TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 550-87922-1
Client Project/Site: Four Corners CCR
Revision: 1

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

Attn: Doug Lavarnway

Authorized for release by:
9/28/2017 12:45:39 PM

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

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
D1	Sample required dilution due to matrix.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
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.
B3	Target analyte detected in calibration blank at or above the method reporting limit.

General Chemistry

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

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	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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: 550-87922-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-87922-1

Comments
No additional comments.

Receipt
The samples were received on 8/11/2017 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.5º C, 2.6º C, 3.3º C and 4.6º C.

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

Metals
Method(s) 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-125976 contained <AffectedAnalytes> above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

General Chemistry
Method(s) SM 2540C: The following samples produced a TDS result greater than their estimated conductivity values: 550-87922-9 -10, -11, -12, -13, -15, -16, -17, -18. This anomaly is suspected to be caused from the samples matrix.

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: Four Corners CCR

TestAmerica Job ID: 550-87922-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-87922-1	FC-CCR-MW7-81017	Water	08/10/17 15:41	08/11/17 15:15
550-87922-2	FC-CCR-MW49A-81017	Water	08/10/17 16:30	08/11/17 15:15
550-87922-3	FC-CCR-MW60-81017	Water	08/10/17 14:57	08/11/17 15:15
550-87922-4	FC-CCR-MW61-81017	Water	08/10/17 13:34	08/11/17 15:15
550-87922-5	FC-CCR-MW62-8917	Water	08/09/17 15:31	08/11/17 15:15
550-87922-6	FC-CCR-MW63-8917	Water	08/09/17 16:20	08/11/17 15:15
550-87922-7	FC-CCR-MW64-8917	Water	08/09/17 16:57	08/11/17 15:15
550-87922-8	FC-CCR-MW65-8917	Water	08/09/17 14:08	08/11/17 15:15
550-87922-9	FC-CCR-MW66-8917	Water	08/09/17 14:54	08/11/17 15:15
550-87922-10	FC-CCR-MW67-8917	Water	08/09/17 12:05	08/11/17 15:15
550-87922-11	FC-CCR-MW68-8917	Water	08/09/17 12:50	08/11/17 15:15
550-87922-12	FC-CCR-MW69-8917	Water	08/09/17 10:49	08/11/17 15:15
550-87922-13	FC-CCR-FD01-8917	Water	08/09/17 10:49	08/11/17 15:15
550-87922-14	FC-CCR-MW70-8917	Water	08/09/17 17:28	08/11/17 15:15
550-87922-15	FC-CCR-MW71-81017	Water	08/10/17 10:37	08/11/17 15:15
550-87922-16	FC-CCR-MW72-81017	Water	08/10/17 09:35	08/11/17 15:15
550-87922-17	FC-CCR-FD02-81017	Water	08/10/17 09:35	08/11/17 15:15
550-87922-18	FC-CCR-MW73-81017	Water	08/10/17 11:23	08/11/17 15:15
550-87922-19	FC-CCR-MW74-81017	Water	08/10/17 12:07	08/11/17 15:15
550-87922-20	FC-CCR-MW75-81017	Water	08/10/17 14:16	08/11/17 15:15

Detection Summary

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW7-81017 — Lab Sample ID: 550-87922-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	420	D2	400	mg/L	200		300.0	Total/NA
Sulfate	7400	D2	400	mg/L	200		300.0	Total/NA
Boron	7.8	M3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	630	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	1700	M3	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	510		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000	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-MW49A-81017 — Lab Sample ID: 550-87922-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	520	D2	20	mg/L	10		300.0	Total/NA
Sulfate	18000	D2	1000	mg/L	500		300.0	Total/NA
Boron	2.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	400		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1100	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	70		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	5700	D2	2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	790		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	790		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	23000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-81017 — Lab Sample ID: 550-87922-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	920	D2	400	mg/L	200		300.0	Total/NA
Fluoride	7.1	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Boron	66		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	540		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	1200		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8100	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	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-MW61-81017 — Lab Sample ID: 550-87922-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	310	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: Four Corners CCR

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW61-81017 (Continued) — Lab Sample ID: 550-87922-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.2		0.40	mg/L	1		300.0	Total/NA
Sulfate	3700	D2	100	mg/L	50		300.0	Total/NA
Boron	40		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	21		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	88		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	88		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5500	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW62-8917 — Lab Sample ID: 550-87922-5

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	2.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	540		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	330		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	640		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	770		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	770		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5400	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-8917 — Lab Sample ID: 550-87922-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	97		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.9		0.40	mg/L	1		300.0	Total/NA
Sulfate	2900	D2	100	mg/L	50		300.0	Total/NA
Boron	1.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	530		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.9		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	390		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	490		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	490		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	4500	D2	40	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-8917 — Lab Sample ID: 550-87922-7

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW64-8917 (Continued) — Lab Sample ID: 550-87922-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	52		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	380	D2	100	mg/L	50		300.0	Total/NA
Boron	0.61		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	89		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	37		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	130		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	890		20	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-8917 — Lab Sample ID: 550-87922-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	53		2.0	mg/L	1		300.0	Total/NA
Fluoride	2.0		0.40	mg/L	1		300.0	Total/NA
Sulfate	500	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	110		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	63		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	150		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	1000		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW66-8917 — Lab Sample ID: 550-87922-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700	D2	200	mg/L	100		300.0	Total/NA
Fluoride	26	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Boron	140	D2	0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2700	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	44		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	640		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	260		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	260		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-8917 — Lab Sample ID: 550-87922-10

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW67-8917 (Continued) — Lab Sample ID: 550-87922-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	200	mg/L	100		300.0	Total/NA
Fluoride	22	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	13000	D2	400	mg/L	200		300.0	Total/NA
Boron	160	D2	0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	3000	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	42		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	720		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	21000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-8917 — Lab Sample ID: 550-87922-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	200	mg/L	100		300.0	Total/NA
Fluoride	11	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Boron	120	D2	0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2500	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	640		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	18000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-8917 — Lab Sample ID: 550-87922-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	200	mg/L	100		300.0	Total/NA
Fluoride	17	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Boron	140	D2	0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2800	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	44		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	690		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	19000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD01-8917 — Lab Sample ID: 550-87922-13

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-FD01-8917 (Continued) — Lab Sample ID: 550-87922-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	200	mg/L	100		300.0	Total/NA
Fluoride	17	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Boron	150	D2	0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2800	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	43		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	680		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	300		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	300		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-8917 — Lab Sample ID: 550-87922-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	200	mg/L	100		300.0	Total/NA
Fluoride	3.0	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	6800	D2	400	mg/L	200		300.0	Total/NA
Boron	98	D2	0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	880		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	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-MW71-81017 — Lab Sample ID: 550-87922-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	560	D2	400	mg/L	200		300.0	Total/NA
Sulfate	10000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.55	B3	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	2000	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	27		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	420		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	420		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-81017 — Lab Sample ID: 550-87922-16

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW72-81017 (Continued) — Lab Sample ID: 550-87922-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	460	D2	10	mg/L	5		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.21		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	2500	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	30		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	780		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	600		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	600		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	17000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-81017 — Lab Sample ID: 550-87922-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	460	D2	10	mg/L	5		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.25	D2	0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2600	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	30		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	800		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	610		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	610		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	17000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	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-MW73-81017 — Lab Sample ID: 550-87922-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	540	D2	400	mg/L	200		300.0	Total/NA
Sulfate	7700	D2	400	mg/L	200		300.0	Total/NA
Boron	1.7	B3	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	820		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		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	800		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	800		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW74-81017 — Lab Sample ID: 550-87922-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	420	D2	200	mg/L	100		300.0	Total/NA
Fluoride	2.0	D1	0.80	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW74-81017 (Continued) — Lab Sample ID: 550-87922-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	10000	D2	400	mg/L	200		300.0	Total/NA
Boron	1.5	B3	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	730		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	22		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2400	D2	1.0	mg/L	2		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	420		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	420		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	13000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.9	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-MW75-81017 — Lab Sample ID: 550-87922-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300	D2	20	mg/L	10		300.0	Total/NA
Sulfate	5200	D2	400	mg/L	200		300.0	Total/NA
Boron	25	B3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	23		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1300		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	94		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	94		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6600	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.4	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

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW7-81017

Lab Sample ID: 550-87922-1
Date Collected: 08/10/17 15:41
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	420	D2	400	mg/L			08/23/17 21:28	200
Fluoride	ND	D1 D5	0.80	mg/L			08/23/17 20:32	2
Sulfate	7400	D2	400	mg/L			08/23/17 21:28	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7.8	M3	0.050	mg/L		08/21/17 06:51	08/27/17 18:36	1
Calcium	420	M3	2.0	mg/L		08/21/17 06:51	08/27/17 18:36	1
Magnesium	630	M3	2.0	mg/L		08/21/17 06:51	08/27/17 18:36	1
Potassium	36		0.50	mg/L		08/21/17 06:51	08/27/17 18:36	1
Sodium	1700	M3	0.50	mg/L		08/21/17 06:51	08/27/17 18:36	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	510		6.0	mg/L			08/14/17 19:47	1
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L			08/14/17 19:47	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 19:47	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 19:47	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 19:47	1
Total Dissolved Solids	10000	D2	100	mg/L			08/15/17 11:43	1
pH	7.5	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.3	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW49A-81017

Lab Sample ID: 550-87922-2
Date Collected: 08/10/17 16:30
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	520	D2	20	mg/L			08/23/17 22:23	10
Fluoride	ND	D1 D5	4.0	mg/L			08/23/17 22:23	10
Sulfate	18000	D2	1000	mg/L			08/23/17 22:41	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.7		0.050	mg/L		08/21/17 06:51	08/27/17 18:42	1
Calcium	400		2.0	mg/L		08/21/17 06:51	08/27/17 18:42	1
Magnesium	1100	D2	10	mg/L		08/21/17 06:51	09/03/17 00:49	5
Potassium	70		0.50	mg/L		08/21/17 06:51	08/27/17 18:42	1
Sodium	5700	D2	2.5	mg/L		08/21/17 06:51	09/03/17 00:49	5

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	790		6.0	mg/L			08/14/17 21:00	1
Bicarbonate Alkalinity as CaCO3	790		6.0	mg/L			08/14/17 21:00	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:00	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 21:00	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:00	1
Total Dissolved Solids	23000	D2	200	mg/L			08/15/17 11:43	1
pH	7.5	H5	1.7	SU			08/22/17 15:12	1

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW49A-81017

Lab Sample ID: 550-87922-2
Date Collected: 08/10/17 16:30
Matrix: Water
Date Received: 08/11/17 15:15

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	12.1	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW60-81017

Lab Sample ID: 550-87922-3
Date Collected: 08/10/17 14:57
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	920	D2	400	mg/L			08/23/17 23:18	200
Fluoride	7.1	D1	0.80	mg/L			08/23/17 23:00	2
Sulfate	11000	D2	400	mg/L			08/23/17 23:18	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	66		0.050	mg/L		08/21/17 06:51	08/27/17 18:47	1
Calcium	470		2.0	mg/L		08/21/17 06:51	08/27/17 18:47	1
Magnesium	540		2.0	mg/L		08/21/17 06:51	08/27/17 18:47	1
Potassium	28		0.50	mg/L		08/21/17 06:51	08/27/17 18:47	1
Sodium	1200		0.50	mg/L		08/21/17 06:51	08/27/17 18:47	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	130		6.0	mg/L			08/14/17 21:07	1
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L			08/14/17 21:07	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:07	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 21:07	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:07	1
Total Dissolved Solids	8100	D2	100	mg/L			08/15/17 11:43	1
pH	7.7	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.2	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW61-81017

Lab Sample ID: 550-87922-4
Date Collected: 08/10/17 13:34
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310	D2	100	mg/L			08/24/17 00:32	50
Fluoride	1.2		0.40	mg/L			08/24/17 00:13	1
Sulfate	3700	D2	100	mg/L			08/24/17 00:32	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	40		0.050	mg/L		08/21/17 06:51	08/27/17 18:53	1
Calcium	500		2.0	mg/L		08/21/17 06:51	08/27/17 18:53	1
Magnesium	130		2.0	mg/L		08/21/17 06:51	08/27/17 18:53	1
Potassium	21		0.50	mg/L		08/21/17 06:51	08/27/17 18:53	1
Sodium	1100		0.50	mg/L		08/21/17 06:51	08/27/17 18:53	1

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW61-81017

Lab Sample ID: 550-87922-4
Date Collected: 08/10/17 13:34
Matrix: Water
Date Received: 08/11/17 15:15

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	88		6.0	mg/L			08/14/17 21:15	1
Bicarbonate Alkalinity as CaCO3	88		6.0	mg/L			08/14/17 21:15	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:15	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 21:15	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:15	1
Total Dissolved Solids	5500	D2	100	mg/L			08/15/17 11:43	1
pH	8.7	H5	1.7	SU			08/22/17 15:12	1
Temperature	11.3	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW62-8917

Lab Sample ID: 550-87922-5
Date Collected: 08/09/17 15:31
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110	D2	100	mg/L			08/24/17 01:08	50
Fluoride	1.4		0.40	mg/L			08/24/17 00:50	1
Sulfate	3400	D2	100	mg/L			08/24/17 01:08	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.050	mg/L		08/21/17 06:51	08/27/17 18:59	1
Calcium	540		2.0	mg/L		08/21/17 06:51	08/27/17 18:59	1
Magnesium	330		2.0	mg/L		08/21/17 06:51	08/27/17 18:59	1
Potassium	10		0.50	mg/L		08/21/17 06:51	08/27/17 18:59	1
Sodium	640		0.50	mg/L		08/21/17 06:51	08/27/17 18:59	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	770		6.0	mg/L			08/14/17 21:44	1
Bicarbonate Alkalinity as CaCO3	770		6.0	mg/L			08/14/17 21:44	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:44	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 21:44	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:44	1
Total Dissolved Solids	5400	D2	100	mg/L			08/14/17 11:29	1
pH	7.0	H5	1.7	SU			08/22/17 15:12	1
Temperature	11.1	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW63-8917

Lab Sample ID: 550-87922-6
Date Collected: 08/09/17 16:20
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97		2.0	mg/L			08/24/17 01:27	1
Fluoride	1.9		0.40	mg/L			08/24/17 01:27	1
Sulfate	2900	D2	100	mg/L			08/24/17 01:45	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.050	mg/L		08/21/17 06:51	08/27/17 19:05	1

Client Sample ID: FC-CCR-MW63-8917

Lab Sample ID: 550-87922-6
Date Collected: 08/09/17 16:20
Matrix: Water
Date Received: 08/11/17 15:15

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	530		2.0	mg/L		08/21/17 06:51	08/27/17 19:05	1
Magnesium	280		2.0	mg/L		08/21/17 06:51	08/27/17 19:05	1
Potassium	6.9		0.50	mg/L		08/21/17 06:51	08/27/17 19:05	1
Sodium	390		0.50	mg/L		08/21/17 06:51	08/27/17 19:05	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	490		6.0	mg/L			08/14/17 22:07	1
Bicarbonate Alkalinity as CaCO3	490		6.0	mg/L			08/14/17 22:07	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:07	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 22:07	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:07	1
Total Dissolved Solids	4500	D2	40	mg/L			08/14/17 11:29	1
pH	7.2	H5	1.7	SU			08/22/17 15:12	1
Temperature	11.3	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW64-8917

Lab Sample ID: 550-87922-7
Date Collected: 08/09/17 16:57
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52		2.0	mg/L			08/24/17 02:04	1
Fluoride	1.5		0.40	mg/L			08/24/17 02:04	1
Sulfate	380	D2	100	mg/L			08/24/17 02:22	50

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		08/21/17 06:51	08/27/17 19:11	1
Calcium	89		2.0	mg/L		08/21/17 06:51	08/27/17 19:11	1
Magnesium	37		2.0	mg/L		08/21/17 06:51	08/27/17 19:11	1
Potassium	6.0		0.50	mg/L		08/21/17 06:51	08/27/17 19:11	1
Sodium	130		0.50	mg/L		08/21/17 06:51	08/27/17 19:11	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	220		6.0	mg/L			08/14/17 22:16	1
Bicarbonate Alkalinity as CaCO3	220		6.0	mg/L			08/14/17 22:16	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:16	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 22:16	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:16	1
Total Dissolved Solids	890		20	mg/L			08/14/17 11:29	1
pH	7.8	H5	1.7	SU			08/22/17 15:12	1
Temperature	11.6	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW65-8917

Lab Sample ID: 550-87922-8
Date Collected: 08/09/17 14:08
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		2.0	mg/L			08/24/17 02:40	1
Fluoride	2.0		0.40	mg/L			08/24/17 02:40	1
Sulfate	500	D2	40	mg/L			08/24/17 02:59	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		08/21/17 06:51	08/27/17 19:14	1
Calcium	110		2.0	mg/L		08/21/17 06:51	08/27/17 19:14	1
Magnesium	63		2.0	mg/L		08/21/17 06:51	08/27/17 19:14	1
Potassium	3.6		0.50	mg/L		08/21/17 06:51	08/27/17 19:14	1
Sodium	150		0.50	mg/L		08/21/17 06:51	08/27/17 19:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	310		6.0	mg/L			08/14/17 22:25	1
Bicarbonate Alkalinity as CaCO3	310		6.0	mg/L			08/14/17 22:25	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:25	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 22:25	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:25	1
Total Dissolved Solids	1000		20	mg/L			08/14/17 11:29	1
pH	7.7	H5	1.7	SU			08/22/17 15:12	1
Temperature	11.5	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW66-8917

Lab Sample ID: 550-87922-9
Date Collected: 08/09/17 14:54
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700	D2	200	mg/L			09/01/17 12:33	100
Fluoride	26	D1	2.0	mg/L			08/24/17 03:54	5
Sulfate	12000	D2	400	mg/L			08/24/17 04:12	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140	D2	0.25	mg/L		09/21/17 19:26	09/26/17 17:46	5
Calcium	460		2.0	mg/L		08/21/17 06:51	08/27/17 19:17	1
Magnesium	2700	D2	10	mg/L		08/21/17 06:51	09/03/17 00:55	5
Potassium	44		0.50	mg/L		08/21/17 06:51	08/27/17 19:17	1
Sodium	640		0.50	mg/L		08/21/17 06:51	08/27/17 19:17	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	260		6.0	mg/L			08/14/17 22:33	1
Bicarbonate Alkalinity as CaCO3	260		6.0	mg/L			08/14/17 22:33	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:33	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 22:33	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:33	1
Total Dissolved Solids	19000	D2	100	mg/L			08/14/17 11:29	1
pH	7.4	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.8	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW67-8917

Lab Sample ID: 550-87922-10
Date Collected: 08/09/17 12:05
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	200	mg/L			09/01/17 13:47	100
Fluoride	22	D1	2.0	mg/L			08/24/17 04:31	5
Sulfate	13000	D2	400	mg/L			08/24/17 04:49	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	160	D2	0.25	mg/L		09/21/17 19:26	09/26/17 17:52	5
Calcium	490		2.0	mg/L		08/21/17 06:51	08/27/17 19:22	1
Magnesium	3000	D2	10	mg/L		08/21/17 06:51	09/03/17 01:00	5
Potassium	42		0.50	mg/L		08/21/17 06:51	08/27/17 19:22	1
Sodium	720		0.50	mg/L		08/21/17 06:51	08/27/17 19:22	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	320		6.0	mg/L			08/14/17 22:43	1
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L			08/14/17 22:43	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:43	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 22:43	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:43	1
Total Dissolved Solids	21000	D2	200	mg/L			08/15/17 08:27	1
pH	7.4	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.4	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW68-8917

Lab Sample ID: 550-87922-11
Date Collected: 08/09/17 12:50
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	200	mg/L			09/01/17 14:05	100
Fluoride	11	D1	2.0	mg/L			08/24/17 05:08	5
Sulfate	11000	D2	400	mg/L			08/24/17 05:26	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	120	D2	0.25	mg/L		09/21/17 19:26	09/26/17 18:03	5
Calcium	460		2.0	mg/L		08/21/17 07:07	08/27/17 22:55	1
Magnesium	2500	D2	10	mg/L		08/21/17 07:07	09/03/17 01:06	5
Potassium	20		0.50	mg/L		08/21/17 07:07	08/27/17 22:55	1
Sodium	640		0.50	mg/L		08/21/17 07:07	08/27/17 22:55	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	500		6.0	mg/L			08/14/17 22:53	1
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L			08/14/17 22:53	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:53	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 22:53	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 22:53	1
Total Dissolved Solids	18000	D2	100	mg/L			08/15/17 08:27	1
pH	7.2	H5	1.7	SU			08/22/17 15:12	1

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW68-8917

Lab Sample ID: 550-87922-11
Date Collected: 08/09/17 12:50
Matrix: Water
Date Received: 08/11/17 15:15

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	12.0	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW69-8917

Lab Sample ID: 550-87922-12
Date Collected: 08/09/17 10:49
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	200	mg/L			09/01/17 14:23	100
Fluoride	17	D1	2.0	mg/L			08/24/17 05:44	5
Sulfate	12000	D2	400	mg/L			08/24/17 06:03	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140	D2	0.25	mg/L		09/21/17 19:26	09/26/17 18:09	5
Calcium	470		2.0	mg/L		08/21/17 07:07	08/27/17 23:01	1
Magnesium	2800	D2	10	mg/L		08/21/17 07:07	09/03/17 01:12	5
Potassium	44		0.50	mg/L		08/21/17 07:07	08/27/17 23:01	1
Sodium	690		0.50	mg/L		08/21/17 07:07	08/27/17 23:01	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	310		6.0	mg/L			08/14/17 23:02	1
Bicarbonate Alkalinity as CaCO3	310		6.0	mg/L			08/14/17 23:02	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 23:02	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 23:02	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 23:02	1
Total Dissolved Solids	19000	D2	100	mg/L			08/15/17 08:27	1
pH	7.5	H5	1.7	SU			08/22/17 15:12	1
Temperature	11.9	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-FD01-8917

Lab Sample ID: 550-87922-13
Date Collected: 08/09/17 10:49
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	200	mg/L			09/01/17 14:42	100
Fluoride	17	D1	2.0	mg/L			08/24/17 06:21	5
Sulfate	12000	D2	400	mg/L			08/24/17 06:40	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	150	D2	0.25	mg/L		09/21/17 19:26	09/26/17 18:15	5
Calcium	470		2.0	mg/L		08/21/17 07:07	08/27/17 23:07	1
Magnesium	2800	D2	10	mg/L		08/21/17 07:07	09/03/17 01:17	5
Potassium	43		0.50	mg/L		08/21/17 07:07	08/27/17 23:07	1
Sodium	680		0.50	mg/L		08/21/17 07:07	08/27/17 23:07	1

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-FD01-8917

Lab Sample ID: 550-87922-13
Date Collected: 08/09/17 10:49
Matrix: Water
Date Received: 08/11/17 15:15

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	300		6.0	mg/L			08/14/17 23:11	1
Bicarbonate Alkalinity as CaCO3	300		6.0	mg/L			08/14/17 23:11	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 23:11	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 23:11	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 23:11	1
Total Dissolved Solids	19000	D2	100	mg/L			08/15/17 08:27	1
pH	7.5	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.0	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW70-8917

Lab Sample ID: 550-87922-14
Date Collected: 08/09/17 17:28
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	200	mg/L			09/01/17 15:00	100
Fluoride	3.0	D1	0.80	mg/L			08/24/17 07:35	2
Sulfate	6800	D2	400	mg/L			08/24/17 07:53	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	98	D2	0.10	mg/L		09/21/17 19:26	09/26/17 18:20	2
Calcium	510		2.0	mg/L		08/21/17 07:07	08/27/17 23:19	1
Magnesium	1300	D2	10	mg/L		08/21/17 07:07	09/03/17 01:29	5
Potassium	18		0.50	mg/L		08/21/17 07:07	08/27/17 23:19	1
Sodium	880		0.50	mg/L		08/21/17 07:07	08/27/17 23:19	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	500		6.0	mg/L			08/14/17 23:21	1
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L			08/14/17 23:21	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 23:21	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 23:21	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 23:21	1
Total Dissolved Solids	11000	D2	100	mg/L			08/15/17 08:27	1
pH	7.2	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.3	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW71-81017

Lab Sample ID: 550-87922-15
Date Collected: 08/10/17 10:37
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	560	D2	400	mg/L			08/24/17 08:30	200
Fluoride	ND	D1 D5	2.0	mg/L			08/24/17 19:05	5
Sulfate	10000	D2	400	mg/L			08/24/17 08:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.55	B3	0.050	mg/L		08/21/17 07:07	08/27/17 23:25	1

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW71-81017

Lab Sample ID: 550-87922-15
Date Collected: 08/10/17 10:37
Matrix: Water
Date Received: 08/11/17 15:15

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	450		2.0	mg/L		08/21/17 07:07	08/27/17 23:25	1
Magnesium	2000	D2	10	mg/L		08/21/17 07:07	09/03/17 01:34	5
Potassium	27		0.50	mg/L		08/21/17 07:07	08/27/17 23:25	1
Sodium	1100		0.50	mg/L		08/21/17 07:07	08/27/17 23:25	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	420		6.0	mg/L			08/14/17 23:48	1
Bicarbonate Alkalinity as CaCO3	420		6.0	mg/L			08/14/17 23:48	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 23:48	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 23:48	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 23:48	1
Total Dissolved Solids	15000	D2	100	mg/L			08/15/17 11:43	1
pH	7.4	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.5	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW72-81017

Lab Sample ID: 550-87922-16
Date Collected: 08/10/17 09:35
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	460	D2	10	mg/L			08/24/17 08:48	5
Fluoride	ND	D1 D5	2.0	mg/L			08/24/17 08:48	5
Sulfate	11000	D2	400	mg/L			08/24/17 09:07	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		09/21/17 19:26	09/26/17 18:26	1
Calcium	450		2.0	mg/L		08/21/17 07:07	08/27/17 23:31	1
Magnesium	2500	D2	10	mg/L		08/21/17 07:07	09/03/17 01:40	5
Potassium	30		0.50	mg/L		08/21/17 07:07	08/27/17 23:31	1
Sodium	780		0.50	mg/L		08/21/17 07:07	08/27/17 23:31	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	600		6.0	mg/L			08/15/17 00:09	1
Bicarbonate Alkalinity as CaCO3	600		6.0	mg/L			08/15/17 00:09	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/15/17 00:09	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/15/17 00:09	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/15/17 00:09	1
Total Dissolved Solids	17000	D2	100	mg/L			08/15/17 11:43	1
pH	7.3	H5	1.7	SU			08/22/17 15:12	1
Temperature	13.9	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-FD02-81017

Lab Sample ID: 550-87922-17
Date Collected: 08/10/17 09:35
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	460	D2	10	mg/L			08/24/17 09:25	5
Fluoride	ND	D1 D5	2.0	mg/L			08/24/17 09:25	5
Sulfate	12000	D2	400	mg/L			08/24/17 09:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.25	D2	0.25	mg/L		09/21/17 19:26	09/26/17 18:32	5
Calcium	460		2.0	mg/L		08/21/17 07:07	08/27/17 23:37	1
Magnesium	2600	D2	10	mg/L		08/21/17 07:07	09/03/17 01:46	5
Potassium	30		0.50	mg/L		08/21/17 07:07	08/27/17 23:37	1
Sodium	800		0.50	mg/L		08/21/17 07:07	08/27/17 23:37	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	610		6.0	mg/L			08/15/17 00:20	1
Bicarbonate Alkalinity as CaCO3	610		6.0	mg/L			08/15/17 00:20	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/15/17 00:20	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/15/17 00:20	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/15/17 00:20	1
Total Dissolved Solids	17000	D2	100	mg/L			08/15/17 11:43	1
pH	7.2	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.5	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW73-81017

Lab Sample ID: 550-87922-18
Date Collected: 08/10/17 11:23
Matrix: Water
Date Received: 08/11/17 15:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	540	D2	400	mg/L			08/24/17 10:21	200
Fluoride	ND	D1 D5	0.80	mg/L			08/24/17 10:02	2
Sulfate	7700	D2	400	mg/L			08/24/17 10:21	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7	B3	0.050	mg/L		08/21/17 07:07	08/27/17 23:42	1
Calcium	500		2.0	mg/L		08/21/17 07:07	08/27/17 23:42	1
Magnesium	820		2.0	mg/L		08/21/17 07:07	08/27/17 23:42	1
Potassium	36		0.50	mg/L		08/21/17 07:07	08/27/17 23:42	1
Sodium	1800		0.50	mg/L		08/21/17 07:07	08/27/17 23:42	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	800		6.0	mg/L			08/17/17 12:30	1
Bicarbonate Alkalinity as CaCO3	800		6.0	mg/L			08/17/17 12:30	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/17/17 12:30	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/17/17 12:30	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/17/17 12:30	1
Total Dissolved Solids	12000	D2	100	mg/L			08/15/17 11:43	1
pH	7.4	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.1	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample Results

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW74-81017

Lab Sample ID: 550-87922-19

Date Collected: 08/10/17 12:07
Date Received: 08/11/17 15:15

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	420	D2	200	mg/L			09/01/17 15:19	100
Fluoride	2.0	D1	0.80	mg/L			08/24/17 11:16	2
Sulfate	10000	D2	400	mg/L			08/24/17 11:34	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.5	B3	0.050	mg/L		08/21/17 07:07	08/27/17 23:48	1
Calcium	420		2.0	mg/L		08/21/17 07:07	08/27/17 23:48	1
Magnesium	730		2.0	mg/L		08/21/17 07:07	08/27/17 23:48	1
Potassium	22		0.50	mg/L		08/21/17 07:07	08/27/17 23:48	1
Sodium	2400	D2	1.0	mg/L		09/21/17 19:26	09/26/17 18:38	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	420		6.0	mg/L			08/15/17 00:43	1
Bicarbonate Alkalinity as CaCO3	420		6.0	mg/L			08/15/17 00:43	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/15/17 00:43	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/15/17 00:43	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/15/17 00:43	1
Total Dissolved Solids	13000	D2	100	mg/L			08/15/17 11:43	1
pH	7.9	H5	1.7	SU			08/22/17 15:12	1
Temperature	12.3	H5	0.1	Degrees C			08/22/17 15:12	1

Client Sample ID: FC-CCR-MW75-81017

Lab Sample ID: 550-87922-20

Date Collected: 08/10/17 14:16
Date Received: 08/11/17 15:15

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300	D2	20	mg/L			09/01/17 15:37	10
Fluoride	ND	D1 D5	2.0	mg/L			08/24/17 11:53	5
Sulfate	5200	D2	400	mg/L			08/24/17 12:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25	B3	0.050	mg/L		08/21/17 07:07	08/27/17 23:54	1
Calcium	460		2.0	mg/L		08/21/17 07:07	08/27/17 23:54	1
Magnesium	240		2.0	mg/L		08/21/17 07:07	08/27/17 23:54	1
Potassium	23		0.50	mg/L		08/21/17 07:07	08/27/17 23:54	1
Sodium	1300		0.50	mg/L		08/21/17 07:07	08/27/17 23:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	94		6.0	mg/L			08/15/17 00:50	1
Bicarbonate Alkalinity as CaCO3	94		6.0	mg/L			08/15/17 00:50	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/15/17 00:50	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/15/17 00:50	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/15/17 00:50	1
Total Dissolved Solids	6600	D2	100	mg/L			08/15/17 11:43	1
pH	8.4	H5	1.7	SU			08/22/17 15:12	1

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW75-81017
Date Collected: 08/10/17 14:16
Date Received: 08/11/17 15:15

Lab Sample ID: 550-87922-20
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature	12.6	H5	0.1		Degrees C			08/22/17 15:12	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-125725/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125725

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			08/23/17 19:00	1
Fluoride	ND		0.40	mg/L			08/23/17 19:00	1
Sulfate	ND		2.0	mg/L			08/23/17 19:00	1

Lab Sample ID: LCS 550-125725/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.7		mg/L		103	90 - 110
Fluoride	4.00	4.26		mg/L		107	90 - 110
Sulfate	20.0	21.0		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-125725/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125725

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.28		mg/L		107	90 - 110	0	20
Sulfate	20.0	21.0		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-87922-1 MS — **Client Sample ID: FC-CCR-MW7-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND	D1 D5	8.00	8.42	D1	mg/L		101	80 - 120

Lab Sample ID: 550-87922-1 MS — **Client Sample ID: FC-CCR-MW7-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	420	D2	4000	4460	D2	mg/L		101	80 - 120
Sulfate	7400	D2	4000	10800	D2	mg/L		83	80 - 120

Lab Sample ID: 550-87922-1 MSD — **Client Sample ID: FC-CCR-MW7-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND	D1 D5	8.00	8.52	D1	mg/L		102	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-87922-1 MSD — **Client Sample ID: FC-CCR-MW7-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	420	D2	4000	4440	D2	mg/L		101	80 - 120	0	20
Sulfate	7400	D2	4000	10700	D2	mg/L		81	80 - 120	1	20

Lab Sample ID: MB 550-125801/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125801

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			08/24/17 13:25	1
Fluoride	ND		0.40	mg/L			08/24/17 13:25	1
Sulfate	ND		2.0	mg/L			08/24/17 13:25	1

Lab Sample ID: LCS 550-125801/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125801

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.27		mg/L		107	90 - 110
Sulfate	20.0	20.9		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-125801/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125801

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.29		mg/L		107	90 - 110	0	20
Sulfate	20.0	21.2		mg/L		106	90 - 110	1	20

Lab Sample ID: 550-88528-AF-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125801

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	300	E2 M3	20.0	300	E2 M3	mg/L		14	80 - 120
Fluoride	0.61		4.00	4.98		mg/L		109	80 - 120
Sulfate	190	E2 M3	20.0	197	E2 M3	mg/L		38	80 - 120

Lab Sample ID: 550-88528-AF-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125801

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	300	E2 M3	20.0	301	E2 M3	mg/L		16	80 - 120	0	20
Fluoride	0.61		4.00	5.07		mg/L		112	80 - 120	2	20
Sulfate	190	E2 M3	20.0	197	E2 M3	mg/L		38	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-126428/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126428

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			09/01/17 11:01	1
Fluoride	ND		0.40		mg/L			09/01/17 11:01	1
Sulfate	ND		2.0		mg/L			09/01/17 11:01	1

Lab Sample ID: LCS 550-126428/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126428

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.29		mg/L		107	90 - 110
Sulfate	20.0	21.0		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-126428/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126428

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.31		mg/L		108	90 - 110	0	20
Sulfate	20.0	21.1		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-87922-9 MS — **Client Sample ID: FC-CCR-MW66-8917**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1700	D2	2000	4030	D2	mg/L		114	80 - 120

Lab Sample ID: 550-87922-9 MSD — **Client Sample ID: FC-CCR-MW66-8917**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126428

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1700	D2	2000	4040	D2	mg/L		114	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-125366/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125974 — **Prep Batch: 125366**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		08/21/17 06:51	08/27/17 18:15	1
Calcium	ND		2.0		mg/L		08/21/17 06:51	08/27/17 18:15	1
Magnesium	ND		2.0		mg/L		08/21/17 06:51	08/27/17 18:15	1
Potassium	ND		0.50		mg/L		08/21/17 06:51	08/27/17 18:15	1
Sodium	ND		0.50		mg/L		08/21/17 06:51	08/27/17 18:15	1

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

Lab Sample ID: LCS 550-125366/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125974 — **Prep Batch: 125366**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	85 - 115
Calcium	21.0	21.5		mg/L		102	85 - 115
Magnesium	21.0	21.8		mg/L		104	85 - 115
Potassium	20.0	20.7		mg/L		104	85 - 115
Sodium	20.0	20.4		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-125366/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125974 — **Prep Batch: 125366**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.00		mg/L		100	85 - 115	0	20
Calcium	21.0	21.5		mg/L		103	85 - 115	0	20
Magnesium	21.0	22.0		mg/L		105	85 - 115	1	20
Potassium	20.0	20.9		mg/L		104	85 - 115	1	20
Sodium	20.0	20.4		mg/L		102	85 - 115	0	20

Lab Sample ID: 550-87922-1 MS — **Client Sample ID: FC-CCR-MW7-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125974 — **Prep Batch: 125366**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	7.8	M3	1.00	8.34	M3	mg/L		56	70 - 130
Calcium	420	M3	21.0	425	M3	mg/L		9	70 - 130
Magnesium	630	M3	21.0	619	M3	mg/L		-43	70 - 130
Potassium	36		20.0	56.6		mg/L		102	70 - 130
Sodium	1700	M3	20.0	1670	M3	mg/L		-281	70 - 130

Lab Sample ID: 550-87922-1 MSD — **Client Sample ID: FC-CCR-MW7-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125974 — **Prep Batch: 125366**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	7.8	M3	1.00	8.46	M3	mg/L		67	70 - 130	1	20
Calcium	420	M3	21.0	425	M3	mg/L		11	70 - 130	0	20
Magnesium	630	M3	21.0	622	M3	mg/L		-28	70 - 130	0	20
Potassium	36		20.0	57.1		mg/L		105	70 - 130	1	20
Sodium	1700	M3	20.0	1690	M3	mg/L		-219	70 - 130	1	20

Lab Sample ID: MB 550-125369/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125976 — **Prep Batch: 125369**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		08/21/17 07:07	08/27/17 22:39	1
Calcium	ND		2.0	mg/L		08/21/17 07:07	08/27/17 22:39	1
Magnesium	ND		2.0	mg/L		08/21/17 07:07	08/27/17 22:39	1
Potassium	ND		0.50	mg/L		08/21/17 07:07	08/27/17 22:39	1
Sodium	ND		0.50	mg/L		08/21/17 07:07	08/27/17 22:39	1

QC Sample Results

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

TestAmerica Job ID: 550-87922-1

Lab Sample ID: LCS 550-125369/2-A
Matrix: Water
Analysis Batch: 125976

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 125369

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	85 - 115
Calcium	21.0	21.5		mg/L		103	85 - 115
Magnesium	21.0	22.0		mg/L		105	85 - 115
Potassium	20.0	21.0		mg/L		105	85 - 115
Sodium	20.0	21.3		mg/L		106	85 - 115

Lab Sample ID: LCSD 550-125369/3-A
Matrix: Water
Analysis Batch: 125976

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 125369

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.00		mg/L		100	85 - 115	0	20
Calcium	21.0	21.6		mg/L		103	85 - 115	0	20
Magnesium	21.0	22.0		mg/L		105	85 - 115	0	20
Potassium	20.0	21.0		mg/L		105	85 - 115	0	20
Sodium	20.0	21.2		mg/L		106	85 - 115	0	20

Lab Sample ID: 550-87920-B-1-A MS
Matrix: Water
Analysis Batch: 125976

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 125369

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.16		1.00	1.20		mg/L		104	70 - 130
Calcium	30		21.0	50.3		mg/L		98	70 - 130
Magnesium	14		21.0	36.0		mg/L		103	70 - 130
Potassium	3.3		20.0	24.4		mg/L		106	70 - 130
Sodium	160		20.0	176	M3	mg/L		93	70 - 130

Lab Sample ID: 550-87920-B-1-B MSD
Matrix: Water
Analysis Batch: 125976

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 125369

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.16		1.00	1.17		mg/L		101	70 - 130	2	20
Calcium	30		21.0	49.5		mg/L		95	70 - 130	1	20
Magnesium	14		21.0	35.7		mg/L		101	70 - 130	1	20
Potassium	3.3		20.0	24.3		mg/L		105	70 - 130	1	20
Sodium	160		20.0	172	M3	mg/L		74	70 - 130	2	20

Lab Sample ID: MB 550-128034/1-A
Matrix: Water
Analysis Batch: 128240

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 128034

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		0.50		mg/L		09/21/17 19:26	09/24/17 05:00	1

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

Lab Sample ID: MB 550-128034/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 128468 — **Prep Batch: 128034**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		09/21/17 19:26	09/26/17 16:51	1

Lab Sample ID: LCS 550-128034/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 128240 — **Prep Batch: 128034**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sodium			20.0	19.4		mg/L		97	85 - 115		

Lab Sample ID: LCS 550-128034/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 128468 — **Prep Batch: 128034**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron			1.00	0.959		mg/L		96	85 - 115		

Lab Sample ID: LCSD 550-128034/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 128240 — **Prep Batch: 128034**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium			20.0	19.7		mg/L		98	85 - 115	1	20

Lab Sample ID: LCSD 550-128034/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 128468 — **Prep Batch: 128034**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1.00	0.968		mg/L		97	85 - 115	1	20

Lab Sample ID: 550-90192-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 128468 — **Prep Batch: 128034**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron	2.4		1.00	3.38		mg/L		101	70 - 130		
Calcium	6.8		21.0	28.5		mg/L		103	70 - 130		
Magnesium	ND		21.0	21.2		mg/L		101	70 - 130		
Potassium	27		20.0	47.8		mg/L		102	70 - 130		

Lab Sample ID: 550-90192-A-1-A MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 128468 — **Prep Batch: 128034**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron	2.4		1.00	3.43		mg/L		106	70 - 130		
Sodium	3800	M3	20.0	3840	D2 M3	mg/L		46	70 - 130		

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

Lab Sample ID: 550-90192-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 128468 — **Prep Batch: 128034**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.4		1.00	3.34		mg/L		97	70 - 130	1	20
Calcium	6.8		21.0	28.4		mg/L		103	70 - 130	0	20
Magnesium	ND		21.0	21.2		mg/L		100	70 - 130	0	20
Potassium	27		20.0	47.7		mg/L		102	70 - 130	0	20

Lab Sample ID: 550-90192-A-1-B MSD ^2 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 128468 — **Prep Batch: 128034**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.4		1.00	3.35		mg/L		98	70 - 130	2	20
Sodium	3800	M3	20.0	3770	D2 M3	mg/L		-309	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-124888/35 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124888

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:32	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:32	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:32	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 21:32	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 21:32	1

Lab Sample ID: MB 550-124888/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124888

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 17:57	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 17:57	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 17:57	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/14/17 17:57	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/14/17 17:57	1

Lab Sample ID: LCS 550-124888/34 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124888

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	256		mg/L		103	90 - 110

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 550-124888/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124888

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			250	253		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-124888/20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124888

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	255		mg/L		102	90 - 110	1	20

Lab Sample ID: LCSD 550-124888/48 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124888

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	256		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-87922-1 DU — **Client Sample ID: FC-CCR-MW7-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124888

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	510			510		mg/L				0.05	20
Bicarbonate Alkalinity as CaCO3	510			510		mg/L				0.05	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: 550-87922-5 DU — **Client Sample ID: FC-CCR-MW62-8917**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124888

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	770			769		mg/L				0	20
Bicarbonate Alkalinity as CaCO3	770			769		mg/L				0	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: 550-87922-15 DU — **Client Sample ID: FC-CCR-MW71-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124888

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	420			428		mg/L				1	20
Bicarbonate Alkalinity as CaCO3	420			428		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 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-125178/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125178

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			08/17/17 12:30	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			08/17/17 12:30	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			08/17/17 12:30	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			08/17/17 12:30	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			08/17/17 12:30	1

Lab Sample ID: LCS 550-125178/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125178

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			250	244		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-125178/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125178

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	2	20

Lab Sample ID: 550-87922-18 DU — **Client Sample ID: FC-CCR-MW73-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125179

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	800			800		mg/L				0	20
Bicarbonate Alkalinity as CaCO3	800			800		mg/L				0	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 550-124803/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124803

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			08/14/17 11:29	1

Lab Sample ID: LCS 550-124803/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124803

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	998		mg/L		100	90 - 110		

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

Lab Sample ID: LCSD 550-124803/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	996		mg/L		100	90 - 110	0	10

Lab Sample ID: 550-87743-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124803

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	680			670		mg/L				2	10

Lab Sample ID: 550-87922-6 DU — **Client Sample ID: FC-CCR-MW63-8917**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124803

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	4500	D2		4400	D2	mg/L				2	10

Lab Sample ID: MB 550-124904/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124904

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			08/15/17 08:27	1

Lab Sample ID: LCS 550-124904/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124904

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	974		mg/L		97	90 - 110		

Lab Sample ID: LCSD 550-124904/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124904

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	962		mg/L		96	90 - 110	1	10

Lab Sample ID: 550-87922-10 DU — **Client Sample ID: FC-CCR-MW67-8917**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124904

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	21000	D2		20700	D2	mg/L				1	10

Lab Sample ID: MB 550-124916/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124916

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			08/15/17 11:43	1

QC Sample Results

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

TestAmerica Job ID: 550-87922-1

Lab Sample ID: LCS 550-124916/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124916

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	982		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-124916/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124916

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	996		mg/L		100	90 - 110	1	10

Lab Sample ID: 550-87922-1 DU — **Client Sample ID: FC-CCR-MW7-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 124916

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		10100	D2	mg/L				2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-125527/12 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125527

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 550-125527/24 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125527

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

Lab Sample ID: LCSSRM 550-125527/36 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125527

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: 550-87922-1 DU — **Client Sample ID: FC-CCR-MW7-81017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125527

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.5	H5		7.5	H5	SU				0.1	5
Temperature	12.3	H5		12.8	H5	Degrees C				4	

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

Lab Sample ID: 550-87922-11 DU
Matrix: Water
Analysis Batch: 125527

Client Sample ID: FC-CCR-MW68-8917
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.2	H5		7.2	H5	SU				0.1	5
Temperature	12.0	H5		12.3	H5	Degrees C				2	

QC Association Summary

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

TestAmerica Job ID: 550-87922-1

HPLC/IC

Analysis Batch: 125725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-1	FC-CCR-MW7-81017	Total/NA	Water	300.0	
550-87922-1	FC-CCR-MW7-81017	Total/NA	Water	300.0	
550-87922-2	FC-CCR-MW49A-81017	Total/NA	Water	300.0	
550-87922-2	FC-CCR-MW49A-81017	Total/NA	Water	300.0	
550-87922-3	FC-CCR-MW60-81017	Total/NA	Water	300.0	
550-87922-3	FC-CCR-MW60-81017	Total/NA	Water	300.0	
550-87922-4	FC-CCR-MW61-81017	Total/NA	Water	300.0	
550-87922-4	FC-CCR-MW61-81017	Total/NA	Water	300.0	
550-87922-5	FC-CCR-MW62-8917	Total/NA	Water	300.0	
550-87922-5	FC-CCR-MW62-8917	Total/NA	Water	300.0	
550-87922-6	FC-CCR-MW63-8917	Total/NA	Water	300.0	
550-87922-6	FC-CCR-MW63-8917	Total/NA	Water	300.0	
550-87922-7	FC-CCR-MW64-8917	Total/NA	Water	300.0	
550-87922-7	FC-CCR-MW64-8917	Total/NA	Water	300.0	
550-87922-8	FC-CCR-MW65-8917	Total/NA	Water	300.0	
550-87922-8	FC-CCR-MW65-8917	Total/NA	Water	300.0	
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	300.0	
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	300.0	
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	300.0	
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	300.0	
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	300.0	
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	300.0	
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	300.0	
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	300.0	
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	300.0	
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	300.0	
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	300.0	
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	300.0	
550-87922-15	FC-CCR-MW71-81017	Total/NA	Water	300.0	
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	300.0	
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	300.0	
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	300.0	
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	300.0	
550-87922-18	FC-CCR-MW73-81017	Total/NA	Water	300.0	
550-87922-18	FC-CCR-MW73-81017	Total/NA	Water	300.0	
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	300.0	
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	300.0	
550-87922-20	FC-CCR-MW75-81017	Total/NA	Water	300.0	
550-87922-20	FC-CCR-MW75-81017	Total/NA	Water	300.0	
MB 550-125725/2	Method Blank	Total/NA	Water	300.0	
LCS 550-125725/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-125725/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-87922-1 MS	FC-CCR-MW7-81017	Total/NA	Water	300.0	
550-87922-1 MS	FC-CCR-MW7-81017	Total/NA	Water	300.0	
550-87922-1 MSD	FC-CCR-MW7-81017	Total/NA	Water	300.0	
550-87922-1 MSD	FC-CCR-MW7-81017	Total/NA	Water	300.0	

Analysis Batch: 125801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-15	FC-CCR-MW71-81017	Total/NA	Water	300.0	
MB 550-125801/2	Method Blank	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 125801 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-125801/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-125801/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-88528-AF-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-88528-AF-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 126428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	300.0	
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	300.0	
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	300.0	
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	300.0	
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	300.0	
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	300.0	
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	300.0	
550-87922-20	FC-CCR-MW75-81017	Total/NA	Water	300.0	
MB 550-126428/2	Method Blank	Total/NA	Water	300.0	
LCS 550-126428/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-126428/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-87922-9 MS	FC-CCR-MW66-8917	Total/NA	Water	300.0	
550-87922-9 MSD	FC-CCR-MW66-8917	Total/NA	Water	300.0	

Metals

Prep Batch: 125366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-1	FC-CCR-MW7-81017	Total/NA	Water	200.7	
550-87922-2	FC-CCR-MW49A-81017	Total/NA	Water	200.7	
550-87922-3	FC-CCR-MW60-81017	Total/NA	Water	200.7	
550-87922-4	FC-CCR-MW61-81017	Total/NA	Water	200.7	
550-87922-5	FC-CCR-MW62-8917	Total/NA	Water	200.7	
550-87922-6	FC-CCR-MW63-8917	Total/NA	Water	200.7	
550-87922-7	FC-CCR-MW64-8917	Total/NA	Water	200.7	
550-87922-8	FC-CCR-MW65-8917	Total/NA	Water	200.7	
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	200.7	
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	200.7	
MB 550-125366/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-125366/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-125366/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-87922-1 MS	FC-CCR-MW7-81017	Total/NA	Water	200.7	
550-87922-1 MSD	FC-CCR-MW7-81017	Total/NA	Water	200.7	

Prep Batch: 125369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	200.7	
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	200.7	
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	200.7	
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	200.7	
550-87922-15	FC-CCR-MW71-81017	Total/NA	Water	200.7	
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	200.7	
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 125369 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-18	FC-CCR-MW73-81017	Total/NA	Water	200.7	
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	200.7	
550-87922-20	FC-CCR-MW75-81017	Total/NA	Water	200.7	
MB 550-125369/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-125369/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-125369/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-87920-B-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-87920-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 125974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-1	FC-CCR-MW7-81017	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-2	FC-CCR-MW49A-81017	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-3	FC-CCR-MW60-81017	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-4	FC-CCR-MW61-81017	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-5	FC-CCR-MW62-8917	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-6	FC-CCR-MW63-8917	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-7	FC-CCR-MW64-8917	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-8	FC-CCR-MW65-8917	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	200.7 Rev 4.4	125366
MB 550-125366/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	125366
LCS 550-125366/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	125366
LCSD 550-125366/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-1 MS	FC-CCR-MW7-81017	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-1 MSD	FC-CCR-MW7-81017	Total/NA	Water	200.7 Rev 4.4	125366

Analysis Batch: 125976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-15	FC-CCR-MW71-81017	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-18	FC-CCR-MW73-81017	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-20	FC-CCR-MW75-81017	Total/NA	Water	200.7 Rev 4.4	125369
MB 550-125369/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	125369
LCS 550-125369/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	125369
LCSD 550-125369/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	125369
550-87920-B-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	125369
550-87920-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	125369

Analysis Batch: 126567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-2	FC-CCR-MW49A-81017	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	200.7 Rev 4.4	125366
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	200.7 Rev 4.4	125366

Metals (Continued)

Analysis Batch: 126568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-15	FC-CCR-MW71-81017	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	200.7 Rev 4.4	125369
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	200.7 Rev 4.4	125369

Prep Batch: 128034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	200.7	
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	200.7	
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	200.7	
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	200.7	
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	200.7	
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	200.7	
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	200.7	
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	200.7	
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	200.7	
MB 550-128034/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-128034/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-128034/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-90192-A-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-90192-A-1-A MS ^2	Matrix Spike	Total/NA	Water	200.7	
550-90192-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-90192-A-1-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 128240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-128034/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	128034
LCS 550-128034/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	128034
LCSD 550-128034/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	128034

Analysis Batch: 128468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	200.7 Rev 4.4	128034
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	200.7 Rev 4.4	128034
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	200.7 Rev 4.4	128034
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	200.7 Rev 4.4	128034
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	200.7 Rev 4.4	128034
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	200.7 Rev 4.4	128034
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	200.7 Rev 4.4	128034
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	200.7 Rev 4.4	128034
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	200.7 Rev 4.4	128034
MB 550-128034/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	128034
LCS 550-128034/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	128034
LCSD 550-128034/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	128034
550-90192-A-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	128034
550-90192-A-1-A MS ^2	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	128034
550-90192-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	128034
550-90192-A-1-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	128034

QC Association Summary

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

TestAmerica Job ID: 550-87922-1

General Chemistry

Analysis Batch: 124803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-5	FC-CCR-MW62-8917	Total/NA	Water	SM 2540C	
550-87922-6	FC-CCR-MW63-8917	Total/NA	Water	SM 2540C	
550-87922-7	FC-CCR-MW64-8917	Total/NA	Water	SM 2540C	
550-87922-8	FC-CCR-MW65-8917	Total/NA	Water	SM 2540C	
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	SM 2540C	
MB 550-124803/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-124803/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-124803/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-87743-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
550-87922-6 DU	FC-CCR-MW63-8917	Total/NA	Water	SM 2540C	

Analysis Batch: 124888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-1	FC-CCR-MW7-81017	Total/NA	Water	SM 2320B	
550-87922-2	FC-CCR-MW49A-81017	Total/NA	Water	SM 2320B	
550-87922-3	FC-CCR-MW60-81017	Total/NA	Water	SM 2320B	
550-87922-4	FC-CCR-MW61-81017	Total/NA	Water	SM 2320B	
550-87922-5	FC-CCR-MW62-8917	Total/NA	Water	SM 2320B	
550-87922-6	FC-CCR-MW63-8917	Total/NA	Water	SM 2320B	
550-87922-7	FC-CCR-MW64-8917	Total/NA	Water	SM 2320B	
550-87922-8	FC-CCR-MW65-8917	Total/NA	Water	SM 2320B	
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	SM 2320B	
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	SM 2320B	
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	SM 2320B	
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	SM 2320B	
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	SM 2320B	
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	SM 2320B	
550-87922-15	FC-CCR-MW71-81017	Total/NA	Water	SM 2320B	
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	SM 2320B	
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	SM 2320B	
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	SM 2320B	
550-87922-20	FC-CCR-MW75-81017	Total/NA	Water	SM 2320B	
MB 550-124888/35	Method Blank	Total/NA	Water	SM 2320B	
MB 550-124888/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-124888/34	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-124888/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-124888/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-124888/48	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-87922-1 DU	FC-CCR-MW7-81017	Total/NA	Water	SM 2320B	
550-87922-5 DU	FC-CCR-MW62-8917	Total/NA	Water	SM 2320B	
550-87922-15 DU	FC-CCR-MW71-81017	Total/NA	Water	SM 2320B	

Analysis Batch: 124904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	SM 2540C	
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	SM 2540C	
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	SM 2540C	
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	SM 2540C	
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	SM 2540C	
MB 550-124904/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-124904/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 124904 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-124904/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-87922-10 DU	FC-CCR-MW67-8917	Total/NA	Water	SM 2540C	

Analysis Batch: 124916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-1	FC-CCR-MW7-81017	Total/NA	Water	SM 2540C	
550-87922-2	FC-CCR-MW49A-81017	Total/NA	Water	SM 2540C	
550-87922-3	FC-CCR-MW60-81017	Total/NA	Water	SM 2540C	
550-87922-4	FC-CCR-MW61-81017	Total/NA	Water	SM 2540C	
550-87922-15	FC-CCR-MW71-81017	Total/NA	Water	SM 2540C	
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	SM 2540C	
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	SM 2540C	
550-87922-18	FC-CCR-MW73-81017	Total/NA	Water	SM 2540C	
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	SM 2540C	
550-87922-20	FC-CCR-MW75-81017	Total/NA	Water	SM 2540C	
MB 550-124916/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-124916/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-124916/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-87922-1 DU	FC-CCR-MW7-81017	Total/NA	Water	SM 2540C	

Analysis Batch: 125178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-125178/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-125178/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-125178/3	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

Analysis Batch: 125179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-18	FC-CCR-MW73-81017	Total/NA	Water	SM 2320B	
550-87922-18 DU	FC-CCR-MW73-81017	Total/NA	Water	SM 2320B	

Analysis Batch: 125527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-1	FC-CCR-MW7-81017	Total/NA	Water	SM 4500 H+ B	
550-87922-2	FC-CCR-MW49A-81017	Total/NA	Water	SM 4500 H+ B	
550-87922-3	FC-CCR-MW60-81017	Total/NA	Water	SM 4500 H+ B	
550-87922-4	FC-CCR-MW61-81017	Total/NA	Water	SM 4500 H+ B	
550-87922-5	FC-CCR-MW62-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-6	FC-CCR-MW63-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-7	FC-CCR-MW64-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-8	FC-CCR-MW65-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-9	FC-CCR-MW66-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-10	FC-CCR-MW67-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-11	FC-CCR-MW68-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-12	FC-CCR-MW69-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-13	FC-CCR-FD01-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-14	FC-CCR-MW70-8917	Total/NA	Water	SM 4500 H+ B	
550-87922-15	FC-CCR-MW71-81017	Total/NA	Water	SM 4500 H+ B	
550-87922-16	FC-CCR-MW72-81017	Total/NA	Water	SM 4500 H+ B	
550-87922-17	FC-CCR-FD02-81017	Total/NA	Water	SM 4500 H+ B	
550-87922-18	FC-CCR-MW73-81017	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 125527 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-87922-19	FC-CCR-MW74-81017	Total/NA	Water	SM 4500 H+ B	
550-87922-20	FC-CCR-MW75-81017	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-125527/12	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-125527/24	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-125527/36	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-87922-1 DU	FC-CCR-MW7-81017	Total/NA	Water	SM 4500 H+ B	
550-87922-11 DU	FC-CCR-MW68-8917	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW7-81017

Lab Sample ID: 550-87922-1
Date Collected: 08/10/17 15:41
Matrix: Water
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	125725	08/23/17 20:32	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/23/17 21:28	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 18:36	R1K	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 19:47	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW49A-81017

Lab Sample ID: 550-87922-2
Date Collected: 08/10/17 16:30
Matrix: Water
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	125725	08/23/17 22:23	JSS	TAL PHX
Total/NA	Analysis	300.0		500	125725	08/23/17 22:41	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 18:42	R1K	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	126567	09/03/17 00:49	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 21:00	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW60-81017

Lab Sample ID: 550-87922-3
Date Collected: 08/10/17 14:57
Matrix: Water
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	125725	08/23/17 23:00	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/23/17 23:18	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 18:47	R1K	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 21:07	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW61-81017 — Lab Sample ID: 550-87922-4

Date Collected: 08/10/17 13:34
Date Received: 08/11/17 15:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125725	08/24/17 00:13	JSS	TAL PHX
Total/NA	Analysis	300.0		50	125725	08/24/17 00:32	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 18:53	R1K	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 21:15	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW62-8917 — Lab Sample ID: 550-87922-5

Date Collected: 08/09/17 15:31
Date Received: 08/11/17 15:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125725	08/24/17 00:50	JSS	TAL PHX
Total/NA	Analysis	300.0		50	125725	08/24/17 01:08	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 18:59	R1K	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 21:44	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124803		YET	TAL PHX
					(Start)	08/14/17 11:29		
					(End)	08/15/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW63-8917 — Lab Sample ID: 550-87922-6

Date Collected: 08/09/17 16:20
Date Received: 08/11/17 15:15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125725	08/24/17 01:27	JSS	TAL PHX
Total/NA	Analysis	300.0		50	125725	08/24/17 01:45	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 19:05	R1K	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 22:07	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124803		YET	TAL PHX
					(Start)	08/14/17 11:29		
					(End)	08/15/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW64-8917 — Lab Sample ID: 550-87922-7

Date Collected: 08/09/17 16:57 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125725	08/24/17 02:04	JSS	TAL PHX
Total/NA	Analysis	300.0		50	125725	08/24/17 02:22	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 19:11	R1K	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 22:16	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124803		YET	TAL PHX
					(Start)	08/14/17 11:29		
					(End)	08/15/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW65-8917 — Lab Sample ID: 550-87922-8

Date Collected: 08/09/17 14:08 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125725	08/24/17 02:40	JSS	TAL PHX
Total/NA	Analysis	300.0		20	125725	08/24/17 02:59	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 19:14	R1K	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 22:25	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124803		YET	TAL PHX
					(Start)	08/14/17 11:29		
					(End)	08/15/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW66-8917 — Lab Sample ID: 550-87922-9

Date Collected: 08/09/17 14:54 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125725	08/24/17 03:54	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 04:12	JSS	TAL PHX
Total/NA	Analysis	300.0		100	126428	09/01/17 12:33	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 19:17	R1K	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	126567	09/03/17 00:55	ARE	TAL PHX
Total/NA	Prep	200.7			128034	09/21/17 19:26	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	128468	09/26/17 17:46	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 22:33	DGS	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW66-8917 — Lab Sample ID: 550-87922-9

Date Collected: 08/09/17 14:54 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	124803		YET	TAL PHX
					(Start)	08/14/17 11:29		
					(End)	08/15/17 12:20		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW67-8917 — Lab Sample ID: 550-87922-10

Date Collected: 08/09/17 12:05 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125725	08/24/17 04:31	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 04:49	JSS	TAL PHX
Total/NA	Analysis	300.0		100	126428	09/01/17 13:47	JSS	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125974	08/27/17 19:22	R1K	TAL PHX
Total/NA	Prep	200.7			125366	08/21/17 06:51	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	126567	09/03/17 01:00	ARE	TAL PHX
Total/NA	Prep	200.7			128034	09/21/17 19:26	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	128468	09/26/17 17:52	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 22:43	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124904		YET	TAL PHX
					(Start)	08/15/17 08:27		
					(End)	08/16/17 10:20		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW68-8917 — Lab Sample ID: 550-87922-11

Date Collected: 08/09/17 12:50 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125725	08/24/17 05:08	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 05:26	JSS	TAL PHX
Total/NA	Analysis	300.0		100	126428	09/01/17 14:05	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 22:55	R1K	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	126568	09/03/17 01:06	ARE	TAL PHX
Total/NA	Prep	200.7			128034	09/21/17 19:26	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	128468	09/26/17 18:03	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 22:53	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124904		YET	TAL PHX
					(Start)	08/15/17 08:27		
					(End)	08/16/17 10:20		

Lab Chronicle

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

TestAmerica Job ID: 550-87922-1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW69-8917 — Lab Sample ID: 550-87922-12

Date Collected: 08/09/17 10:49 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125725	08/24/17 05:44	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 06:03	JSS	TAL PHX
Total/NA	Analysis	300.0		100	126428	09/01/17 14:23	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 23:01	R1K	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	126568	09/03/17 01:12	ARE	TAL PHX
Total/NA	Prep	200.7			128034	09/21/17 19:26	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	128468	09/26/17 18:09	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 23:02	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124904		YET	TAL PHX
					(Start)	08/15/17 08:27		
					(End)	08/16/17 10:20		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-FD01-8917 — Lab Sample ID: 550-87922-13

Date Collected: 08/09/17 10:49 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125725	08/24/17 06:21	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 06:40	JSS	TAL PHX
Total/NA	Analysis	300.0		100	126428	09/01/17 14:42	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 23:07	R1K	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	126568	09/03/17 01:17	ARE	TAL PHX
Total/NA	Prep	200.7			128034	09/21/17 19:26	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	128468	09/26/17 18:15	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 23:11	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124904		YET	TAL PHX
					(Start)	08/15/17 08:27		
					(End)	08/16/17 10:20		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW70-8917

Lab Sample ID: 550-87922-14
Date Collected: 08/09/17 17:28
Matrix: Water
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	125725	08/24/17 07:35	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 07:53	JSS	TAL PHX
Total/NA	Analysis	300.0		100	126428	09/01/17 15:00	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 23:19	R1K	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	126568	09/03/17 01:29	ARE	TAL PHX
Total/NA	Prep	200.7			128034	09/21/17 19:26	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	128468	09/26/17 18:20	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 23:21	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124904		YET	TAL PHX
					(Start)	08/15/17 08:27		
					(End)	08/16/17 10:20		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW71-81017

Lab Sample ID: 550-87922-15
Date Collected: 08/10/17 10:37
Matrix: Water
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200	125725	08/24/17 08:30	JSS	TAL PHX
Total/NA	Analysis	300.0		5	125801	08/24/17 19:05	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 23:25	R1K	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	126568	09/03/17 01:34	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/14/17 23:48	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW72-81017

Lab Sample ID: 550-87922-16
Date Collected: 08/10/17 09:35
Matrix: Water
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125725	08/24/17 08:48	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 09:07	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 23:31	R1K	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW72-81017 — Lab Sample ID: 550-87922-16

Date Collected: 08/10/17 09:35 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	200.7 Rev 4.4		5	126568	09/03/17 01:40	ARE	TAL PHX
Total/NA	Prep	200.7			128034	09/21/17 19:26	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	128468	09/26/17 18:26	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/15/17 00:09	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-FD02-81017 — Lab Sample ID: 550-87922-17

Date Collected: 08/10/17 09:35 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125725	08/24/17 09:25	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 09:44	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 23:37	R1K	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	126568	09/03/17 01:46	ARE	TAL PHX
Total/NA	Prep	200.7			128034	09/21/17 19:26	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	128468	09/26/17 18:32	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/15/17 00:20	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW73-81017 — Lab Sample ID: 550-87922-18

Date Collected: 08/10/17 11:23 — **Matrix: Water**
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	125725	08/24/17 10:02	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 10:21	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 23:42	R1K	TAL PHX
Total/NA	Analysis	SM 2320B		1	125179	08/17/17 12:30	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-87922-1

Client Sample ID: FC-CCR-MW74-81017

Lab Sample ID: 550-87922-19
Date Collected: 08/10/17 12:07
Matrix: Water
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	125725	08/24/17 11:16	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 11:34	JSS	TAL PHX
Total/NA	Analysis	300.0		100	126428	09/01/17 15:19	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 23:48	R1K	TAL PHX
Total/NA	Prep	200.7			128034	09/21/17 19:26	EXZ	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	128468	09/26/17 18:38	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/15/17 00:43	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

Client Sample ID: FC-CCR-MW75-81017

Lab Sample ID: 550-87922-20
Date Collected: 08/10/17 14:16
Matrix: Water
Date Received: 08/11/17 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125725	08/24/17 11:53	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125725	08/24/17 12:11	JSS	TAL PHX
Total/NA	Analysis	300.0		10	126428	09/01/17 15:37	JSS	TAL PHX
Total/NA	Prep	200.7			125369	08/21/17 07:07	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	125976	08/27/17 23:54	R1K	TAL PHX
Total/NA	Analysis	SM 2320B		1	124888	08/15/17 00:50	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	124916		YET	TAL PHX
					(Start)	08/15/17 11:43		
					(End)	08/16/17 11:10		
Total/NA	Analysis	SM 4500 H+ B		1	125527	08/22/17 15:12	NEL	TAL PHX

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 550-87922-1

Laboratory: TestAmerica Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0728	06-09-18

Method Summary

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

TestAmerica Job ID: 550-87922-1

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

Chain of Custody Record

87922

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

9/28/2017 (Rev. 1)

Regulatory Program: CCR

Client Contact	Doug Lavarnway	Doug Lavarnway	8/11/2017
APS Four Corners	928-587-0319	Lab Contact:	Carrier:
End of County Road 6675	**Analysis Turnaround Time**		
Fruitland, New Mexico 87416			
(928) 587-0319 Phone	TAT if different from Below _____		
(xxx) xxx-xxxx FAX			
Project Name: CCR			
Site: Cholla			
P O #			

COC No: ___1___ of __6___ COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 200.7 Rev 4.4 (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-MW7-81017 -01	8/10/2017	1541	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW49A-81017 -02	8/10/2017	1630	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW60-81017 -03	8/10/2017	1457	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW61-81017 -04	8/10/2017	1334	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW62-8917 -05	8/9/2017	1531	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW63-8917 -06	8/9/2017	1620	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW64-8917 -07	8/9/2017	1657	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW65-8917 -08	8/9/2017	1408	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW66-8917 -09	8/9/2017	1454	G	W	2	N	x	x	x	x	x	x	

550-87922 Chain of Custody

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

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

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

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

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

PC 4.6°C, 3.3°C, 2.5°C, 2.6°C

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doug Lavarnway	APS	8/11 1503			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 8-11-17 1515

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

87922

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

9/28/2017 (Rev. 1)

Regulatory Program: CCR

Client Contact	Doug Lavarnway	Doug Lavarnway	8/11/2017	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: Cholla				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 Rev 4.4 (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-MW67-8917 -10	8/9/2017	1205	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW68-8917 -11	8/9/2017	1250	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW69-8917 -12	8/9/2017	1049	G	W	2	N	x	x	x	x	x	x	
FC-CCR-FD01-8917 -13	8/9/2017	1049	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW70-8917 -14	8/9/2017	1728	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW71-81017 -15	8/10/2017	1037	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW72-81017 -16	8/10/2017	935	G	W	2	N	x	x	x	x	x	x	
FC-CCR-FD02-81017 -17	8/10/2017	935	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW73-81017 -18	8/10/2017	1123	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW74-81017 -19	8/10/2017	1207	G	W	2	N	x	x	x	x	x	x	
FC-CCR-MW75-81017 -20	8/10/2017	1416	G	W	2	N	x	x	x	x	x	x	

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

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

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

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

☐ Return to Client ☑ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doug Lavarnway	APS	8/11 1503			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 8-11-17 1515

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-87922-1

Login Number: 87922
List Number: 1
Creator: Gravlin, Andrea

List Source: TestAmerica Phoenix

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