TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 550-88335-1
TestAmerica Sample Delivery Group: Cholla
Client Project/Site: Four Corners CCR
Revision: 2

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

Attn: Doug Lavarnway

Authorized for release by:
9/22/2017 2:17:49 PM

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LINKS

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

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Definitions/Glossary

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Qualifiers

HPLC/IC

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

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	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: 550-88335-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-88335-1

Comments
This revised report contains the corrected Method 300.0 results for sample 550-8335-14. See comment below.

Receipt
The samples were received on 8/18/2017 12:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.6º C, 0.8º C, 0.9º C and 0.9º C.

HPLC/IC
Method(s) 300.0: The following sample was initially reported at the incorrect dilution factor for Chloride and Sulfate by method EPA 300.0:FC-CCR-MW70-81617 (550-88335-14). The twenty times dilution factor was inadvertently used during data processing. The correct two hundred times dilution factor has been applied and the data has been qualified with a D2.

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

Metals
Method(s) 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-126899 contained Sodium 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:

Method(s) SM 2540C:

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

Sample Summary

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-88335-1	FC-CCR-MW7-81717	Water	08/17/17 11:17	08/18/17 12:40
550-88335-2	FC-CCR-MW49A-81717	Water	08/17/17 12:23	08/18/17 12:40
550-88335-3	FC-CCR-MW60-81717	Water	08/17/17 10:32	08/18/17 12:40
550-88335-4	FC-CCR-MW61-81717	Water	08/17/17 09:24	08/18/17 12:40
550-88335-5	FC-CCR-MW62-81617	Water	08/16/17 10:34	08/18/17 12:40
550-88335-6	FC-CCR-MW63-81617	Water	08/16/17 11:06	08/18/17 12:40
550-88335-7	FC-CCR-MW64-81617	Water	08/16/17 11:49	08/18/17 12:40
550-88335-8	FC-CCR-MW65-81617	Water	08/16/17 09:09	08/18/17 12:40
550-88335-9	FC-CCR-FD01-81617	Water	08/16/17 09:09	08/18/17 12:40
550-88335-10	FC-CCR-MW66-81617	Water	08/16/17 09:59	08/18/17 12:40
550-88335-11	FC-CCR-MW67-81617	Water	08/16/17 14:17	08/18/17 12:40
550-88335-12	FC-CCR-MW68-81617	Water	08/16/17 13:46	08/18/17 12:40
550-88335-13	FC-CCR-MW69-81617	Water	08/16/17 13:10	08/18/17 12:40
550-88335-14	FC-CCR-MW70-81617	Water	08/16/17 12:21	08/18/17 12:40
550-88335-15	FC-CCR-MW71-81717	Water	08/17/17 08:02	08/18/17 12:40
550-88335-16	FC-CCR-MW72-81717	Water	08/17/17 07:15	08/18/17 12:40
550-88335-17	FC-CCR-FD02-81717	Water	08/17/17 07:15	08/18/17 12:40
550-88335-18	FC-CCR-MW73-81717	Water	08/17/17 08:34	08/18/17 12:40
550-88335-19	FC-CCR-MW75-81717	Water	08/17/17 10:01	08/18/17 12:40

Detection Summary

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-81717 — Lab Sample ID: 550-88335-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	320	D2 M3	4.0	mg/L	2		300.0	Total/NA
Sulfate	6500	D2	400	mg/L	200		300.0	Total/NA
Boron	7.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	670	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	43		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	520		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	520		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	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-MW49A-81717 — Lab Sample ID: 550-88335-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	510	D2	20	mg/L	10		300.0	Total/NA
Sulfate	16000	D2	1000	mg/L	500		300.0	Total/NA
Boron	2.9	D2	0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	980	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	84		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	5400	B3	2.0	mg/L	4		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	750		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	750		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	22000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-81717 — Lab Sample ID: 550-88335-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	440	D2	200	mg/L	100		300.0	Total/NA
Fluoride	7.4	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	5100	D2	200	mg/L	100		300.0	Total/NA
Boron	63		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	560		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	32		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	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	8200	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW61-81717 — Lab Sample ID: 550-88335-4

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

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW61-81717 (Continued) — Lab Sample ID: 550-88335-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.4		0.40	mg/L	1		300.0	Total/NA
Sulfate	3600	D2	100	mg/L	50		300.0	Total/NA
Boron	39		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	520		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	24		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	89		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	89		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	13.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW62-81617 — Lab Sample ID: 550-88335-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	110		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.6		0.40	mg/L	1		300.0	Total/NA
Sulfate	3200	D2	100	mg/L	50		300.0	Total/NA
Boron	2.1		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	590		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	340		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	12		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	760		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	760		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	14.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-81617 — Lab Sample ID: 550-88335-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	100		2.0	mg/L	1		300.0	Total/NA
Fluoride	2.1		0.40	mg/L	1		300.0	Total/NA
Sulfate	2700	D2	100	mg/L	50		300.0	Total/NA
Boron	1.8		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	580		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	300		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	7.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	400		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	14.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-81617 — Lab Sample ID: 550-88335-7

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW64-81617 (Continued) — Lab Sample ID: 550-88335-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	53		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	360	D2	100	mg/L	50		300.0	Total/NA
Boron	0.58		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	36		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.1		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	120		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	790		20	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-81617 — Lab Sample ID: 550-88335-8

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	0.75		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	4.0		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	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	1000		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD01-81617 — Lab Sample ID: 550-88335-9

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	470	D2	100	mg/L	50		300.0	Total/NA
Boron	0.75		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	62		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.9		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	7.6	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-MW66-81617 — Lab Sample ID: 550-88335-10

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW66-81617 (Continued) — Lab Sample ID: 550-88335-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700	D2	400	mg/L	200		300.0	Total/NA
Fluoride	25	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Boron	150	D2	0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2500	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	50		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	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	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-81617 — Lab Sample ID: 550-88335-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	400	mg/L	200		300.0	Total/NA
Fluoride	22	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Boron	160	D2	0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	550		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2900	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	52		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	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	22000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-81617 — Lab Sample ID: 550-88335-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400	mg/L	200		300.0	Total/NA
Fluoride	11	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	9900	D2	400	mg/L	200		300.0	Total/NA
Boron	130	D2	0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2300	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	23		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	630		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	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	13.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-81617 — Lab Sample ID: 550-88335-13

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW69-81617 (Continued) — Lab Sample ID: 550-88335-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400	mg/L	200		300.0	Total/NA
Fluoride	17	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Boron	130	D2	0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2500	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	49		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	710		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	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	20000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-81617 — Lab Sample ID: 550-88335-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400	mg/L	200		300.0	Total/NA
Fluoride	3.2	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	6200	D2	400	mg/L	200		300.0	Total/NA
Boron	94		0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	540		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1300		8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	21		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	890		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	12000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW71-81717 — Lab Sample ID: 550-88335-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	570	D2	400	mg/L	200		300.0	Total/NA
Sulfate	9500	D2	400	mg/L	200		300.0	Total/NA
Boron	0.56	D2	0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1800	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	30		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	430		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	430		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-81717 — Lab Sample ID: 550-88335-16

This Detection Summary does not include radiochemical test results.

Detection Summary

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW72-81717 (Continued) — Lab Sample ID: 550-88335-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450	D2	10	mg/L	5		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.26	D2	0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2300	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	33		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	790		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	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-81717 — Lab Sample ID: 550-88335-17

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	0.27	D2	0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	480		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2400	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	32		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	770		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	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	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-81717 — Lab Sample ID: 550-88335-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	550	D2	400	mg/L	200		300.0	Total/NA
Sulfate	7600	D2	400	mg/L	200		300.0	Total/NA
Boron	1.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	540		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	860		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	41		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	11000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW75-81717 — Lab Sample ID: 550-88335-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300	D2	10	mg/L	5		300.0	Total/NA
Sulfate	4600	D2	400	mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: FC-CCR-MW75-81717 (Continued) — Lab Sample ID: 550-88335-19

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	25		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	26		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1300		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	95		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	95		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6400	D2	100		mg/L	1		SM 2540C	Total/NA
pH	8.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	14.8	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-81717

Lab Sample ID: 550-88335-1
Date Collected: 08/17/17 11:17
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	320	D2 M3	4.0	mg/L			08/25/17 02:52	2
Fluoride	ND	D1 D5	0.80	mg/L			08/25/17 02:52	2
Sulfate	6500	D2	400	mg/L			08/25/17 04:15	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7.5		0.050	mg/L		08/29/17 10:20	09/08/17 03:11	1
Calcium	460	M3	2.0	mg/L		08/29/17 10:20	09/03/17 02:20	1
Magnesium	670	M3	2.0	mg/L		08/29/17 10:20	09/03/17 02:20	1
Potassium	43		0.50	mg/L		08/29/17 10:20	09/03/17 02:20	1
Sodium	1700	M3	0.50	mg/L		08/29/17 10:20	09/03/17 02:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	520		6.0	mg/L			08/24/17 17:27	1
Bicarbonate Alkalinity as CaCO3	520		6.0	mg/L			08/24/17 17:27	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 17:27	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 17:27	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 17:27	1
Total Dissolved Solids	10000		100	mg/L			08/24/17 12:45	1
pH	7.6	H5	1.7	SU			08/25/17 14:16	1
Temperature	13.9	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW49A-81717

Lab Sample ID: 550-88335-2
Date Collected: 08/17/17 12:23
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	510	D2	20	mg/L			08/25/17 05:37	10
Fluoride	ND	D1 D5	4.0	mg/L			08/25/17 05:37	10
Sulfate	16000	D2	1000	mg/L			08/25/17 06:04	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.9	D2	0.20	mg/L		08/29/17 10:20	09/08/17 03:17	4
Calcium	440		2.0	mg/L		08/29/17 10:20	09/03/17 02:26	1
Magnesium	980	D2	8.0	mg/L		08/29/17 10:20	09/08/17 03:17	4
Potassium	84		0.50	mg/L		08/29/17 10:20	09/03/17 02:26	1
Sodium	5400	B3	2.0	mg/L		08/29/17 10:20	09/08/17 03:17	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	750		6.0	mg/L			08/24/17 17:50	1
Bicarbonate Alkalinity as CaCO3	750		6.0	mg/L			08/24/17 17:50	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 17:50	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 17:50	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 17:50	1
Total Dissolved Solids	22000	D2	200	mg/L			08/24/17 12:45	1
pH	7.5	H5	1.7	SU			08/25/17 14:16	1

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW49A-81717

Lab Sample ID: 550-88335-2
Date Collected: 08/17/17 12:23
Matrix: Water
Date Received: 08/18/17 12:40

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	13.1	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW60-81717

Lab Sample ID: 550-88335-3
Date Collected: 08/17/17 10:32
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	440	D2	200	mg/L			08/25/17 06:59	100
Fluoride	7.4	D1	0.80	mg/L			08/25/17 06:32	2
Sulfate	5100	D2	200	mg/L			08/25/17 06:59	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	63		0.050	mg/L		08/29/17 10:20	09/08/17 03:23	1
Calcium	490		2.0	mg/L		08/29/17 10:20	09/03/17 02:32	1
Magnesium	560		2.0	mg/L		08/29/17 10:20	09/03/17 02:32	1
Potassium	32		0.50	mg/L		08/29/17 10:20	09/03/17 02:32	1
Sodium	1200		0.50	mg/L		08/29/17 10:20	09/03/17 02:32	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	130		6.0	mg/L			08/24/17 17:58	1
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L			08/24/17 17:58	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 17:58	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 17:58	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 17:58	1
Total Dissolved Solids	8200	D2	100	mg/L			08/24/17 12:45	1
pH	7.7	H5	1.7	SU			08/25/17 14:16	1
Temperature	13.0	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW61-81717

Lab Sample ID: 550-88335-4
Date Collected: 08/17/17 09:24
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300	D2	100	mg/L			08/25/17 08:49	50
Fluoride	1.4		0.40	mg/L			08/25/17 08:21	1
Sulfate	3600	D2	100	mg/L			08/25/17 08:49	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	39		0.050	mg/L		08/29/17 10:20	09/08/17 03:29	1
Calcium	520		2.0	mg/L		08/29/17 10:20	09/03/17 02:37	1
Magnesium	130		2.0	mg/L		08/29/17 10:20	09/03/17 02:37	1
Potassium	24		0.50	mg/L		08/29/17 10:20	09/03/17 02:37	1
Sodium	1100		0.50	mg/L		08/29/17 10:20	09/03/17 02:37	1

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW61-81717

Lab Sample ID: 550-88335-4
Date Collected: 08/17/17 09:24
Matrix: Water
Date Received: 08/18/17 12:40

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	89		6.0	mg/L			08/24/17 18:05	1
Bicarbonate Alkalinity as CaCO3	89		6.0	mg/L			08/24/17 18:05	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:05	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 18:05	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:05	1
Total Dissolved Solids	5500	D2	100	mg/L			08/24/17 12:45	1
pH	8.7	H5	1.7	SU			08/25/17 14:16	1
Temperature	13.3	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW62-81617

Lab Sample ID: 550-88335-5
Date Collected: 08/16/17 10:34
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		2.0	mg/L			08/25/17 09:16	1
Fluoride	1.6		0.40	mg/L			08/25/17 09:16	1
Sulfate	3200	D2	100	mg/L			08/25/17 09:44	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.050	mg/L		08/29/17 10:20	09/08/17 03:40	1
Calcium	590		2.0	mg/L		08/29/17 10:20	09/03/17 02:49	1
Magnesium	340		2.0	mg/L		08/29/17 10:20	09/03/17 02:49	1
Potassium	12		0.50	mg/L		08/29/17 10:20	09/03/17 02:49	1
Sodium	640		0.50	mg/L		08/29/17 10:20	09/03/17 02:49	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	760		6.0	mg/L			08/24/17 18:34	1
Bicarbonate Alkalinity as CaCO3	760		6.0	mg/L			08/24/17 18:34	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:34	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 18:34	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:34	1
Total Dissolved Solids	5400	D2	100	mg/L			08/22/17 12:20	1
pH	7.0	H5	1.7	SU			08/25/17 14:16	1
Temperature	14.8	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW63-81617

Lab Sample ID: 550-88335-6
Date Collected: 08/16/17 11:06
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		2.0	mg/L			08/25/17 10:11	1
Fluoride	2.1		0.40	mg/L			08/25/17 10:11	1
Sulfate	2700	D2	100	mg/L			08/25/17 10:38	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.8		0.050	mg/L		08/29/17 10:20	09/08/17 03:46	1

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW63-81617

Lab Sample ID: 550-88335-6
Date Collected: 08/16/17 11:06
Matrix: Water
Date Received: 08/18/17 12:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	580		2.0	mg/L		08/29/17 10:20	09/03/17 02:55	1
Magnesium	300		2.0	mg/L		08/29/17 10:20	09/03/17 02:55	1
Potassium	7.7		0.50	mg/L		08/29/17 10:20	09/03/17 02:55	1
Sodium	400		0.50	mg/L		08/29/17 10:20	09/03/17 02:55	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	490		6.0	mg/L			08/24/17 18:57	1
Bicarbonate Alkalinity as CaCO3	490		6.0	mg/L			08/24/17 18:57	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:57	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 18:57	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:57	1
Total Dissolved Solids	4500	D2	40	mg/L			08/22/17 12:20	1
pH	7.2	H5	1.7	SU			08/25/17 14:16	1
Temperature	14.3	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW64-81617

Lab Sample ID: 550-88335-7
Date Collected: 08/16/17 11:49
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		2.0	mg/L			08/25/17 11:06	1
Fluoride	1.5		0.40	mg/L			08/25/17 11:06	1
Sulfate	360	D2	100	mg/L			08/25/17 11:33	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.58		0.050	mg/L		08/29/17 10:20	09/08/17 03:52	1
Calcium	89		2.0	mg/L		08/29/17 10:20	09/03/17 03:01	1
Magnesium	36		2.0	mg/L		08/29/17 10:20	09/03/17 03:01	1
Potassium	6.1		0.50	mg/L		08/29/17 10:20	09/03/17 03:01	1
Sodium	120		0.50	mg/L		08/29/17 10:20	09/03/17 03:01	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	230		6.0	mg/L			08/24/17 19:05	1
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L			08/24/17 19:05	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:05	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 19:05	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:05	1
Total Dissolved Solids	790		20	mg/L			08/22/17 12:20	1
pH	7.8	H5	1.7	SU			08/25/17 14:16	1
Temperature	13.2	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW65-81617

Lab Sample ID: 550-88335-8
Date Collected: 08/16/17 09:09
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		2.0	mg/L			08/25/17 12:01	1
Fluoride	2.0		0.40	mg/L			08/25/17 12:01	1
Sulfate	500	D2	40	mg/L			08/25/17 12:28	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.75		0.050	mg/L		08/29/17 10:20	09/08/17 03:54	1
Calcium	110		2.0	mg/L		08/29/17 10:20	09/03/17 03:03	1
Magnesium	63		2.0	mg/L		08/29/17 10:20	09/03/17 03:03	1
Potassium	4.0		0.50	mg/L		08/29/17 10:20	09/03/17 03:03	1
Sodium	150		0.50	mg/L		08/29/17 10:20	09/03/17 03:03	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	320		6.0	mg/L			08/24/17 19:16	1
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L			08/24/17 19:16	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:16	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 19:16	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:16	1
Total Dissolved Solids	1000		20	mg/L			08/22/17 12:20	1
pH	7.7	H5	1.7	SU			08/25/17 14:16	1
Temperature	13.4	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-FD01-81617

Lab Sample ID: 550-88335-9
Date Collected: 08/16/17 09:09
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		2.0	mg/L			08/25/17 21:39	1
Fluoride	2.0		0.40	mg/L			08/25/17 21:39	1
Sulfate	470	D2	100	mg/L			08/25/17 21:57	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.75		0.050	mg/L		08/29/17 10:20	09/08/17 03:57	1
Calcium	110		2.0	mg/L		08/29/17 10:20	09/03/17 03:06	1
Magnesium	62		2.0	mg/L		08/29/17 10:20	09/03/17 03:06	1
Potassium	3.9		0.50	mg/L		08/29/17 10:20	09/03/17 03:06	1
Sodium	150		0.50	mg/L		08/29/17 10:20	09/03/17 03:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	310		6.0	mg/L			08/24/17 19:25	1
Bicarbonate Alkalinity as CaCO3	310		6.0	mg/L			08/24/17 19:25	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:25	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 19:25	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:25	1
Total Dissolved Solids	1000		20	mg/L			08/22/17 12:20	1
pH	7.6	H5	1.7	SU			08/25/17 14:16	1
Temperature	12.3	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW66-81617

Lab Sample ID: 550-88335-10
Date Collected: 08/16/17 09:59
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700	D2	400	mg/L			08/25/17 14:45	200
Fluoride	25	D1	2.0	mg/L			08/25/17 14:18	5
Sulfate	11000	D2	400	mg/L			08/25/17 14:45	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	150	D2	0.20	mg/L		08/29/17 10:20	09/08/17 04:00	4
Calcium	510		2.0	mg/L		08/29/17 10:20	09/03/17 03:09	1
Magnesium	2500	D2	8.0	mg/L		08/29/17 10:20	09/08/17 04:00	4
Potassium	50		0.50	mg/L		08/29/17 10:20	09/03/17 03:09	1
Sodium	690		0.50	mg/L		08/29/17 10:20	09/03/17 03:09	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	260		6.0	mg/L			08/24/17 19:32	1
Bicarbonate Alkalinity as CaCO3	260		6.0	mg/L			08/24/17 19:32	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:32	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 19:32	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:32	1
Total Dissolved Solids	19000	D2	100	mg/L			08/22/17 12:20	1
pH	7.5	H5	1.7	SU			08/25/17 14:16	1
Temperature	12.7	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW67-81617

Lab Sample ID: 550-88335-11
Date Collected: 08/16/17 14:17
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000	D2	400	mg/L			08/25/17 15:40	200
Fluoride	22	D1	2.0	mg/L			08/25/17 15:12	5
Sulfate	12000	D2	400	mg/L			08/25/17 15:40	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	160	D2	0.20	mg/L		08/29/17 10:20	09/08/17 04:06	4
Calcium	550		2.0	mg/L		08/29/17 10:20	09/03/17 03:15	1
Magnesium	2900	D2	8.0	mg/L		08/29/17 10:20	09/08/17 04:06	4
Potassium	52		0.50	mg/L		08/29/17 10:20	09/03/17 03:15	1
Sodium	800		0.50	mg/L		08/29/17 10:20	09/03/17 03:15	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	310		6.0	mg/L			08/24/17 19:41	1
Bicarbonate Alkalinity as CaCO3	310		6.0	mg/L			08/24/17 19:41	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:41	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 19:41	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:41	1
Total Dissolved Solids	22000	D2	200	mg/L			08/22/17 12:20	1
pH	7.4	H5	1.7	SU			08/25/17 14:16	1

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW67-81617

Lab Sample ID: 550-88335-11
Date Collected: 08/16/17 14:17
Matrix: Water
Date Received: 08/18/17 12:40

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	13.3	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW68-81617

Lab Sample ID: 550-88335-12
Date Collected: 08/16/17 13:46
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	mg/L			08/25/17 16:35	200
Fluoride	11	D1	2.0	mg/L			08/25/17 16:07	5
Sulfate	9900	D2	400	mg/L			08/25/17 16:35	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2	0.20	mg/L		08/29/17 10:20	09/08/17 04:12	4
Calcium	510		2.0	mg/L		08/29/17 10:20	09/03/17 03:20	1
Magnesium	2300	D2	8.0	mg/L		08/29/17 10:20	09/08/17 04:12	4
Potassium	23		0.50	mg/L		08/29/17 10:20	09/03/17 03:20	1
Sodium	630		0.50	mg/L		08/29/17 10:20	09/03/17 03:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	510		6.0	mg/L			08/24/17 19:52	1
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L			08/24/17 19:52	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:52	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 19:52	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:52	1
Total Dissolved Solids	17000	D2	100	mg/L			08/22/17 12:20	1
pH	7.2	H5	1.7	SU			08/25/17 14:16	1
Temperature	13.3	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW69-81617

Lab Sample ID: 550-88335-13
Date Collected: 08/16/17 13:10
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	mg/L			08/25/17 17:29	200
Fluoride	17	D1	2.0	mg/L			08/25/17 17:02	5
Sulfate	11000	D2	400	mg/L			08/25/17 17:29	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2	0.20	mg/L		08/29/17 10:20	09/08/17 04:17	4
Calcium	520		2.0	mg/L		08/29/17 10:20	09/03/17 03:26	1
Magnesium	2500	D2	8.0	mg/L		08/29/17 10:20	09/08/17 04:17	4
Potassium	49		0.50	mg/L		08/29/17 10:20	09/03/17 03:26	1
Sodium	710		0.50	mg/L		08/29/17 10:20	09/03/17 03:26	1

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW69-81617

Lab Sample ID: 550-88335-13
Date Collected: 08/16/17 13:10
Matrix: Water
Date Received: 08/18/17 12:40

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	300		6.0	mg/L			08/24/17 19:59	1
Bicarbonate Alkalinity as CaCO3	300		6.0	mg/L			08/24/17 19:59	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:59	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 19:59	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 19:59	1
Total Dissolved Solids	20000	D2	100	mg/L			08/23/17 13:06	1
pH	7.6	H5	1.7	SU			08/25/17 14:16	1
Temperature	14.4	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW70-81617

Lab Sample ID: 550-88335-14
Date Collected: 08/16/17 12:21
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	mg/L			08/25/17 01:30	200
Fluoride	3.2	D1	0.80	mg/L			08/25/17 01:03	2
Sulfate	6200	D2	400	mg/L			08/25/17 01:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	94		0.20	mg/L		08/29/17 10:20	09/08/17 04:23	4
Calcium	540		2.0	mg/L		08/29/17 10:20	09/03/17 03:32	1
Magnesium	1300		8.0	mg/L		08/29/17 10:20	09/08/17 04:23	4
Potassium	21		0.50	mg/L		08/29/17 10:20	09/03/17 03:32	1
Sodium	890		0.50	mg/L		08/29/17 10:20	09/03/17 03:32	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	510		6.0	mg/L			08/24/17 20:10	1
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L			08/24/17 20:10	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 20:10	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 20:10	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 20:10	1
Total Dissolved Solids	12000	D2	100	mg/L			08/23/17 13:06	1
pH	7.1	H5	1.7	SU			08/25/17 14:16	1
Temperature	15.3	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW71-81717

Lab Sample ID: 550-88335-15
Date Collected: 08/17/17 08:02
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570	D2	400	mg/L			08/29/17 02:02	200
Fluoride	ND	D1 D5	2.0	mg/L			08/25/17 16:45	5
Sulfate	9500	D2	400	mg/L			08/29/17 02:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.56	D2	0.20	mg/L		08/29/17 10:20	09/08/17 04:35	4

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW71-81717

Lab Sample ID: 550-88335-15
Date Collected: 08/17/17 08:02
Matrix: Water
Date Received: 08/18/17 12:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	480		2.0	mg/L		08/29/17 10:20	09/03/17 03:44	1
Magnesium	1800	D2	8.0	mg/L		08/29/17 10:20	09/08/17 04:35	4
Potassium	30		0.50	mg/L		08/29/17 10:20	09/03/17 03:44	1
Sodium	1100		0.50	mg/L		08/29/17 10:20	09/03/17 03:44	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	430		6.0	mg/L			08/24/17 20:38	1
Bicarbonate Alkalinity as CaCO3	430		6.0	mg/L			08/24/17 20:38	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 20:38	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 20:38	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 20:38	1
Total Dissolved Solids	15000	D2	100	mg/L			08/24/17 12:45	1
pH	7.3	H5	1.7	SU			08/25/17 14:16	1
Temperature	14.4	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW72-81717

Lab Sample ID: 550-88335-16
Date Collected: 08/17/17 07:15
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450	D2	10	mg/L			08/25/17 18:35	5
Fluoride	ND	D1 D5	2.0	mg/L			08/25/17 18:35	5
Sulfate	11000	D2	400	mg/L			08/25/17 18:53	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.26	D2	0.20	mg/L		08/29/17 10:20	09/08/17 04:40	4
Calcium	490		2.0	mg/L		08/29/17 10:20	09/03/17 03:50	1
Magnesium	2300	D2	8.0	mg/L		08/29/17 10:20	09/08/17 04:40	4
Potassium	33		0.50	mg/L		08/29/17 10:20	09/03/17 03:50	1
Sodium	790		0.50	mg/L		08/29/17 10:20	09/03/17 03:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	610		6.0	mg/L			08/24/17 20:59	1
Bicarbonate Alkalinity as CaCO3	610		6.0	mg/L			08/24/17 20:59	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 20:59	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 20:59	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 20:59	1
Total Dissolved Solids	17000	D2	100	mg/L			08/24/17 12:45	1
pH	7.1	H5	1.7	SU			08/25/17 14:16	1
Temperature	14.1	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-FD02-81717

Lab Sample ID: 550-88335-17
Date Collected: 08/17/17 07:15
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	460	D2	10	mg/L			08/25/17 19:12	5
Fluoride	ND	D1 D5	2.0	mg/L			08/25/17 19:12	5
Sulfate	12000	D2	400	mg/L			08/25/17 19:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.27	D2	0.20	mg/L		08/29/17 10:20	09/08/17 04:46	4
Calcium	480		2.0	mg/L		08/29/17 10:20	09/03/17 03:56	1
Magnesium	2400	D2	8.0	mg/L		08/29/17 10:20	09/08/17 04:46	4
Potassium	32		0.50	mg/L		08/29/17 10:20	09/03/17 03:56	1
Sodium	770		0.50	mg/L		08/29/17 10:20	09/03/17 03:56	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	600		6.0	mg/L			08/24/17 21:09	1
Bicarbonate Alkalinity as CaCO3	600		6.0	mg/L			08/24/17 21:09	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 21:09	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 21:09	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 21:09	1
Total Dissolved Solids	17000	D2	100	mg/L			08/24/17 12:45	1
pH	7.2	H5	1.7	SU			08/25/17 14:16	1
Temperature	14.0	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample ID: FC-CCR-MW73-81717

Lab Sample ID: 550-88335-18
Date Collected: 08/17/17 08:34
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	550	D2	400	mg/L			08/25/17 20:44	200
Fluoride	ND	D1 D5	0.80	mg/L			08/25/17 20:25	2
Sulfate	7600	D2	400	mg/L			08/25/17 20:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.050	mg/L		08/29/17 10:20	09/08/17 04:52	1
Calcium	540		2.0	mg/L		08/29/17 10:20	09/03/17 04:01	1
Magnesium	860		2.0	mg/L		08/29/17 10:20	09/03/17 04:01	1
Potassium	41		0.50	mg/L		08/29/17 10:20	09/03/17 04:01	1
Sodium	1800		0.50	mg/L		08/29/17 10:20	09/03/17 04:01	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	800		6.0	mg/L			08/29/17 11:55	1
Bicarbonate Alkalinity as CaCO3	800		6.0	mg/L			08/29/17 11:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/29/17 11:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/29/17 11:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/29/17 11:55	1
Total Dissolved Solids	11000	D2	100	mg/L			08/24/17 12:45	1
pH	7.0	H5	1.7	SU			08/25/17 14:16	1
Temperature	15.4	H5	0.1	Degrees C			08/25/17 14:16	1

Client Sample Results

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW75-81717

Lab Sample ID: 550-88335-19

Date Collected: 08/17/17 10:01
Matrix: Water
Date Received: 08/18/17 12:40

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300	D2	10		mg/L			08/25/17 21:02	5
Fluoride	ND	D1 D5	2.0		mg/L			08/25/17 21:02	5
Sulfate	4600	D2	400		mg/L			08/25/17 21:21	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	25		0.050		mg/L		08/29/17 10:20	09/08/17 04:58	1
Calcium	490		2.0		mg/L		08/29/17 10:20	09/03/17 04:07	1
Magnesium	240		2.0		mg/L		08/29/17 10:20	09/03/17 04:07	1
Potassium	26		0.50		mg/L		08/29/17 10:20	09/03/17 04:07	1
Sodium	1300		0.50		mg/L		08/29/17 10:20	09/03/17 04:07	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	95		6.0		mg/L			08/24/17 21:30	1
Bicarbonate Alkalinity as CaCO3	95		6.0		mg/L			08/24/17 21:30	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			08/24/17 21:30	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			08/24/17 21:30	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			08/24/17 21:30	1
Total Dissolved Solids	6400	D2	100		mg/L			08/24/17 12:45	1
pH	8.4	H5	1.7		SU			08/25/17 14:16	1
Temperature	14.8	H5	0.1		Degrees C			08/25/17 14:16	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-125822/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125822

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			08/24/17 19:07	1
Fluoride	ND		0.40	mg/L			08/24/17 19:07	1
Sulfate	ND		2.0	mg/L			08/24/17 19:07	1

Lab Sample ID: LCS 550-125822/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125822

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	4.20		mg/L		105	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-125822/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125822

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	4.18		mg/L		105	90 - 110	1	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-88335-1 MS — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125822

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	320	M3 D2	40.0	355	D2 M3	mg/L		80	80 - 120
Fluoride	ND	D1 D5	8.00	8.77	D1	mg/L		105	80 - 120

Lab Sample ID: 550-88335-1 MS — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125822

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	6500	D2	4000	10700	D2	mg/L		106	80 - 120

Lab Sample ID: 550-88335-1 MSD — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125822

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	320	M3 D2	40.0	354	D2 M3	mg/L		79	80 - 120	0	20
Fluoride	ND	D1 D5	8.00	8.70	D1	mg/L		104	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-88335-1 MSD — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125822

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	6500	D2	4000	10700	D2	mg/L		106	80 - 120	0	20

Lab Sample ID: MB 550-125941/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125941

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			08/25/17 15:13	1
Fluoride	ND		0.40		mg/L			08/25/17 15:13	1
Sulfate	ND		2.0		mg/L			08/25/17 15:13	1

Lab Sample ID: LCS 550-125941/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125941

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.9		mg/L		105	90 - 110
Fluoride	4.00	4.34		mg/L		108	90 - 110
Sulfate	20.0	21.1		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-125941/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125941

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.37		mg/L		109	90 - 110	1	20
Sulfate	20.0	21.2		mg/L		106	90 - 110	0	20

Lab Sample ID: 550-88335-15 MS — **Client Sample ID: FC-CCR-MW71-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125941

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	540	E2 M3	100	641	E2 M3	mg/L		97	80 - 120
Fluoride	ND	D1 D5	20.0	21.0		mg/L		103	80 - 120
Sulfate	3600	E2 M3	100	3650	E2 M3	mg/L		61	80 - 120

Lab Sample ID: 550-88335-15 MSD — **Client Sample ID: FC-CCR-MW71-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125941

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	540	E2 M3	100	635	E2 M3	mg/L		92	80 - 120	1	20
Fluoride	ND	D1 D5	20.0	21.2		mg/L		104	80 - 120	1	20
Sulfate	3600	E2 M3	100	3620	E2 M3	mg/L		36	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-126060/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126060

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			08/28/17 14:31	1
Fluoride	ND		0.40		mg/L			08/28/17 14:31	1
Sulfate	ND		2.0		mg/L			08/28/17 14:31	1

Lab Sample ID: LCS 550-126060/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126060

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	4.15		mg/L		104	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-126060/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126060

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	4.19		mg/L		105	90 - 110	1	20
Sulfate	20.0	20.3		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-88740-D-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126060

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	340	E2 M3	20.0	342	E2 M3	mg/L		9	80 - 120
Fluoride	ND		4.00	4.43		mg/L		103	80 - 120
Sulfate	140	M3	20.0	154	M3	mg/L		72	80 - 120

Lab Sample ID: 550-88740-D-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126060

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	340	E2 M3	20.0	342	E2 M3	mg/L		11	80 - 120	0	20
Fluoride	ND		4.00	4.43		mg/L		103	80 - 120	0	20
Sulfate	140	M3	20.0	154	M3	mg/L		73	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-126013/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126563 — **Prep Batch: 126013**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		2.0		mg/L		08/29/17 10:20	09/03/17 02:00	1
Magnesium	ND		2.0		mg/L		08/29/17 10:20	09/03/17 02:00	1

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

Lab Sample ID: MB 550-126013/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126563 — **Prep Batch: 126013**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.50		mg/L		08/29/17 10:20	09/03/17 02:00	1
Sodium	ND		0.50		mg/L		08/29/17 10:20	09/03/17 02:00	1

Lab Sample ID: MB 550-126013/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126899 — **Prep Batch: 126013**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		08/29/17 10:20	09/08/17 02:51	1

Lab Sample ID: LCS 550-126013/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126563 — **Prep Batch: 126013**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Calcium			21.0	23.2		mg/L		111	85 - 115		
Magnesium			21.0	22.3		mg/L		106	85 - 115		
Potassium			20.0	20.6		mg/L		103	85 - 115		
Sodium			20.0	20.7		mg/L		103	85 - 115		

Lab Sample ID: LCS 550-126013/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126899 — **Prep Batch: 126013**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron			1.00	1.01		mg/L		101	85 - 115		

Lab Sample ID: LCSD 550-126013/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126563 — **Prep Batch: 126013**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium			21.0	22.5		mg/L		107	85 - 115	3	20
Magnesium			21.0	22.0		mg/L		105	85 - 115	1	20
Potassium			20.0	20.4		mg/L		102	85 - 115	1	20
Sodium			20.0	20.4		mg/L		102	85 - 115	1	20

Lab Sample ID: LCSD 550-126013/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126899 — **Prep Batch: 126013**

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	1	20

Lab Sample ID: 550-88335-1 MS — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126563 — **Prep Batch: 126013**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Calcium	460	M3	21.0	464	M3	mg/L		24	70 - 130		

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

Lab Sample ID: 550-88335-1 MS — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126563 — **Prep Batch: 126013**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	670	M3	21.0	669	M3	mg/L		-21	70 - 130
Potassium	43		20.0	64.5		mg/L		105	70 - 130
Sodium	1700	M3	20.0	1640	M3	mg/L		-151	70 - 130

Lab Sample ID: 550-88335-1 MS — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126899 — **Prep Batch: 126013**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	7.5		1.00	8.19	M3	mg/L		72	70 - 130

Lab Sample ID: 550-88335-1 MSD — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126563 — **Prep Batch: 126013**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	460	M3	21.0	463	M3	mg/L		18	70 - 130	0	20
Magnesium	670	M3	21.0	642	M3	mg/L		-152	70 - 130	4	20
Potassium	43		20.0	66.7		mg/L		116	70 - 130	3	20
Sodium	1700	M3	20.0	1560	M3	mg/L		-527	70 - 130	5	20

Lab Sample ID: 550-88335-1 MSD — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126899 — **Prep Batch: 126013**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	7.5		1.00	8.26	M3	mg/L		79	70 - 130	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-125877/35 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:22	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:22	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:22	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 18:22	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 18:22	1

Lab Sample ID: MB 550-125877/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 15:01	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 15:01	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 15:01	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-125877/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Phenolphthalein	ND		6.0	mg/L			08/24/17 15:01	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			08/24/17 15:01	1

Lab Sample ID: LCS 550-125877/34 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	252		mg/L		101	90 - 110

Lab Sample ID: LCS 550-125877/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	252		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-125877/20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	249		mg/L		100	90 - 110	1	20

Lab Sample ID: LCSD 550-125877/48 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	254		mg/L		102	90 - 110	1	20

Lab Sample ID: 550-88335-1 DU — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	520		517		mg/L		0.2	20
Bicarbonate Alkalinity as CaCO3	520		517		mg/L		0.2	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: 550-88335-5 DU — **Client Sample ID: FC-CCR-MW62-81617**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	760		760		mg/L		0.4	20
Bicarbonate Alkalinity as CaCO3	760		760		mg/L		0.4	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-88335-5 DU — **Client Sample ID: FC-CCR-MW62-81617**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

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

Lab Sample ID: 550-88335-15 DU — **Client Sample ID: FC-CCR-MW71-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125877

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	430			422		mg/L				0.6	20
Bicarbonate Alkalinity as CaCO3	430			422		mg/L				0.6	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: MB 550-126040/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126040

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			08/29/17 11:55	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			08/29/17 11:55	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			08/29/17 11:55	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			08/29/17 11:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			08/29/17 11:55	1

Lab Sample ID: LCS 550-126040/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126040

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

Lab Sample ID: LCSD 550-126040/5 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126040

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	250		mg/L		100	90 - 110	1	20

Lab Sample ID: 550-88227-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 126040

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	280			282		mg/L				0.7	20
Bicarbonate Alkalinity as CaCO3	280			282		mg/L				0.7	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 550-125494/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125494

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			08/22/17 12:20	1

Lab Sample ID: LCS 550-125494/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125494

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	964		mg/L		96	90 - 110		

Lab Sample ID: LCSD 550-125494/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125494

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	964		mg/L		96	90 - 110	0	10

Lab Sample ID: 550-88231-A-7 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125494

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	140			144		mg/L				0	10

Lab Sample ID: 550-88322-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125494

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1400			1440		mg/L				2	10

Lab Sample ID: MB 550-125619/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125619

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			08/23/17 13:06	1

Lab Sample ID: LCS 550-125619/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125619

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	978		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-125619/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125619

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	974		mg/L		97	90 - 110	0	10

Lab Sample ID: 550-88415-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125619

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2600	D2		2530	D2	mg/L				2	10

Lab Sample ID: MB 550-125729/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125729

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			08/24/17 12:45	1

Lab Sample ID: LCS 550-125729/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125729

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	976		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-125729/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125729

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	978		mg/L		98	90 - 110	0	10

Lab Sample ID: 550-88335-1 DU — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125729

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000			9900	D2	mg/L				3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-125825/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125825

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 550-125825/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125825

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

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

Lab Sample ID: LCSSRM 550-125825/25 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125825

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 550-125825/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125825

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

Lab Sample ID: 550-88335-1 DU — **Client Sample ID: FC-CCR-MW7-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125825

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.6	H5	SU		0.1	5
Temperature	13.9	H5	13.3	H5	Degrees C		4	

Lab Sample ID: 550-88335-8 DU — **Client Sample ID: FC-CCR-MW65-81617**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125825

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	H5	7.7	H5	SU		0.1	5
Temperature	13.4	H5	13.7	H5	Degrees C		2	

Lab Sample ID: 550-88335-18 DU — **Client Sample ID: FC-CCR-MW73-81717**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125825

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.0	H5	7.0	H5	SU		0.1	5
Temperature	15.4	H5	15.6	H5	Degrees C		1	

Lab Sample ID: LCSSRM 550-125946/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125946

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

Lab Sample ID: LCSSRM 550-125946/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 125946

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

QC Association Summary

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

HPLC/IC

Analysis Batch: 125822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-1	FC-CCR-MW7-81717	Total/NA	Water	300.0	
550-88335-1	FC-CCR-MW7-81717	Total/NA	Water	300.0	
550-88335-2	FC-CCR-MW49A-81717	Total/NA	Water	300.0	
550-88335-2	FC-CCR-MW49A-81717	Total/NA	Water	300.0	
550-88335-3	FC-CCR-MW60-81717	Total/NA	Water	300.0	
550-88335-3	FC-CCR-MW60-81717	Total/NA	Water	300.0	
550-88335-4	FC-CCR-MW61-81717	Total/NA	Water	300.0	
550-88335-4	FC-CCR-MW61-81717	Total/NA	Water	300.0	
550-88335-5	FC-CCR-MW62-81617	Total/NA	Water	300.0	
550-88335-5	FC-CCR-MW62-81617	Total/NA	Water	300.0	
550-88335-6	FC-CCR-MW63-81617	Total/NA	Water	300.0	
550-88335-6	FC-CCR-MW63-81617	Total/NA	Water	300.0	
550-88335-7	FC-CCR-MW64-81617	Total/NA	Water	300.0	
550-88335-7	FC-CCR-MW64-81617	Total/NA	Water	300.0	
550-88335-8	FC-CCR-MW65-81617	Total/NA	Water	300.0	
550-88335-8	FC-CCR-MW65-81617	Total/NA	Water	300.0	
550-88335-10	FC-CCR-MW66-81617	Total/NA	Water	300.0	
550-88335-10	FC-CCR-MW66-81617	Total/NA	Water	300.0	
550-88335-11	FC-CCR-MW67-81617	Total/NA	Water	300.0	
550-88335-11	FC-CCR-MW67-81617	Total/NA	Water	300.0	
550-88335-12	FC-CCR-MW68-81617	Total/NA	Water	300.0	
550-88335-12	FC-CCR-MW68-81617	Total/NA	Water	300.0	
550-88335-13	FC-CCR-MW69-81617	Total/NA	Water	300.0	
550-88335-13	FC-CCR-MW69-81617	Total/NA	Water	300.0	
550-88335-14	FC-CCR-MW70-81617	Total/NA	Water	300.0	
550-88335-14	FC-CCR-MW70-81617	Total/NA	Water	300.0	
MB 550-125822/2	Method Blank	Total/NA	Water	300.0	
LCS 550-125822/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-125822/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-88335-1 MS	FC-CCR-MW7-81717	Total/NA	Water	300.0	
550-88335-1 MS	FC-CCR-MW7-81717	Total/NA	Water	300.0	
550-88335-1 MSD	FC-CCR-MW7-81717	Total/NA	Water	300.0	
550-88335-1 MSD	FC-CCR-MW7-81717	Total/NA	Water	300.0	

Analysis Batch: 125941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-9	FC-CCR-FD01-81617	Total/NA	Water	300.0	
550-88335-9	FC-CCR-FD01-81617	Total/NA	Water	300.0	
550-88335-15	FC-CCR-MW71-81717	Total/NA	Water	300.0	
550-88335-16	FC-CCR-MW72-81717	Total/NA	Water	300.0	
550-88335-16	FC-CCR-MW72-81717	Total/NA	Water	300.0	
550-88335-17	FC-CCR-FD02-81717	Total/NA	Water	300.0	
550-88335-17	FC-CCR-FD02-81717	Total/NA	Water	300.0	
550-88335-18	FC-CCR-MW73-81717	Total/NA	Water	300.0	
550-88335-18	FC-CCR-MW73-81717	Total/NA	Water	300.0	
550-88335-19	FC-CCR-MW75-81717	Total/NA	Water	300.0	
550-88335-19	FC-CCR-MW75-81717	Total/NA	Water	300.0	
MB 550-125941/2	Method Blank	Total/NA	Water	300.0	
LCS 550-125941/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-125941/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-88335-15 MS	FC-CCR-MW71-81717	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 125941 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-15 MSD	FC-CCR-MW71-81717	Total/NA	Water	300.0	

Analysis Batch: 126060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-15	FC-CCR-MW71-81717	Total/NA	Water	300.0	
MB 550-126060/2	Method Blank	Total/NA	Water	300.0	
LCS 550-126060/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-126060/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-88740-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-88740-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 126013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-1	FC-CCR-MW7-81717	Total/NA	Water	200.7	
550-88335-2	FC-CCR-MW49A-81717	Total/NA	Water	200.7	
550-88335-3	FC-CCR-MW60-81717	Total/NA	Water	200.7	
550-88335-4	FC-CCR-MW61-81717	Total/NA	Water	200.7	
550-88335-5	FC-CCR-MW62-81617	Total/NA	Water	200.7	
550-88335-6	FC-CCR-MW63-81617	Total/NA	Water	200.7	
550-88335-7	FC-CCR-MW64-81617	Total/NA	Water	200.7	
550-88335-8	FC-CCR-MW65-81617	Total/NA	Water	200.7	
550-88335-9	FC-CCR-FD01-81617	Total/NA	Water	200.7	
550-88335-10	FC-CCR-MW66-81617	Total/NA	Water	200.7	
550-88335-11	FC-CCR-MW67-81617	Total/NA	Water	200.7	
550-88335-12	FC-CCR-MW68-81617	Total/NA	Water	200.7	
550-88335-13	FC-CCR-MW69-81617	Total/NA	Water	200.7	
550-88335-14	FC-CCR-MW70-81617	Total/NA	Water	200.7	
550-88335-15	FC-CCR-MW71-81717	Total/NA	Water	200.7	
550-88335-16	FC-CCR-MW72-81717	Total/NA	Water	200.7	
550-88335-17	FC-CCR-FD02-81717	Total/NA	Water	200.7	
550-88335-18	FC-CCR-MW73-81717	Total/NA	Water	200.7	
550-88335-19	FC-CCR-MW75-81717	Total/NA	Water	200.7	
MB 550-126013/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-126013/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-126013/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-88335-1 MS	FC-CCR-MW7-81717	Total/NA	Water	200.7	
550-88335-1 MSD	FC-CCR-MW7-81717	Total/NA	Water	200.7	

Analysis Batch: 126563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-1	FC-CCR-MW7-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-2	FC-CCR-MW49A-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-3	FC-CCR-MW60-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-4	FC-CCR-MW61-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-5	FC-CCR-MW62-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-6	FC-CCR-MW63-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-7	FC-CCR-MW64-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-8	FC-CCR-MW65-81617	Total/NA	Water	200.7 Rev 4.4	126013

Metals (Continued)

Analysis Batch: 126563 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-9	FC-CCR-FD01-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-10	FC-CCR-MW66-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-11	FC-CCR-MW67-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-12	FC-CCR-MW68-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-13	FC-CCR-MW69-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-14	FC-CCR-MW70-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-15	FC-CCR-MW71-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-16	FC-CCR-MW72-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-17	FC-CCR-FD02-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-18	FC-CCR-MW73-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-19	FC-CCR-MW75-81717	Total/NA	Water	200.7 Rev 4.4	126013
MB 550-126013/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	126013
LCS 550-126013/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	126013
LCSD 550-126013/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-1 MS	FC-CCR-MW7-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-1 MSD	FC-CCR-MW7-81717	Total/NA	Water	200.7 Rev 4.4	126013

Analysis Batch: 126899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-1	FC-CCR-MW7-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-2	FC-CCR-MW49A-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-3	FC-CCR-MW60-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-4	FC-CCR-MW61-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-5	FC-CCR-MW62-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-6	FC-CCR-MW63-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-7	FC-CCR-MW64-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-8	FC-CCR-MW65-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-9	FC-CCR-FD01-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-10	FC-CCR-MW66-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-11	FC-CCR-MW67-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-12	FC-CCR-MW68-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-13	FC-CCR-MW69-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-14	FC-CCR-MW70-81617	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-15	FC-CCR-MW71-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-16	FC-CCR-MW72-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-17	FC-CCR-FD02-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-18	FC-CCR-MW73-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-19	FC-CCR-MW75-81717	Total/NA	Water	200.7 Rev 4.4	126013
MB 550-126013/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	126013
LCS 550-126013/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	126013
LCSD 550-126013/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-1 MS	FC-CCR-MW7-81717	Total/NA	Water	200.7 Rev 4.4	126013
550-88335-1 MSD	FC-CCR-MW7-81717	Total/NA	Water	200.7 Rev 4.4	126013

General Chemistry

Analysis Batch: 125494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-5	FC-CCR-MW62-81617	Total/NA	Water	SM 2540C	
550-88335-6	FC-CCR-MW63-81617	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 125494 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-7	FC-CCR-MW64-81617	Total/NA	Water	SM 2540C	
550-88335-8	FC-CCR-MW65-81617	Total/NA	Water	SM 2540C	
550-88335-9	FC-CCR-FD01-81617	Total/NA	Water	SM 2540C	
550-88335-10	FC-CCR-MW66-81617	Total/NA	Water	SM 2540C	
550-88335-11	FC-CCR-MW67-81617	Total/NA	Water	SM 2540C	
550-88335-12	FC-CCR-MW68-81617	Total/NA	Water	SM 2540C	
MB 550-125494/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-125494/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-125494/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-88231-A-7 DU	Duplicate	Total/NA	Water	SM 2540C	
550-88322-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 125619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-13	FC-CCR-MW69-81617	Total/NA	Water	SM 2540C	
550-88335-14	FC-CCR-MW70-81617	Total/NA	Water	SM 2540C	
MB 550-125619/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-125619/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-125619/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-88415-A-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 125729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-1	FC-CCR-MW7-81717	Total/NA	Water	SM 2540C	
550-88335-2	FC-CCR-MW49A-81717	Total/NA	Water	SM 2540C	
550-88335-3	FC-CCR-MW60-81717	Total/NA	Water	SM 2540C	
550-88335-4	FC-CCR-MW61-81717	Total/NA	Water	SM 2540C	
550-88335-15	FC-CCR-MW71-81717	Total/NA	Water	SM 2540C	
550-88335-16	FC-CCR-MW72-81717	Total/NA	Water	SM 2540C	
550-88335-17	FC-CCR-FD02-81717	Total/NA	Water	SM 2540C	
550-88335-18	FC-CCR-MW73-81717	Total/NA	Water	SM 2540C	
550-88335-19	FC-CCR-MW75-81717	Total/NA	Water	SM 2540C	
MB 550-125729/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-125729/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-125729/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-88335-1 DU	FC-CCR-MW7-81717	Total/NA	Water	SM 2540C	

Analysis Batch: 125825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-1	FC-CCR-MW7-81717	Total/NA	Water	SM 4500 H+ B	
550-88335-2	FC-CCR-MW49A-81717	Total/NA	Water	SM 4500 H+ B	
550-88335-3	FC-CCR-MW60-81717	Total/NA	Water	SM 4500 H+ B	
550-88335-4	FC-CCR-MW61-81717	Total/NA	Water	SM 4500 H+ B	
550-88335-5	FC-CCR-MW62-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-6	FC-CCR-MW63-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-7	FC-CCR-MW64-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-8	FC-CCR-MW65-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-9	FC-CCR-FD01-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-10	FC-CCR-MW66-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-11	FC-CCR-MW67-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-12	FC-CCR-MW68-81617	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 125825 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-13	FC-CCR-MW69-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-14	FC-CCR-MW70-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-15	FC-CCR-MW71-81717	Total/NA	Water	SM 4500 H+ B	
550-88335-16	FC-CCR-MW72-81717	Total/NA	Water	SM 4500 H+ B	
550-88335-17	FC-CCR-FD02-81717	Total/NA	Water	SM 4500 H+ B	
550-88335-18	FC-CCR-MW73-81717	Total/NA	Water	SM 4500 H+ B	
550-88335-19	FC-CCR-MW75-81717	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-125825/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-125825/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-125825/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-125825/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-88335-1 DU	FC-CCR-MW7-81717	Total/NA	Water	SM 4500 H+ B	
550-88335-8 DU	FC-CCR-MW65-81617	Total/NA	Water	SM 4500 H+ B	
550-88335-18 DU	FC-CCR-MW73-81717	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 125877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-1	FC-CCR-MW7-81717	Total/NA	Water	SM 2320B	
550-88335-2	FC-CCR-MW49A-81717	Total/NA	Water	SM 2320B	
550-88335-3	FC-CCR-MW60-81717	Total/NA	Water	SM 2320B	
550-88335-4	FC-CCR-MW61-81717	Total/NA	Water	SM 2320B	
550-88335-5	FC-CCR-MW62-81617	Total/NA	Water	SM 2320B	
550-88335-6	FC-CCR-MW63-81617	Total/NA	Water	SM 2320B	
550-88335-7	FC-CCR-MW64-81617	Total/NA	Water	SM 2320B	
550-88335-8	FC-CCR-MW65-81617	Total/NA	Water	SM 2320B	
550-88335-9	FC-CCR-FD01-81617	Total/NA	Water	SM 2320B	
550-88335-10	FC-CCR-MW66-81617	Total/NA	Water	SM 2320B	
550-88335-11	FC-CCR-MW67-81617	Total/NA	Water	SM 2320B	
550-88335-12	FC-CCR-MW68-81617	Total/NA	Water	SM 2320B	
550-88335-13	FC-CCR-MW69-81617	Total/NA	Water	SM 2320B	
550-88335-14	FC-CCR-MW70-81617	Total/NA	Water	SM 2320B	
550-88335-15	FC-CCR-MW71-81717	Total/NA	Water	SM 2320B	
550-88335-16	FC-CCR-MW72-81717	Total/NA	Water	SM 2320B	
550-88335-17	FC-CCR-FD02-81717	Total/NA	Water	SM 2320B	
550-88335-19	FC-CCR-MW75-81717	Total/NA	Water	SM 2320B	
MB 550-125877/35	Method Blank	Total/NA	Water	SM 2320B	
MB 550-125877/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-125877/34	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-125877/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-125877/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-125877/48	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-88335-1 DU	FC-CCR-MW7-81717	Total/NA	Water	SM 2320B	
550-88335-5 DU	FC-CCR-MW62-81617	Total/NA	Water	SM 2320B	
550-88335-15 DU	FC-CCR-MW71-81717	Total/NA	Water	SM 2320B	

Analysis Batch: 125946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSSRM 550-125946/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-125946/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 126040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-126040/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-126040/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-126040/5	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-88227-A-3 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 126041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-88335-18	FC-CCR-MW73-81717	Total/NA	Water	SM 2320B	

Lab Chronicle

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-81717 — Lab Sample ID: 550-88335-1

Date Collected: 08/17/17 11:17 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	125822	08/25/17 02:52	JAE	TAL PHX
Total/NA	Analysis	300.0		200	125822	08/25/17 04:15	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 02:20	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 03:11	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 17:27	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125729		YET	TAL PHX
					(Start)	08/24/17 12:45		
					(End)	08/25/17 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW49A-81717 — Lab Sample ID: 550-88335-2

Date Collected: 08/17/17 12:23 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	125822	08/25/17 05:37	JAE	TAL PHX
Total/NA	Analysis	300.0		500	125822	08/25/17 06:04	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 02:26	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	126899	09/08/17 03:17	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 17:50	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125729		YET	TAL PHX
					(Start)	08/24/17 12:45		
					(End)	08/25/17 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW60-81717 — Lab Sample ID: 550-88335-3

Date Collected: 08/17/17 10:32 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	125822	08/25/17 06:32	JAE	TAL PHX
Total/NA	Analysis	300.0		100	125822	08/25/17 06:59	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 02:32	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 03:23	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 17:58	DGS	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW60-81717 — Lab Sample ID: 550-88335-3

Date Collected: 08/17/17 10:32 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	125729		YET	TAL PHX
					(Start)	08/24/17 12:45		
					(End)	08/25/17 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW61-81717 — Lab Sample ID: 550-88335-4

Date Collected: 08/17/17 09:24 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125822	08/25/17 08:21	JAE	TAL PHX
Total/NA	Analysis	300.0		50	125822	08/25/17 08:49	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 02:37	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 03:29	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 18:05	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125729		YET	TAL PHX
					(Start)	08/24/17 12:45		
					(End)	08/25/17 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW62-81617 — Lab Sample ID: 550-88335-5

Date Collected: 08/16/17 10:34 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125822	08/25/17 09:16	JAE	TAL PHX
Total/NA	Analysis	300.0		50	125822	08/25/17 09:44	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 02:49	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 03:40	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 18:34	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125494		YET	TAL PHX
					(Start)	08/22/17 12:20		
					(End)	08/23/17 14:40		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW63-81617 — Lab Sample ID: 550-88335-6

Date Collected: 08/16/17 11:06 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125822	08/25/17 10:11	JAE	TAL PHX
Total/NA	Analysis	300.0		50	125822	08/25/17 10:38	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 02:55	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 03:46	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 18:57	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125494		YET	TAL PHX
					(Start)	08/22/17 12:20		
					(End)	08/23/17 14:40		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW64-81617 — Lab Sample ID: 550-88335-7

Date Collected: 08/16/17 11:49 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125822	08/25/17 11:06	JAE	TAL PHX
Total/NA	Analysis	300.0		50	125822	08/25/17 11:33	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:01	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 03:52	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 19:05	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125494		YET	TAL PHX
					(Start)	08/22/17 12:20		
					(End)	08/23/17 14:40		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW65-81617 — Lab Sample ID: 550-88335-8

Date Collected: 08/16/17 09:09 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125822	08/25/17 12:01	JAE	TAL PHX
Total/NA	Analysis	300.0		20	125822	08/25/17 12:28	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:03	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 03:54	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 19:16	DGS	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW65-81617 — Lab Sample ID: 550-88335-8

Date Collected: 08/16/17 09:09 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	125494		YET	TAL PHX
					(Start)	08/22/17 12:20		
					(End)	08/23/17 14:40		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-FD01-81617 — Lab Sample ID: 550-88335-9

Date Collected: 08/16/17 09:09 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	125941	08/25/17 21:39	JSS	TAL PHX
Total/NA	Analysis	300.0		50	125941	08/25/17 21:57	JSS	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:06	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 03:57	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 19:25	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125494		YET	TAL PHX
					(Start)	08/22/17 12:20		
					(End)	08/23/17 14:40		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW66-81617 — Lab Sample ID: 550-88335-10

Date Collected: 08/16/17 09:59 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125822	08/25/17 14:18	JAE	TAL PHX
Total/NA	Analysis	300.0		200	125822	08/25/17 14:45	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:09	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	126899	09/08/17 04:00	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 19:32	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125494		YET	TAL PHX
					(Start)	08/22/17 12:20		
					(End)	08/23/17 14:40		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW67-81617 — Lab Sample ID: 550-88335-11

Date Collected: 08/16/17 14:17 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125822	08/25/17 15:12	JAE	TAL PHX
Total/NA	Analysis	300.0		200	125822	08/25/17 15:40	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:15	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	126899	09/08/17 04:06	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 19:41	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125494		YET	TAL PHX
					(Start)	08/22/17 12:20		
					(End)	08/23/17 14:40		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW68-81617 — Lab Sample ID: 550-88335-12

Date Collected: 08/16/17 13:46 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125822	08/25/17 16:07	JAE	TAL PHX
Total/NA	Analysis	300.0		200	125822	08/25/17 16:35	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:20	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	126899	09/08/17 04:12	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 19:52	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125494		YET	TAL PHX
					(Start)	08/22/17 12:20		
					(End)	08/23/17 14:40		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW69-81617 — Lab Sample ID: 550-88335-13

Date Collected: 08/16/17 13:10 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125822	08/25/17 17:02	JAE	TAL PHX
Total/NA	Analysis	300.0		200	125822	08/25/17 17:29	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:26	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	126899	09/08/17 04:17	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 19:59	DGS	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW69-81617 — Lab Sample ID: 550-88335-13

Date Collected: 08/16/17 13:10 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	125619		YET	TAL PHX
					(Start)	08/23/17 13:06		
					(End)	08/24/17 10:25		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW70-81617 — Lab Sample ID: 550-88335-14

Date Collected: 08/16/17 12:21 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	125822	08/25/17 01:03	JAE	TAL PHX
Total/NA	Analysis	300.0		200	125822	08/25/17 01:30	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:32	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	126899	09/08/17 04:23	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 20:10	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125619		YET	TAL PHX
					(Start)	08/23/17 13:06		
					(End)	08/24/17 10:25		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW71-81717 — Lab Sample ID: 550-88335-15

Date Collected: 08/17/17 08:02 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125941	08/25/17 16:45	JSS	TAL PHX
Total/NA	Analysis	300.0		200	126060	08/29/17 02:02	JAE	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:44	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	126899	09/08/17 04:35	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 20:38	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125729		YET	TAL PHX
					(Start)	08/24/17 12:45		
					(End)	08/25/17 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW72-81717 — Lab Sample ID: 550-88335-16

Date Collected: 08/17/17 07:15 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125941	08/25/17 18:35	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125941	08/25/17 18:53	JSS	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:50	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	126899	09/08/17 04:40	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 20:59	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125729		YET	TAL PHX
					(Start)	08/24/17 12:45		
					(End)	08/25/17 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-FD02-81717 — Lab Sample ID: 550-88335-17

Date Collected: 08/17/17 07:15 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125941	08/25/17 19:12	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125941	08/25/17 19:30	JSS	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 03:56	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	126899	09/08/17 04:46	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 21:09	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125729		YET	TAL PHX
					(Start)	08/24/17 12:45		
					(End)	08/25/17 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW73-81717 — Lab Sample ID: 550-88335-18

Date Collected: 08/17/17 08:34 — **Matrix: Water**
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	125941	08/25/17 20:25	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125941	08/25/17 20:44	JSS	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 04:01	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 04:52	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	126041	08/29/17 11:55	DGS	TAL PHX

Lab Chronicle

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

TestAmerica Job ID: 550-88335-1
SDG: Cholla

Client Sample ID: FC-CCR-MW73-81717

Lab Sample ID: 550-88335-18
Date Collected: 08/17/17 08:34
Matrix: Water
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	125729		YET	TAL PHX
					(Start)	08/24/17 12:45		
					(End)	08/25/17 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	NEL	TAL PHX

Client Sample ID: FC-CCR-MW75-81717

Lab Sample ID: 550-88335-19
Date Collected: 08/17/17 10:01
Matrix: Water
Date Received: 08/18/17 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	125941	08/25/17 21:02	JSS	TAL PHX
Total/NA	Analysis	300.0		200	125941	08/25/17 21:21	JSS	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126563	09/03/17 04:07	R1K	TAL PHX
Total/NA	Prep	200.7			126013	08/29/17 10:20	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	126899	09/08/17 04:58	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	125877	08/24/17 21:30	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	125729		YET	TAL PHX
					(Start)	08/24/17 12:45		
					(End)	08/25/17 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	125825	08/25/17 14:16	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: 550-88335-1
SDG: Cholla

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: 550-88335-1
SDG: Cholla

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

88335

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

9/22/2017 (Rev. 2)

Regulatory Program: CCR

Client Contact	Doug Lavarnway	Doug Lavarnway	8/18/2017	COC No:
APS Four Corners	928-587-0319	Lab Contact:	Carrier:	___1___ of __6___ COCs
End of County Road 6675	Analysis Turnaround Time			Sampler:
Fruitland, New Mexico 87416				For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below _____			Walk-in Client:
(xxx) xxx-xxxx FAX				Lab Sampling:
Project Name: CCR				
Site: 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:
1	FC-CCR-MW7-81717	8/17/2017	1117	G	W	2	N	x	x	x	x	x	x	
2	FC-CCR-MW49A-81717	8/17/2017	1223	G	W	2	N	x	x	x	x	x	x	
3	FC-CCR-MW60-81717	8/17/2017	1032	G	W	2	N	x	x	x	x	x	x	
4	FC-CCR-MW61-81717	8/17/2017	924	G	W	2	N	x	x	x	x	x	x	
5	FC-CCR-MW62-81617	8/16/2017	1034	G	W	2	N	x	x	x	x	x	x	
6	FC-CCR-MW63-81617	8/16/2017	1106	G	W	2	N	x	x	x	x	x	x	
7	FC-CCR-MW64-81617	8/16/2017	1149	G	W	2	N	x	x	x	x	x	x	
8	FC-CCR-MW65-81617	8/16/2017	909	G	W	2	N	x	x	x	x	x	x	
9	FC-CCR-FD01-81617	8/16/2017	909	G	W	2	N	x	x	x	x	x	x	

550-88335 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:

0.9°C, 0.8°C, 0.6°C, 0.9°C, PC

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	8/18 0900	N Rogers	Red J	8/18/17 900am
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 8-18-17 1240

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

9/22/2017 (Rev. 2)

Regulatory Program: CCR

Client Contact	Doug Lavarnway	Doug Lavarnway	8/18/2017
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: 2 of 6 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 200.7 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:
10	FC-CCR-MW66-81617	8/16/2017	959	G	W	2	N	x	x	x	x	x	x	
11	FC-CCR-MW67-81617	8/16/2017	1417	G	W	2	N	x	x	x	x	x	x	
12	FC-CCR-MW68-81617	8/16/2017	1346	G	W	2	N	x	x	x	x	x	x	
13	FC-CCR-MW69-81617	8/16/2017	1310	G	W	2	N	x	x	x	x	x	x	
14	FC-CCR-MW70-81617	8/16/2017	1221	G	W	2	N	x	x	x	x	x	x	
15	FC-CCR-MW71-81717	8/17/2017	802	G	W	2	N	x	x	x	x	x	x	
16	FC-CCR-MW72-81717	8/17/2017	715	G	W	2	N	x	x	x	x	x	x	
17	FC-CCR-FD02-81717	8/17/2017	715	G	W	2	N	x	x	x	x	x	x	
18	FC-CCR-MW73-81717	8/17/2017	834	G	W	2	N	x	x	x	x	x	x	
19	FC-CCR-MW75-81717	8/17/2017	1001	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: Doug Lavarnway	Company: APS	Date/Time: 8/18 0900	Received by: D Rogers	Company: Red J	Date/Time: 8/18/17 9 am
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 8-18-17 1240

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-88335-1
SDG Number: Cholla

Login Number: 88335
List Number: 1
Creator: Vilaboy, Monica

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.