample ID: 550-77052-G-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110382

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	170	E2 M3	20.0	176	E2 M3	mg/L		40	80 - 120	0	20
Fluoride	2.7		4.00	6.98		mg/L		107	80 - 120	2	20
Sulfate	97	M3	20.0	112	E2 M3	mg/L		71	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-110023/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110256 — **Prep Batch: 110023**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		02/13/17 16:40	02/15/17 21:45	1
Calcium	ND		2.0	mg/L		02/13/17 16:40	02/15/17 21:45	1
Magnesium	ND		2.0	mg/L		02/13/17 16:40	02/15/17 21:45	1
Potassium	ND		0.50	mg/L		02/13/17 16:40	02/15/17 21:45	1
Sodium	ND		0.50	mg/L		02/13/17 16:40	02/15/17 21:45	1

Lab Sample ID: LCS 550-110023/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110256 — **Prep Batch: 110023**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.968		mg/L		97	85 - 115
Calcium	21.0	21.0		mg/L		100	85 - 115
Magnesium	21.0	20.8		mg/L		99	85 - 115
Potassium	20.0	19.1		mg/L		96	85 - 115
Sodium	20.0	18.8		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-110023/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110256 — **Prep Batch: 110023**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.992		mg/L		99	85 - 115	2	20
Calcium	21.0	21.4		mg/L		102	85 - 115	2	20
Magnesium	21.0	21.2		mg/L		101	85 - 115	2	20
Potassium	20.0	19.5		mg/L		98	85 - 115	2	20
Sodium	20.0	19.6		mg/L		98	85 - 115	4	20

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

Lab Sample ID: 550-76918-1 MS — **Client Sample ID: FC-CCR-MW7-117**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110256 — **Prep Batch: 110023**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	9.0		1.00	9.85	M3	mg/L		84	70 - 130
Calcium	400	M3	21.0	411	M3	mg/L		55	70 - 130
Magnesium	500	M3	21.0	507	M3	mg/L		33	70 - 130
Potassium	36		20.0	55.8		mg/L		101	70 - 130
Sodium	1800	M3	20.0	1770	M3	mg/L		-139	70 - 130

Lab Sample ID: 550-76918-1 MSD — **Client Sample ID: FC-CCR-MW7-117**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110256 — **Prep Batch: 110023**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	9.0		1.00	9.93	M3	mg/L		91	70 - 130	1	20
Calcium	400	M3	21.0	409	M3	mg/L		47	70 - 130	0	20
Magnesium	500	M3	21.0	508	M3	mg/L		37	70 - 130	0	20
Potassium	36		20.0	56.5		mg/L		104	70 - 130	1	20
Sodium	1800	M3	20.0	1780	M3	mg/L		-98	70 - 130	0	20

Lab Sample ID: MB 550-110024/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110153 — **Prep Batch: 110024**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		02/13/17 17:01	02/14/17 17:46	1
Calcium	ND		2.0	mg/L		02/13/17 17:01	02/14/17 17:46	1
Magnesium	ND		2.0	mg/L		02/13/17 17:01	02/14/17 17:46	1
Potassium	ND		0.50	mg/L		02/13/17 17:01	02/14/17 17:46	1
Sodium	ND		0.50	mg/L		02/13/17 17:01	02/14/17 17:46	1

Lab Sample ID: LCS 550-110024/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110153 — **Prep Batch: 110024**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.952		mg/L		95	85 - 115
Calcium	21.0	20.7		mg/L		98	85 - 115
Magnesium	21.0	20.7		mg/L		99	85 - 115
Potassium	20.0	19.3		mg/L		96	85 - 115
Sodium	20.0	19.6		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-110024/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110153 — **Prep Batch: 110024**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.948		mg/L		95	85 - 115	0	20
Calcium	21.0	20.6		mg/L		98	85 - 115	0	20
Magnesium	21.0	20.6		mg/L		98	85 - 115	1	20
Potassium	20.0	19.1		mg/L		96	85 - 115	1	20
Sodium	20.0	19.4		mg/L		97	85 - 115	1	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Lab Sample ID: 550-77184-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110153 — **Prep Batch: 110024**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.11		1.00	1.13		mg/L		102	70 - 130
Calcium	ND		21.0	20.7		mg/L		97	70 - 130
Magnesium	ND		21.0	20.7		mg/L		96	70 - 130
Potassium	56		20.0	74.0		mg/L		91	70 - 130

Lab Sample ID: 550-77184-A-1-B MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110253 — **Prep Batch: 110024**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	3000	M3 D2	20.0	2870	D2 M3	mg/L		-503	70 - 130

Lab Sample ID: 550-77184-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110153 — **Prep Batch: 110024**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.11		1.00	1.13		mg/L		102	70 - 130	0	20
Calcium	ND		21.0	20.7		mg/L		98	70 - 130	0	20
Magnesium	ND		21.0	20.8		mg/L		96	70 - 130	1	20
Potassium	56		20.0	74.8		mg/L		95	70 - 130	1	20

Lab Sample ID: 550-77184-A-1-C MSD ^10 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110253 — **Prep Batch: 110024**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	3000	M3 D2	20.0	2880	D2 M3	mg/L		-442	70 - 130	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-109705/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1

Lab Sample ID: MB 550-109705/28 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			02/08/17 08:55	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-109705/28 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			02/08/17 08:55	1

Lab Sample ID: LCS 550-109705/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	242		mg/L		97	90 - 110

Lab Sample ID: LCS 550-109705/27 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	248		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-109705/14 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	248		mg/L		99	90 - 110	0	20

Lab Sample ID: LCSD 550-109705/36 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	246		mg/L		98	90 - 110	1	20

Lab Sample ID: 550-76918-1 DU — **Client Sample ID: FC-CCR-MW7-117**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	450		460		mg/L		1	20
Bicarbonate Alkalinity as CaCO3	450		460		mg/L		1	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Lab Sample ID: 550-76918-10 DU — **Client Sample ID: FC-CCR-MW67-117**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	350		360		mg/L		2	20
Bicarbonate Alkalinity as CaCO3	350		360		mg/L		2	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-76918-10 DU — **Client Sample ID: FC-CCR-MW67-117**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Lab Sample ID: 550-76918-20 DU — **Client Sample ID: FC-CCR-MW40R-117**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109705

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	360			362		mg/L				1	20
Bicarbonate Alkalinity as CaCO3	360			362		mg/L				1	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

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

Lab Sample ID: MB 550-109461/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109461

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			02/06/17 09:22	1

Lab Sample ID: LCS 550-109461/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109461

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	970		mg/L		97	90 - 110		

Lab Sample ID: LCSD 550-109461/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109461

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	978		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-76884-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109461

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	530			526		mg/L				2	10

Lab Sample ID: 550-76918-7 DU — **Client Sample ID: FC-CCR-MW64-117**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109461

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	800			784		mg/L				3	10

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

Lab Sample ID: MB 550-109568/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109568

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			02/07/17 11:02	1

Lab Sample ID: LCS 550-109568/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109568

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

Lab Sample ID: LCSD 550-109568/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109568

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	968		mg/L		97	90 - 110	0	10

Lab Sample ID: 550-76838-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109568

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	250			238		mg/L				3	10

Lab Sample ID: 550-76900-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109568

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1270		mg/L				1	10

Lab Sample ID: MB 550-109677/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109677

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			02/08/17 10:34	1

Lab Sample ID: LCS 550-109677/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109677

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	934		mg/L		93	90 - 110		

Lab Sample ID: LCSD 550-109677/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109677

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	4	10

Lab Sample ID: 550-76935-F-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 109677

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	900			886		mg/L				1	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-110130/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110130

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-110130/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110130

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 550-110130/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110130

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.1	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-110130/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110130

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: 550-76615-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110130

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	9.1	H5		9.1	H5	SU				0.4	5
Temperature	9.3	H5		8.6	H5	Degrees C				8	

Lab Sample ID: 550-76918-10 DU — **Client Sample ID: FC-CCR-MW67-117**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 110130

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.5	H5		7.5	H5	SU				0	5
Temperature	10.8	H5		12.6	H5	Degrees C				15	

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

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

Lab Sample ID: 550-76918-20 DU
Matrix: Water
Analysis Batch: 110130

Client Sample ID: FC-CCR-MW40R-117
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.8	H5		7.8	H5	SU				0.5	5
Temperature	13.9	H5		14.2	H5	Degrees C				2	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

HPLC/IC

Analysis Batch: 109916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-1	FC-CCR-MW7-117	Total/NA	Water	300.0	
550-76918-1	FC-CCR-MW7-117	Total/NA	Water	300.0	
550-76918-2	FC-CCR-MW49A-117	Total/NA	Water	300.0	
550-76918-2	FC-CCR-MW49A-117	Total/NA	Water	300.0	
550-76918-3	FC-CCR-MW60-117	Total/NA	Water	300.0	
550-76918-3	FC-CCR-MW60-117	Total/NA	Water	300.0	
550-76918-4	FC-CCR-MW61-117	Total/NA	Water	300.0	
550-76918-4	FC-CCR-MW61-117	Total/NA	Water	300.0	
550-76918-5	FC-CCR-MW62-117	Total/NA	Water	300.0	
550-76918-5	FC-CCR-MW62-117	Total/NA	Water	300.0	
550-76918-6	FC-CCR-MW63-117	Total/NA	Water	300.0	
550-76918-6	FC-CCR-MW63-117	Total/NA	Water	300.0	
550-76918-7	FC-CCR-MW64-117	Total/NA	Water	300.0	
550-76918-7	FC-CCR-MW64-117	Total/NA	Water	300.0	
550-76918-8	FC-CCR-MW65-117	Total/NA	Water	300.0	
550-76918-8	FC-CCR-MW65-117	Total/NA	Water	300.0	
550-76918-9	FC-CCR-MW66-117	Total/NA	Water	300.0	
550-76918-9	FC-CCR-MW66-117	Total/NA	Water	300.0	
550-76918-10	FC-CCR-MW67-117	Total/NA	Water	300.0	
550-76918-10	FC-CCR-MW67-117	Total/NA	Water	300.0	
MB 550-109916/30	Method Blank	Total/NA	Water	300.0	
LCS 550-109916/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-109916/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-76853-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-76853-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 110099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-11	FC-CCR-MW68-117	Total/NA	Water	300.0	
550-76918-11	FC-CCR-MW68-117	Total/NA	Water	300.0	
550-76918-12	FC-CCR-MW69-117	Total/NA	Water	300.0	
550-76918-12	FC-CCR-MW69-117	Total/NA	Water	300.0	
550-76918-13	FC-CCR-MW70-117	Total/NA	Water	300.0	
550-76918-13	FC-CCR-MW70-117	Total/NA	Water	300.0	
550-76918-14	FC-CCR-MW71-117	Total/NA	Water	300.0	
550-76918-14	FC-CCR-MW71-117	Total/NA	Water	300.0	
550-76918-15	FC-CCR-MW72-117	Total/NA	Water	300.0	
550-76918-15	FC-CCR-MW72-117	Total/NA	Water	300.0	
550-76918-16	FC-CCR-MW73-117	Total/NA	Water	300.0	
550-76918-16	FC-CCR-MW73-117	Total/NA	Water	300.0	
550-76918-17	FC-CCR-MW74-117	Total/NA	Water	300.0	
550-76918-17	FC-CCR-MW74-117	Total/NA	Water	300.0	
550-76918-18	FC-CCR-MW100-117	Total/NA	Water	300.0	
550-76918-18	FC-CCR-MW100-117	Total/NA	Water	300.0	
550-76918-19	FC-CCR-MW101-117	Total/NA	Water	300.0	
550-76918-19	FC-CCR-MW101-117	Total/NA	Water	300.0	
550-76918-20	FC-CCR-MW40R-117	Total/NA	Water	300.0	
550-76918-20	FC-CCR-MW40R-117	Total/NA	Water	300.0	
MB 550-110099/2	Method Blank	Total/NA	Water	300.0	
LCS 550-110099/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-110099/6	Lab Control Sample Dup	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 110099 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-77342-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-77342-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 110161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-21	FC-CCR-MW50A-117	Total/NA	Water	300.0	
550-76918-21	FC-CCR-MW50A-117	Total/NA	Water	300.0	
MB 550-110161/2	Method Blank	Total/NA	Water	300.0	
LCS 550-110161/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-110161/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-77538-A-5 MS	Matrix Spike	Total/NA	Water	300.0	
550-77538-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 110382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-14	FC-CCR-MW71-117	Total/NA	Water	300.0	
550-76918-15	FC-CCR-MW72-117	Total/NA	Water	300.0	
550-76918-18	FC-CCR-MW100-117	Total/NA	Water	300.0	
550-76918-19	FC-CCR-MW101-117	Total/NA	Water	300.0	
MB 550-110382/2	Method Blank	Total/NA	Water	300.0	
LCS 550-110382/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-110382/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-77052-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-77052-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 110023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-1	FC-CCR-MW7-117	Total/NA	Water	200.7	
550-76918-2	FC-CCR-MW49A-117	Total/NA	Water	200.7	
550-76918-3	FC-CCR-MW60-117	Total/NA	Water	200.7	
550-76918-4	FC-CCR-MW61-117	Total/NA	Water	200.7	
550-76918-5	FC-CCR-MW62-117	Total/NA	Water	200.7	
550-76918-6	FC-CCR-MW63-117	Total/NA	Water	200.7	
550-76918-7	FC-CCR-MW64-117	Total/NA	Water	200.7	
550-76918-8	FC-CCR-MW65-117	Total/NA	Water	200.7	
550-76918-9	FC-CCR-MW66-117	Total/NA	Water	200.7	
550-76918-10	FC-CCR-MW67-117	Total/NA	Water	200.7	
550-76918-11	FC-CCR-MW68-117	Total/NA	Water	200.7	
550-76918-12	FC-CCR-MW69-117	Total/NA	Water	200.7	
550-76918-13	FC-CCR-MW70-117	Total/NA	Water	200.7	
550-76918-14	FC-CCR-MW71-117	Total/NA	Water	200.7	
550-76918-15	FC-CCR-MW72-117	Total/NA	Water	200.7	
550-76918-16	FC-CCR-MW73-117	Total/NA	Water	200.7	
550-76918-17	FC-CCR-MW74-117	Total/NA	Water	200.7	
550-76918-18	FC-CCR-MW100-117	Total/NA	Water	200.7	
550-76918-19	FC-CCR-MW101-117	Total/NA	Water	200.7	
550-76918-20	FC-CCR-MW40R-117	Total/NA	Water	200.7	
MB 550-110023/1-A	Method Blank	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 110023 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-110023/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-110023/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-76918-1 MS	FC-CCR-MW7-117	Total/NA	Water	200.7	
550-76918-1 MSD	FC-CCR-MW7-117	Total/NA	Water	200.7	

Prep Batch: 110024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-21	FC-CCR-MW50A-117	Total/NA	Water	200.7	
MB 550-110024/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-110024/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-110024/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-77184-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-77184-A-1-B MS ^10	Matrix Spike	Total/NA	Water	200.7	
550-77184-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-77184-A-1-C MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 110153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-21	FC-CCR-MW50A-117	Total/NA	Water	200.7 Rev 4.4	110024
MB 550-110024/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	110024
LCS 550-110024/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	110024
LCSD 550-110024/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	110024
550-77184-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	110024
550-77184-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	110024

Analysis Batch: 110253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-77184-A-1-B MS ^10	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	110024
550-77184-A-1-C MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	110024

Analysis Batch: 110256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-1	FC-CCR-MW7-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-2	FC-CCR-MW49A-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-3	FC-CCR-MW60-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-4	FC-CCR-MW61-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-5	FC-CCR-MW62-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-6	FC-CCR-MW63-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-7	FC-CCR-MW64-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-8	FC-CCR-MW65-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-9	FC-CCR-MW66-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-10	FC-CCR-MW67-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-11	FC-CCR-MW68-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-12	FC-CCR-MW69-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-13	FC-CCR-MW70-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-14	FC-CCR-MW71-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-15	FC-CCR-MW72-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-16	FC-CCR-MW73-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-17	FC-CCR-MW74-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-18	FC-CCR-MW100-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-19	FC-CCR-MW101-117	Total/NA	Water	200.7 Rev 4.4	110023

Metals (Continued)

Analysis Batch: 110256 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-20	FC-CCR-MW40R-117	Total/NA	Water	200.7 Rev 4.4	110023
MB 550-110023/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	110023
LCS 550-110023/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	110023
LCSD 550-110023/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-1 MS	FC-CCR-MW7-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-1 MSD	FC-CCR-MW7-117	Total/NA	Water	200.7 Rev 4.4	110023

Analysis Batch: 110322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-2	FC-CCR-MW49A-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-9	FC-CCR-MW66-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-10	FC-CCR-MW67-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-11	FC-CCR-MW68-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-12	FC-CCR-MW69-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-13	FC-CCR-MW70-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-14	FC-CCR-MW71-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-15	FC-CCR-MW72-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-19	FC-CCR-MW101-117	Total/NA	Water	200.7 Rev 4.4	110023
550-76918-20	FC-CCR-MW40R-117	Total/NA	Water	200.7 Rev 4.4	110023

General Chemistry

Analysis Batch: 109461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-5	FC-CCR-MW62-117	Total/NA	Water	SM 2540C	
550-76918-6	FC-CCR-MW63-117	Total/NA	Water	SM 2540C	
550-76918-7	FC-CCR-MW64-117	Total/NA	Water	SM 2540C	
550-76918-8	FC-CCR-MW65-117	Total/NA	Water	SM 2540C	
550-76918-9	FC-CCR-MW66-117	Total/NA	Water	SM 2540C	
550-76918-10	FC-CCR-MW67-117	Total/NA	Water	SM 2540C	
550-76918-11	FC-CCR-MW68-117	Total/NA	Water	SM 2540C	
550-76918-12	FC-CCR-MW69-117	Total/NA	Water	SM 2540C	
550-76918-13	FC-CCR-MW70-117	Total/NA	Water	SM 2540C	
550-76918-18	FC-CCR-MW100-117	Total/NA	Water	SM 2540C	
MB 550-109461/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-109461/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-109461/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-76884-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	
550-76918-7 DU	FC-CCR-MW64-117	Total/NA	Water	SM 2540C	

Analysis Batch: 109568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-1	FC-CCR-MW7-117	Total/NA	Water	SM 2540C	
550-76918-2	FC-CCR-MW49A-117	Total/NA	Water	SM 2540C	
550-76918-3	FC-CCR-MW60-117	Total/NA	Water	SM 2540C	
550-76918-4	FC-CCR-MW61-117	Total/NA	Water	SM 2540C	
550-76918-14	FC-CCR-MW71-117	Total/NA	Water	SM 2540C	
550-76918-15	FC-CCR-MW72-117	Total/NA	Water	SM 2540C	
550-76918-16	FC-CCR-MW73-117	Total/NA	Water	SM 2540C	
MB 550-109568/1	Method Blank	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 109568 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-109568/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-109568/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-76838-B-1 DU	Duplicate	Total/NA	Water	SM 2540C	
550-76900-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 109677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-17	FC-CCR-MW74-117	Total/NA	Water	SM 2540C	
550-76918-19	FC-CCR-MW101-117	Total/NA	Water	SM 2540C	
550-76918-20	FC-CCR-MW40R-117	Total/NA	Water	SM 2540C	
550-76918-21	FC-CCR-MW50A-117	Total/NA	Water	SM 2540C	
MB 550-109677/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-109677/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-109677/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-76935-F-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 109705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-1	FC-CCR-MW7-117	Total/NA	Water	SM 2320B	
550-76918-2	FC-CCR-MW49A-117	Total/NA	Water	SM 2320B	
550-76918-3	FC-CCR-MW60-117	Total/NA	Water	SM 2320B	
550-76918-4	FC-CCR-MW61-117	Total/NA	Water	SM 2320B	
550-76918-5	FC-CCR-MW62-117	Total/NA	Water	SM 2320B	
550-76918-6	FC-CCR-MW63-117	Total/NA	Water	SM 2320B	
550-76918-7	FC-CCR-MW64-117	Total/NA	Water	SM 2320B	
550-76918-8	FC-CCR-MW65-117	Total/NA	Water	SM 2320B	
550-76918-9	FC-CCR-MW66-117	Total/NA	Water	SM 2320B	
550-76918-10	FC-CCR-MW67-117	Total/NA	Water	SM 2320B	
550-76918-11	FC-CCR-MW68-117	Total/NA	Water	SM 2320B	
550-76918-12	FC-CCR-MW69-117	Total/NA	Water	SM 2320B	
550-76918-13	FC-CCR-MW70-117	Total/NA	Water	SM 2320B	
550-76918-14	FC-CCR-MW71-117	Total/NA	Water	SM 2320B	
550-76918-15	FC-CCR-MW72-117	Total/NA	Water	SM 2320B	
550-76918-16	FC-CCR-MW73-117	Total/NA	Water	SM 2320B	
550-76918-17	FC-CCR-MW74-117	Total/NA	Water	SM 2320B	
550-76918-18	FC-CCR-MW100-117	Total/NA	Water	SM 2320B	
550-76918-19	FC-CCR-MW101-117	Total/NA	Water	SM 2320B	
550-76918-20	FC-CCR-MW40R-117	Total/NA	Water	SM 2320B	
550-76918-21	FC-CCR-MW50A-117	Total/NA	Water	SM 2320B	
MB 550-109705/1	Method Blank	Total/NA	Water	SM 2320B	
MB 550-109705/28	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-109705/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-109705/27	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-109705/14	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-109705/36	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-76918-1 DU	FC-CCR-MW7-117	Total/NA	Water	SM 2320B	
550-76918-10 DU	FC-CCR-MW67-117	Total/NA	Water	SM 2320B	
550-76918-20 DU	FC-CCR-MW40R-117	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 110130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-76918-1	FC-CCR-MW7-117	Total/NA	Water	SM 4500 H+ B	
550-76918-2	FC-CCR-MW49A-117	Total/NA	Water	SM 4500 H+ B	
550-76918-3	FC-CCR-MW60-117	Total/NA	Water	SM 4500 H+ B	
550-76918-4	FC-CCR-MW61-117	Total/NA	Water	SM 4500 H+ B	
550-76918-5	FC-CCR-MW62-117	Total/NA	Water	SM 4500 H+ B	
550-76918-6	FC-CCR-MW63-117	Total/NA	Water	SM 4500 H+ B	
550-76918-7	FC-CCR-MW64-117	Total/NA	Water	SM 4500 H+ B	
550-76918-8	FC-CCR-MW65-117	Total/NA	Water	SM 4500 H+ B	
550-76918-9	FC-CCR-MW66-117	Total/NA	Water	SM 4500 H+ B	
550-76918-10	FC-CCR-MW67-117	Total/NA	Water	SM 4500 H+ B	
550-76918-11	FC-CCR-MW68-117	Total/NA	Water	SM 4500 H+ B	
550-76918-12	FC-CCR-MW69-117	Total/NA	Water	SM 4500 H+ B	
550-76918-13	FC-CCR-MW70-117	Total/NA	Water	SM 4500 H+ B	
550-76918-14	FC-CCR-MW71-117	Total/NA	Water	SM 4500 H+ B	
550-76918-15	FC-CCR-MW72-117	Total/NA	Water	SM 4500 H+ B	
550-76918-16	FC-CCR-MW73-117	Total/NA	Water	SM 4500 H+ B	
550-76918-17	FC-CCR-MW74-117	Total/NA	Water	SM 4500 H+ B	
550-76918-18	FC-CCR-MW100-117	Total/NA	Water	SM 4500 H+ B	
550-76918-19	FC-CCR-MW101-117	Total/NA	Water	SM 4500 H+ B	
550-76918-20	FC-CCR-MW40R-117	Total/NA	Water	SM 4500 H+ B	
550-76918-21	FC-CCR-MW50A-117	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-110130/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-110130/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-110130/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-110130/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-76615-A-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-76918-10 DU	FC-CCR-MW67-117	Total/NA	Water	SM 4500 H+ B	
550-76918-20 DU	FC-CCR-MW40R-117	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW7-117 — Lab Sample ID: 550-76918-1

Date Collected: 02/02/17 14:51
Matrix: Water
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 04:36	BCB	TAL PHX
Total/NA	Analysis	300.0		100	109916	02/10/17 04:55	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:05	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109568	02/07/17 11:02	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW49A-117 — Lab Sample ID: 550-76918-2

Date Collected: 02/02/17 12:49
Matrix: Water
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 05:13	BCB	TAL PHX
Total/NA	Analysis	300.0		200	109916	02/10/17 05:32	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:11	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 14:54	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109568	02/07/17 11:02	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW60-117 — Lab Sample ID: 550-76918-3

Date Collected: 02/02/17 14:07
Matrix: Water
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 05:50	BCB	TAL PHX
Total/NA	Analysis	300.0		100	109916	02/10/17 06:08	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:17	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109568	02/07/17 11:02	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW61-117 — Lab Sample ID: 550-76918-4

Date Collected: 02/02/17 13:34 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 07:04	BCB	TAL PHX
Total/NA	Analysis	300.0		50	109916	02/10/17 07:22	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:23	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109568	02/07/17 11:02	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW62-117 — Lab Sample ID: 550-76918-5

Date Collected: 02/01/17 11:00 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 07:40	BCB	TAL PHX
Total/NA	Analysis	300.0		50	109916	02/10/17 07:59	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:29	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW63-117 — Lab Sample ID: 550-76918-6

Date Collected: 01/31/17 14:31 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 08:17	BCB	TAL PHX
Total/NA	Analysis	300.0		50	109916	02/10/17 08:36	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:35	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW64-117 — Lab Sample ID: 550-76918-7

Date Collected: 01/31/17 15:40 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 08:54	BCB	TAL PHX
Total/NA	Analysis	300.0		20	109916	02/10/17 09:12	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:41	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW65-117 — Lab Sample ID: 550-76918-8

Date Collected: 02/01/17 11:45 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 09:31	BCB	TAL PHX
Total/NA	Analysis	300.0		20	109916	02/10/17 09:49	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:43	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW66-117 — Lab Sample ID: 550-76918-9

Date Collected: 02/01/17 10:15 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 12:35	BCB	TAL PHX
Total/NA	Analysis	300.0		200	109916	02/10/17 12:53	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:46	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 15:00	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW67-117 — Lab Sample ID: 550-76918-10

Date Collected: 02/01/17 13:50 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	109916	02/10/17 13:12	BCB	TAL PHX
Total/NA	Analysis	300.0		200	109916	02/10/17 13:30	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 22:52	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 15:05	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW68-117 — Lab Sample ID: 550-76918-11

Date Collected: 02/01/17 14:18 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 01:05	BCB	TAL PHX
Total/NA	Analysis	300.0		200	110099	02/14/17 01:24	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:03	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 15:11	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW69-117 — Lab Sample ID: 550-76918-12

Date Collected: 02/01/17 15:02 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 01:42	BCB	TAL PHX
Total/NA	Analysis	300.0		200	110099	02/14/17 02:00	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:15	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 15:20	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW69-117 — Lab Sample ID: 550-76918-12

Date Collected: 02/01/17 15:02 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW70-117 — Lab Sample ID: 550-76918-13

Date Collected: 02/01/17 12:53 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 02:56	BCB	TAL PHX
Total/NA	Analysis	300.0		200	110099	02/14/17 03:14	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:09	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 15:17	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW71-117 — Lab Sample ID: 550-76918-14

Date Collected: 02/02/17 10:00 — **Matrix: Water**
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 03:32	BCB	TAL PHX
Total/NA	Analysis	300.0		100	110099	02/14/17 03:51	BCB	TAL PHX
Total/NA	Analysis	300.0		200	110382	02/16/17 21:19	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:21	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 15:26	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109568	02/07/17 11:02	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW72-117 — Lab Sample ID: 550-76918-15

Date Collected: 02/02/17 09:08
Date Received: 02/04/17 09:36
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 04:09	BCB	TAL PHX
Total/NA	Analysis	300.0		100	110099	02/14/17 04:28	BCB	TAL PHX
Total/NA	Analysis	300.0		200	110382	02/16/17 21:38	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:27	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 15:31	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109568	02/07/17 11:02	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW73-117 — Lab Sample ID: 550-76918-16

Date Collected: 02/02/17 11:41
Date Received: 02/04/17 09:36
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 04:46	BCB	TAL PHX
Total/NA	Analysis	300.0		100	110099	02/14/17 05:04	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:33	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109568	02/07/17 11:02	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW74-117 — Lab Sample ID: 550-76918-17

Date Collected: 02/02/17 10:50
Date Received: 02/04/17 09:36
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 05:23	BCB	TAL PHX
Total/NA	Analysis	300.0		100	110099	02/14/17 05:41	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:39	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109677	02/08/17 10:34	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW100-117

Lab Sample ID: 550-76918-18
Date Collected: 01/31/17 14:31
Matrix: Water
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 06:36	BCB	TAL PHX
Total/NA	Analysis	300.0		20	110099	02/14/17 06:55	BCB	TAL PHX
Total/NA	Analysis	300.0		200	110382	02/16/17 21:56	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:45	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109461		YET	TAL PHX
					(Start)	02/06/17 09:22		
					(End)	02/07/17 11:20		
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW101-117

Lab Sample ID: 550-76918-19
Date Collected: 02/02/17 09:08
Matrix: Water
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 07:13	BCB	TAL PHX
Total/NA	Analysis	300.0		50	110099	02/14/17 07:32	BCB	TAL PHX
Total/NA	Analysis	300.0		200	110382	02/16/17 22:15	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:51	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 15:37	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109677	02/08/17 10:34	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Client Sample ID: FC-CCR-MW40R-117

Lab Sample ID: 550-76918-20
Date Collected: 02/02/17 15:24
Matrix: Water
Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110099	02/14/17 07:50	BCB	TAL PHX
Total/NA	Analysis	300.0		200	110099	02/14/17 08:08	BCB	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110256	02/15/17 23:57	CJD	TAL PHX
Total/NA	Prep	200.7			110023	02/13/17 16:40	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	110322	02/16/17 15:43	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109677	02/08/17 10:34	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Four Corners

TestAmerica Job ID: 550-76918-1

Client Sample ID: FC-CCR-MW50A-117

Lab Sample ID: 550-76918-21

Date Collected: 02/02/17 15:59

Matrix: Water

Date Received: 02/04/17 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	110161	02/15/17 02:51	BCB	TAL PHX
Total/NA	Analysis	300.0		100	110161	02/15/17 03:10	BCB	TAL PHX
Total/NA	Prep	200.7			110024	02/13/17 17:01	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	110153	02/14/17 18:12	CJD	TAL PHX
Total/NA	Analysis	SM 2320B		1	109705	02/08/17 08:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	109677	02/08/17 10:34	YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	110130	02/14/17 15:30	JCB	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 Four Corners

TestAmerica Job ID: 550-76918-1

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 Four Corners

TestAmerica Job ID: 550-76918-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

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

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

550-76918 Chain of Custody

Chain of Custody Record

76918

CCR

TestAmerica Laboratories, Inc.

2/20/2017

Client Contact	Doug Lavarnway	Doug Lavarnway		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, Na, K, Mg)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	SM 2320B (HCO3)	Sample Specific Notes:
FC-CCR-MW7-117	2/2/2017	1451	G	W	2	N	x	x	x	x	x	x	-01
FC-CCR-MW49A-117	2/2/2017	1249	G	W	2	N	x	x	x	x	x	x	-02
FC-CCR-MW60-117	2/2/2017	1407	G	W	2	N	x	x	x	x	x	x	-03
FC-CCR-MW61-117	2/2/2017	1334	G	W	2	N	x	x	x	x	x	x	-04
FC-CCR-MW62-117	2/1/2017	1100	G	W	2	N	x	x	x	x	x	x	-05
FC-CCR-MW63-117	1/31/2017	1431	G	W	2	N	x	x	x	x	x	x	-06
FC-CCR-MW64-117	1/31/2017	1540	G	W	2	N	x	x	x	x	x	x	-07
FC-CCR-MW65-117	2/1/2017	1145	G	W	2	N	x	x	x	x	x	x	-08
FC-CCR-MW66-117	2/1/2017	1015	G	W	2	N	x	x	x	x	x	x	-09
FC-CCR-MW67-117	2/1/2017	1350	G	W	2	N	x	x	x	x	x	x	-10
FC-CCR-MW68-117	2/1/2017	1418	G	W	2	N	x	x	x	x	x	x	-11

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:

0.5°C, 0.9°C, 0.9°C, 0.5°C, 0.4°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	2/3/17	[illegible]	Red J	2/3/17 4:31p
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
					2-4-17 0845

PC

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

Chain of Custody Record

76918

Regulatory Program: CCR

TestAmerica Laboratories, Inc.

2/20/2017

Client Contact	**Doug Lavarnway**	**Doug Lavarnway**	COC No:
APS Four Corners	**928-587-0319**	**Lab Contact:**	**Carrier:** 2 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, Na, K, Mg)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	SM 2320B (HCO3)	Sample Specific Notes:
FC-CCR-MW69-117	2/1/2017	1502	G	W	2	N	x	x	x	x	x	x	-12
FC-CCR-MW70-117	2/1/2017	1253	G	W	2	N	x	x	x	x	x	x	-13
FC-CCR-MW71-117	2/2/2017	1000	G	W	2	N	x	x	x	x	x	x	-14
FC-CCR-MW72-117	2/2/2017	0908	G	W	2	N	x	x	x	x	x	x	-15
FC-CCR-MW73-117	2/2/2017	1141	G	W	2	N	x	x	x	x	x	x	-16
FC-CCR-MW74-117	2/2/2017	1050	G	W	2	N	x	x	x	x	x	x	-17
FC-CCR-MW100-117	1/31/2017	1431	G	W	2	N	x	x	x	x	x	x	-18
FC-CCR-MW101-117	2/2/2017	0908	G	W	2	N	x	x	x	x	x	x	-19
FC-CCR-MW40R-117	2/2/2017	1524	G	W	2	N	x	x	x	x	x	x	-20
FC-CCR-MW50A-117	2/2/2017	1559	G	W	2	N	x	x	x	x	x	x	-21

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: Doug Lavarnway	Company: APS	Date/Time: 2/6/17	Received by: [illegible]	Company: DeaJ	Date/Time: 2/3/17 4:31
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 2-4-17 0845

PC

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No. 550-16138.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com	State of Origin: New Mexico	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-76918-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 2/17/2017			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Four Corners	Project #: 55002330			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 ICP Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW7-117 (550-76918-1)	2/2/17	14:51 Arizona		Water			X	1	AZ Sample
FC-CCR-MW49A-117 (550-76918-2)	2/2/17	12:49 Arizona		Water			X	1	AZ Sample
FC-CCR-MW60-117 (550-76918-3)	2/2/17	14:07 Arizona		Water			X	1	AZ Sample
FC-CCR-MW61-117 (550-76918-4)	2/2/17	13:34 Arizona		Water			X	1	AZ Sample
FC-CCR-MW62-117 (550-76918-5)	2/1/17	11:00 Arizona		Water			X	1	AZ Sample
FC-CCR-MW63-117 (550-76918-6)	1/31/17	14:31 Arizona		Water			X	1	AZ Sample
FC-CCR-MW64-117 (550-76918-7)	1/31/17	15:40 Arizona		Water			X	1	AZ Sample
FC-CCR-MW65-117 (550-76918-8)	2/1/17	11:45 Arizona		Water			X	1	AZ Sample
FC-CCR-MW66-117 (550-76918-9)	2/1/17	10:15 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not *currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed*, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

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

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

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

Relinquished by: [illegible] 02-06-17	Date/Time: 16:00	Company: TAPLA LAB	Received by: [illegible]	Date/Time: 2/7/17 9:45	Company: TAI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: #6715-9622 2709	Cooler Temperature(s) °C and Other Remarks: 1.9/1.1 IR66

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-16138.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com	State of Origin: New Mexico	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-76918-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 2/17/2017			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Four Corners	Project #: 55002330			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 ICP Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW67-117 (550-76918-10)	2/1/17	13:50 Arizona		Water			X	1	AZ Sample
FC-CCR-MW68-117 (550-76918-11)	2/1/17	14:18 Arizona		Water			X	1	AZ Sample
FC-CCR-MW69-117 (550-76918-12)	2/1/17	15:02 Arizona		Water			X	1	AZ Sample
FC-CCR-MW70-117 (550-76918-13)	2/1/17	12:53 Arizona		Water			X	1	AZ Sample
FC-CCR-MW71-117 (550-76918-14)	2/2/17	10:00 Arizona		Water			X	1	AZ Sample
FC-CCR-MW72-117 (550-76918-15)	2/2/17	09:08 Arizona		Water			X	1	AZ Sample
FC-CCR-MW73-117 (550-76918-16)	2/2/17	11:41 Arizona		Water			X	1	AZ Sample
FC-CCR-MW74-117 (550-76918-17)	2/2/17	10:50 Arizona		Water			X	1	AZ Sample
FC-CCR-MW100-117 (550-76918-18)	1/31/17	14:31 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody I

Possible Hazard Identification
Unconfirmed

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

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by: [illegible] 2-06-17	Date/Time: 16:00	Company: TAL	Received by: [illegible]	Date/Time: 2/7/17 945	Company: TA	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 6715-9622 2709		Cooler Temperature(s) °C and Other Remarks 1.9 1.1 IR66			

TestAmerica Phoenix
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Phoenix, AZ 85040
Phone (602) 437-3340 Fax (602) 454-9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-16138.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: ken.baker@testamericainc.com	State of Origin: New Mexico	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Arizona		Job #: 550-76918-1
Address: 17461 Derian Ave, Suite 100,	Due Date Requested: 2/17/2017			
City: Irvine	TAT Requested (days):			
State, Zip: CA, 92614-5817				
Phone: 949-261-1022(Tel) 949-260-3297(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Four Corners	Project #: 55002330			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.2 ICP Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
FC-CCR-MW101-117 (550-76918-19)	2/2/17	09:08 Arizona		Water			X	1	AZ Sample
FC-CCR-MW40R-117 (550-76918-20)	2/2/17	15:24 Arizona		Water			X	1	AZ Sample
FC-CCR-MW50A-117 (550-76918-21)	2/2/17	15:59 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification
Unconfirmed

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

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible] 02-06-17	16:00	TA-Phx Lab	[illegible]	2/7/17 945	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 6715-9622 2709	Cooler Temperature(s) °C and Other Remarks: 1.9/1.1 IR66

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-76918-1

Login Number: 76918
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?	False	
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	