TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 550-91513-1
TestAmerica Sample Delivery Group: Cholla
Client Project/Site: CCR

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

Attn: Doug Lavarnway

Authorized for release by:
11/7/2017 7:27:12 AM

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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: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
D1	Sample required dilution due to matrix.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.

Metals

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

General Chemistry

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

Glossary

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

Job ID: 550-91513-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-91513-1

Comments
No additional comments.

Receipt
The samples were received on 10/14/2017 10:01 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.6º C, 2.0º C, 2.3º C and 3.1º C.

HPLC/IC
Method(s) 300.0: The matrix spike duplicate (MSD) recovery and the matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 550-131532 were outside control limits. The multi-anion spike was inadvertently not added to the MSD during sample preparation. The associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits. As such, these data have been reported and qualified.

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) and method blank for analytical batch 550-131241 contained Beryllium 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: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-91513-1	FC-CCR-MW7-101217	Water	10/12/17 15:23	10/14/17 10:01
550-91513-2	FC-CCR-MW49A-101217	Water	10/12/17 16:16	10/14/17 10:01
550-91513-3	FC-CCR-MW60-101217	Water	10/12/17 12:35	10/14/17 10:01
550-91513-4	FC-CCR-MW61-101217	Water	10/12/17 13:28	10/14/17 10:01
550-91513-5	FC-CCR-MW62-101317	Water	10/13/17 10:24	10/14/17 10:01
550-91513-6	FC-CCR-MW63-101317	Water	10/13/17 11:05	10/14/17 10:01
550-91513-7	FC-CCR-MW64-101317	Water	10/13/17 11:51	10/14/17 10:01
550-91513-8	FC-CCR-MW65-101317	Water	10/13/17 09:27	10/14/17 10:01
550-91513-9	FC-CCR-FD02-101317	Water	10/13/17 09:27	10/14/17 10:01
550-91513-10	FC-CCR-MW66-101317	Water	10/13/17 09:58	10/14/17 10:01
550-91513-11	FC-CCR-MW67-101317	Water	10/13/17 15:31	10/14/17 10:01
550-91513-12	FC-CCR-MW68-101317	Water	10/13/17 15:06	10/14/17 10:01
550-91513-13	FC-CCR-MW69-101317	Water	10/13/17 14:30	10/14/17 10:01
550-91513-14	FC-CCR-MW70-101317	Water	10/13/17 12:13	10/14/17 10:01
550-91513-15	FC-CCR-MW71-101317	Water	10/13/17 13:47	10/14/17 10:01
550-91513-16	FC-CCR-MW72-101317	Water	10/13/17 13:09	10/14/17 10:01
550-91513-17	FC-CCR-MW73-101217	Water	10/12/17 10:53	10/14/17 10:01
550-91513-18	FC-CCR-FD01-101217	Water	10/12/17 10:53	10/14/17 10:01
550-91513-19	FC-CCR-MW74-101117	Water	10/11/17 13:58	10/14/17 10:01
550-91513-20	FC-CCR-MW75-101217	Water	10/12/17 14:41	10/14/17 10:01

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-101217 — Lab Sample ID: 550-91513-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	7100	D2	400	mg/L	200		300.0	Total/NA
Boron	7.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	390	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	550	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	34		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	M3	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	510		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-101217 — Lab Sample ID: 550-91513-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	490	D2	20	mg/L	10		300.0	Total/NA
Sulfate	16000	D2	1000	mg/L	500		300.0	Total/NA
Boron	3.1		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	370		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	790		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	62		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4900	D2	2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	710		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	710		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	9.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW60-101217 — Lab Sample ID: 550-91513-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	480	D2	200	mg/L	100		300.0	Total/NA
Fluoride	7.0	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	5100	D2	200	mg/L	100		300.0	Total/NA
Boron	64		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	480		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	1100		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	8300	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW61-101217 — Lab Sample ID: 550-91513-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	320		100	mg/L	50		300.0	Total/NA
Fluoride	1.2		0.40	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW61-101217 (Continued) — Lab Sample ID: 550-91513-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	3500	D2	100	mg/L	50		300.0	Total/NA
Boron	38		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	19		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1000		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	90		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	76		6.0	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	14		6.0	mg/L	1		SM 2320B	Total/NA
Alkalinity, Phenolphthalein	7.0		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5600	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW62-101317 — Lab Sample ID: 550-91513-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	130		100	mg/L	50		300.0	Total/NA
Fluoride	1.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	3300	D2	100	mg/L	50		300.0	Total/NA
Boron	2.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	340		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	10		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	680		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	850		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	850		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5600	D2	100	mg/L	1		SM 2540C	Total/NA
pH	6.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-101317 — Lab Sample ID: 550-91513-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	90		2.0	mg/L	1		300.0	Total/NA
Fluoride	2.0		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	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	340		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	4300	D2	40	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-101317 — Lab Sample ID: 550-91513-7

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW64-101317 (Continued) — Lab Sample ID: 550-91513-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	52		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.4		0.40	mg/L	1		300.0	Total/NA
Sulfate	360	D2	100	mg/L	50		300.0	Total/NA
Boron	0.62		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	82		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	33		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	120		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	790		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	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-MW65-101317 — Lab Sample ID: 550-91513-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	52		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.9		0.40	mg/L	1		300.0	Total/NA
Sulfate	400	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	92		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	54		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.6		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	130		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	330		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	330		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	960		20	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-101317 — Lab Sample ID: 550-91513-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	52		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.9		0.40	mg/L	1		300.0	Total/NA
Sulfate	400	D2	40	mg/L	20		300.0	Total/NA
Boron	0.76		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	93		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	55		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.5		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	140		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	330		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	330		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	980		20	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW66-101317 — Lab Sample ID: 550-91513-10

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW66-101317 (Continued) — Lab Sample ID: 550-91513-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	400	mg/L	200		300.0	Total/NA
Fluoride	26	D2	2.0	mg/L	5		300.0	Total/NA
Sulfate	13000	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	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2600	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	45		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	700		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	270		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	270		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	18000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-101317 — Lab Sample ID: 550-91513-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	mg/L	200		300.0	Total/NA
Fluoride	25	D2	2.0	mg/L	5		300.0	Total/NA
Sulfate	14000	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	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2900	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	39		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	380		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	380		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	21000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-101317 — Lab Sample ID: 550-91513-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	mg/L	200		300.0	Total/NA
Fluoride	10	D2	2.0	mg/L	5		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Boron	140	D2	0.20	mg/L	4		200.7 Rev 4.4	Total/NA
Calcium	450		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2200	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	650		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	550		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	550		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	17000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-101317 — Lab Sample ID: 550-91513-13

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW69-101317 (Continued) — Lab Sample ID: 550-91513-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	400	mg/L	200		300.0	Total/NA
Fluoride	20	D2	2.0	mg/L	5		300.0	Total/NA
Sulfate	13000	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	430		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2600	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	43		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	720		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	360		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	360		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-101317 — Lab Sample ID: 550-91513-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400	mg/L	200		300.0	Total/NA
Fluoride	1.0	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	6600	D2	400	mg/L	200		300.0	Total/NA
Boron	97	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	1200	D2	4.0	mg/L	2		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	810		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	7.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW71-101317 — Lab Sample ID: 550-91513-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	570	D2	400	mg/L	200		300.0	Total/NA
Sulfate	10000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.54		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1700	D2	4.0	mg/L	2		200.7 Rev 4.4	Total/NA
Potassium	26		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1000		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	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	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-101317 — Lab Sample ID: 550-91513-16

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW72-101317 (Continued) — Lab Sample ID: 550-91513-16

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	0.22		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2300	D2	10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	28		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	740		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	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-101217 — Lab Sample ID: 550-91513-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	310	D2	40	mg/L	20		300.0	Total/NA
Sulfate	3900	D2	400	mg/L	200		300.0	Total/NA
Boron	2.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	440		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	600		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	480		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	480		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6600	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD01-101217 — Lab Sample ID: 550-91513-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300	D2	4.0	mg/L	2		300.0	Total/NA
Sulfate	3700	D2	400	mg/L	200		300.0	Total/NA
Boron	2.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	510		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	430		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	590		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	480		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	480		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6600	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW74-101117 — Lab Sample ID: 550-91513-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	490	D2	200	mg/L	100		300.0	Total/NA
Fluoride	2.1	D1	0.80	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW74-101117 (Continued) — Lab Sample ID: 550-91513-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	13000	D2	400	mg/L	200		300.0	Total/NA
Boron	1.3		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	380		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1000	D2	4.0	mg/L	2		200.7 Rev 4.4	Total/NA
Potassium	22		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2900	D2	1.0	mg/L	2		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	390		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	390		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	18000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW75-101217 — Lab Sample ID: 550-91513-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	310	D2	10	mg/L	5		300.0	Total/NA
Sulfate	4400	D2	400	mg/L	200		300.0	Total/NA
Boron	24		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	220		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	21		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1200		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	96		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	96		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6600	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-101217

Lab Sample ID: 550-91513-1
Date Collected: 10/12/17 15:23
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		400	mg/L			11/02/17 17:46	200
Fluoride	ND	D1 D5	0.80	mg/L			11/02/17 16:51	2
Sulfate	**7100**	**D2**	400	mg/L			11/02/17 17:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**7.2**		0.050	mg/L		10/17/17 05:53	10/23/17 21:15	1
Calcium	**390**	**M3**	2.0	mg/L		10/17/17 05:53	10/23/17 21:15	1
Magnesium	**550**	**M3**	2.0	mg/L		10/17/17 05:53	10/23/17 21:15	1
Potassium	**34**		0.50	mg/L		10/17/17 05:53	10/23/17 21:15	1
Sodium	**1600**	**M3**	0.50	mg/L		10/17/17 05:53	10/23/17 21:15	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**510**		6.0	mg/L			10/18/17 14:28	1
Bicarbonate Alkalinity as CaCO3	**510**		6.0	mg/L			10/18/17 14:28	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 14:28	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 14:28	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 14:28	1
Total Dissolved Solids	**10000**	**D2**	100	mg/L			10/16/17 08:55	1
pH	**7.6**	**H5**	1.7	SU			10/19/17 12:08	1
Temperature	**12.9**	**H5**	0.1	Degrees C			10/19/17 12:08	1

Client Sample ID: FC-CCR-MW49A-101217

Lab Sample ID: 550-91513-2
Date Collected: 10/12/17 16:16
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**490**	**D2**	20	mg/L			10/31/17 16:50	10
Fluoride	ND	D1 D5	4.0	mg/L			10/31/17 16:50	10
Sulfate	**16000**	**D2**	1000	mg/L			10/31/17 17:08	500

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**3.1**		0.050	mg/L		10/17/17 05:53	10/23/17 21:21	1
Calcium	**370**		2.0	mg/L		10/17/17 05:53	10/23/17 21:21	1
Magnesium	**790**		2.0	mg/L		10/17/17 05:53	10/23/17 21:21	1
Potassium	**62**		0.50	mg/L		10/17/17 05:53	10/23/17 21:21	1
Sodium	**4900**	**D2**	2.5	mg/L		10/17/17 05:53	10/30/17 03:19	5

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**710**		6.0	mg/L			10/18/17 14:50	1
Bicarbonate Alkalinity as CaCO3	**710**		6.0	mg/L			10/18/17 14:50	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 14:50	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 14:50	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 14:50	1
Total Dissolved Solids	**22000**	**D2**	200	mg/L			10/16/17 08:55	1
pH	**7.4**	**H5**	1.7	SU			10/19/17 12:08	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW49A-101217 — Lab Sample ID: 550-91513-2

Date Collected: 10/12/17 16:16 — **Matrix: Water**
Date Received: 10/14/17 10:01

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	9.7	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample ID: FC-CCR-MW60-101217 — Lab Sample ID: 550-91513-3

Date Collected: 10/12/17 12:35 — **Matrix: Water**
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	480	D2	200	mg/L			11/01/17 21:24	100
Fluoride	7.0	D1	0.80	mg/L			11/01/17 21:05	2
Sulfate	5100	D2	200	mg/L			11/02/17 21:49	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	64		0.050	mg/L		10/17/17 05:53	10/23/17 21:27	1
Calcium	440		2.0	mg/L		10/17/17 05:53	10/23/17 21:27	1
Magnesium	480		2.0	mg/L		10/17/17 05:53	10/23/17 21:27	1
Potassium	26		0.50	mg/L		10/17/17 05:53	10/23/17 21:27	1
Sodium	1100		0.50	mg/L		10/17/17 05:53	10/23/17 21:27	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	130		6.0	mg/L			10/18/17 14:58	1
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L			10/18/17 14:58	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 14:58	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 14:58	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 14:58	1
Total Dissolved Solids	8300	D2	100	mg/L			10/16/17 08:55	1
pH	7.5	H5	1.7	SU			10/19/17 12:08	1
Temperature	15.2	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample ID: FC-CCR-MW61-101217 — Lab Sample ID: 550-91513-4

Date Collected: 10/12/17 13:28 — **Matrix: Water**
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	320		100	mg/L			11/01/17 22:01	50
Fluoride	1.2		0.40	mg/L			11/01/17 21:42	1
Sulfate	3500	D2	100	mg/L			11/02/17 22:07	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	38		0.050	mg/L		10/17/17 05:53	10/23/17 21:33	1
Calcium	470		2.0	mg/L		10/17/17 05:53	10/23/17 21:33	1
Magnesium	120		2.0	mg/L		10/17/17 05:53	10/23/17 21:33	1
Potassium	19		0.50	mg/L		10/17/17 05:53	10/23/17 21:33	1
Sodium	1000		0.50	mg/L		10/17/17 05:53	10/23/17 21:33	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW61-101217

Lab Sample ID: 550-91513-4
Date Collected: 10/12/17 13:28
Matrix: Water
Date Received: 10/14/17 10:01

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	90		6.0	mg/L			10/18/17 15:06	1
Bicarbonate Alkalinity as CaCO3	76		6.0	mg/L			10/18/17 15:06	1
Carbonate Alkalinity as CaCO3	14		6.0	mg/L			10/18/17 15:06	1
Alkalinity, Phenolphthalein	7.0		6.0	mg/L			10/18/17 15:06	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 15:06	1
Total Dissolved Solids	5600	D2	100	mg/L			10/16/17 08:55	1
pH	8.6	H5	1.7	SU			10/19/17 12:08	1
Temperature	15.0	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample ID: FC-CCR-MW62-101317

Lab Sample ID: 550-91513-5
Date Collected: 10/13/17 10:24
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130		100	mg/L			11/01/17 22:38	50
Fluoride	1.5		0.40	mg/L			11/01/17 22:19	1
Sulfate	3300	D2	100	mg/L			11/03/17 19:44	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.050	mg/L		10/17/17 05:53	10/23/17 21:38	1
Calcium	520		2.0	mg/L		10/17/17 05:53	10/23/17 21:38	1
Magnesium	340		2.0	mg/L		10/17/17 05:53	10/23/17 21:38	1
Potassium	10		0.50	mg/L		10/17/17 05:53	10/23/17 21:38	1
Sodium	680		0.50	mg/L		10/17/17 05:53	10/23/17 21:38	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	850		6.0	mg/L			10/23/17 07:05	1
Bicarbonate Alkalinity as CaCO3	850		6.0	mg/L			10/23/17 07:05	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/23/17 07:05	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/23/17 07:05	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/23/17 07:05	1
Total Dissolved Solids	5600	D2	100	mg/L			10/16/17 12:17	1
pH	6.8	H5	1.7	SU			10/19/17 12:08	1
Temperature	15.2	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample ID: FC-CCR-MW63-101317

Lab Sample ID: 550-91513-6
Date Collected: 10/13/17 11:05
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	90		2.0	mg/L			11/01/17 23:33	1
Fluoride	2.0		0.40	mg/L			11/01/17 23:33	1
Sulfate	2700	D2	100	mg/L			11/01/17 23:51	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		10/17/17 05:53	10/23/17 21:44	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW63-101317

Lab Sample ID: 550-91513-6
Date Collected: 10/13/17 11:05
Matrix: Water
Date Received: 10/14/17 10:01

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	500		2.0	mg/L		10/17/17 05:53	10/23/17 21:44	1
Magnesium	250		2.0	mg/L		10/17/17 05:53	10/23/17 21:44	1
Potassium	6.7		0.50	mg/L		10/17/17 05:53	10/23/17 21:44	1
Sodium	340		0.50	mg/L		10/17/17 05:53	10/23/17 21:44	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	490		6.0	mg/L			10/18/17 16:09	1
Bicarbonate Alkalinity as CaCO3	490		6.0	mg/L			10/18/17 16:09	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:09	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 16:09	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:09	1
Total Dissolved Solids	4300	D2	40	mg/L			10/16/17 12:17	1
pH	7.1	H5	1.7	SU			10/19/17 12:08	1
Temperature	15.2	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample ID: FC-CCR-MW64-101317

Lab Sample ID: 550-91513-7
Date Collected: 10/13/17 11:51
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52		2.0	mg/L			11/02/17 00:10	1
Fluoride	1.4		0.40	mg/L			11/02/17 00:10	1
Sulfate	360	D2	100	mg/L			11/02/17 00:28	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.62		0.050	mg/L		10/17/17 05:53	10/23/17 21:50	1
Calcium	82		2.0	mg/L		10/17/17 05:53	10/23/17 21:50	1
Magnesium	33		2.0	mg/L		10/17/17 05:53	10/23/17 21:50	1
Potassium	5.7		0.50	mg/L		10/17/17 05:53	10/23/17 21:50	1
Sodium	120		0.50	mg/L		10/17/17 05:53	10/23/17 21:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	230		6.0	mg/L			10/18/17 16:18	1
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L			10/18/17 16:18	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:18	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 16:18	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:18	1
Total Dissolved Solids	790		20	mg/L			10/16/17 12:17	1
pH	7.7	H5	1.7	SU			10/19/17 12:08	1
Temperature	15.3	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW65-101317

Lab Sample ID: 550-91513-8
Date Collected: 10/13/17 09:27
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52		2.0	mg/L			11/02/17 00:46	1
Fluoride	1.9		0.40	mg/L			11/02/17 00:46	1
Sulfate	400	D2	40	mg/L			11/02/17 01:05	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		10/17/17 05:53	10/23/17 21:53	1
Calcium	92		2.0	mg/L		10/17/17 05:53	10/23/17 21:53	1
Magnesium	54		2.0	mg/L		10/17/17 05:53	10/23/17 21:53	1
Potassium	3.6		0.50	mg/L		10/17/17 05:53	10/23/17 21:53	1
Sodium	130		0.50	mg/L		10/17/17 05:53	10/23/17 21:53	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	330		6.0	mg/L			10/18/17 16:27	1
Bicarbonate Alkalinity as CaCO3	330		6.0	mg/L			10/18/17 16:27	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:27	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 16:27	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:27	1
Total Dissolved Solids	960		20	mg/L			10/16/17 12:17	1
pH	7.6	H5	1.7	SU			10/19/17 12:08	1
Temperature	15.0	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample ID: FC-CCR-FD02-101317

Lab Sample ID: 550-91513-9
Date Collected: 10/13/17 09:27
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52		2.0	mg/L			11/02/17 01:23	1
Fluoride	1.9		0.40	mg/L			11/02/17 01:23	1
Sulfate	400	D2	40	mg/L			11/02/17 01:42	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.76		0.050	mg/L		10/17/17 05:53	10/23/17 21:56	1
Calcium	93		2.0	mg/L		10/17/17 05:53	10/23/17 21:56	1
Magnesium	55		2.0	mg/L		10/17/17 05:53	10/23/17 21:56	1
Potassium	3.5		0.50	mg/L		10/17/17 05:53	10/23/17 21:56	1
Sodium	140		0.50	mg/L		10/17/17 05:53	10/23/17 21:56	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	330		6.0	mg/L			10/18/17 16:37	1
Bicarbonate Alkalinity as CaCO3	330		6.0	mg/L			10/18/17 16:37	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:37	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 16:37	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:37	1
Total Dissolved Solids	980		20	mg/L			10/16/17 12:17	1
pH	7.6	H5	1.7	SU			10/19/17 12:08	1
Temperature	16.1	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW66-101317

Lab Sample ID: 550-91513-10
Date Collected: 10/13/17 09:58
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000	D2	400	mg/L			11/02/17 02:18	200
Fluoride	26	D2	2.0	mg/L			11/02/17 02:00	5
Sulfate	13000	D2	400	mg/L			11/02/17 02:18	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		10/17/17 05:53	11/03/17 16:53	4
Calcium	440		2.0	mg/L		10/17/17 05:53	10/23/17 21:58	1
Magnesium	2600	D2	10	mg/L		10/17/17 05:53	10/30/17 04:08	5
Potassium	45		0.50	mg/L		10/17/17 05:53	10/23/17 21:58	1
Sodium	700		0.50	mg/L		10/17/17 05:53	10/23/17 21:58	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	270		6.0	mg/L			10/18/17 16:46	1
Bicarbonate Alkalinity as CaCO3	270		6.0	mg/L			10/18/17 16:46	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:46	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 16:46	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:46	1
Total Dissolved Solids	18000	D2	200	mg/L			10/16/17 12:17	1
pH	7.3	H5	1.7	SU			10/19/17 12:08	1
Temperature	7.4	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample ID: FC-CCR-MW67-101317

Lab Sample ID: 550-91513-11
Date Collected: 10/13/17 15:31
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	mg/L			11/02/17 03:32	200
Fluoride	25	D2	2.0	mg/L			11/02/17 03:14	5
Sulfate	14000	D2	400	mg/L			11/02/17 03:32	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		10/17/17 05:53	11/03/17 16:59	4
Calcium	460		2.0	mg/L		10/17/17 05:53	10/23/17 22:10	1
Magnesium	2900	D2	10	mg/L		10/17/17 05:53	10/30/17 04:20	5
Potassium	39		0.50	mg/L		10/17/17 05:53	10/23/17 22:10	1
Sodium	770		0.50	mg/L		10/17/17 05:53	10/23/17 22:10	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	380		6.0	mg/L			10/18/17 16:55	1
Bicarbonate Alkalinity as CaCO3	380		6.0	mg/L			10/18/17 16:55	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:55	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 16:55	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 16:55	1
Total Dissolved Solids	21000	D2	200	mg/L			10/16/17 12:17	1
pH	7.1	H5	1.7	SU			10/19/17 12:08	1

Client Sample ID: FC-CCR-MW67-101317

Lab Sample ID: 550-91513-11
Date Collected: 10/13/17 15:31
Matrix: Water
Date Received: 10/14/17 10:01

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	6.6	H5	0.1	Degrees C			10/19/17 12:08	1

Client Sample ID: FC-CCR-MW68-101317

Lab Sample ID: 550-91513-12
Date Collected: 10/13/17 15:06
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	mg/L			11/02/17 04:09	200
Fluoride	10	D2	2.0	mg/L			11/02/17 03:50	5
Sulfate	11000	D2	400	mg/L			11/02/17 04:09	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140	D2	0.20	mg/L		10/17/17 05:53	11/03/17 17:05	4
Calcium	450		2.0	mg/L		10/17/17 05:53	10/23/17 22:16	1
Magnesium	2200	D2	10	mg/L		10/17/17 05:53	10/30/17 04:32	5
Potassium	18		0.50	mg/L		10/17/17 05:53	10/23/17 22:16	1
Sodium	650		0.50	mg/L		10/17/17 05:53	10/23/17 22:16	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	550		6.0	mg/L			10/18/17 17:06	1
Bicarbonate Alkalinity as CaCO3	550		6.0	mg/L			10/18/17 17:06	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:06	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 17:06	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:06	1
Total Dissolved Solids	17000	D2	100	mg/L			10/16/17 12:17	1
pH	7.1	H5	1.7	SU			10/19/17 14:30	1
Temperature	7.3	H5	0.1	Degrees C			10/19/17 14:30	1

Client Sample ID: FC-CCR-MW69-101317

Lab Sample ID: 550-91513-13
Date Collected: 10/13/17 14:30
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	400	mg/L			11/02/17 04:46	200
Fluoride	20	D2	2.0	mg/L			11/02/17 04:27	5
Sulfate	13000	D2	400	mg/L			11/02/17 04:46	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		10/17/17 05:53	11/03/17 17:11	4
Calcium	430		2.0	mg/L		10/17/17 05:53	10/23/17 22:22	1
Magnesium	2600	D2	10	mg/L		10/17/17 05:53	10/30/17 04:43	5
Potassium	43		0.50	mg/L		10/17/17 05:53	10/23/17 22:22	1
Sodium	720		0.50	mg/L		10/17/17 05:53	10/23/17 22:22	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW69-101317

Lab Sample ID: 550-91513-13
Date Collected: 10/13/17 14:30
Matrix: Water
Date Received: 10/14/17 10:01

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	360		6.0	mg/L			10/18/17 17:31	1
Bicarbonate Alkalinity as CaCO3	360		6.0	mg/L			10/18/17 17:31	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:31	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 17:31	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:31	1
Total Dissolved Solids	19000	D2	200	mg/L			10/16/17 12:17	1
pH	7.5	H5	1.7	SU			10/19/17 14:30	1
Temperature	7.0	H5	0.1	Degrees C			10/19/17 14:30	1

Client Sample ID: FC-CCR-MW70-101317

Lab Sample ID: 550-91513-14
Date Collected: 10/13/17 12:13
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200	D2	400	mg/L			11/02/17 05:22	200
Fluoride	1.0	D1	0.80	mg/L			11/02/17 05:04	2
Sulfate	6600	D2	400	mg/L			11/02/17 05:22	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	97	D2	0.20	mg/L		10/17/17 05:53	11/03/17 17:16	4
Calcium	490		2.0	mg/L		10/17/17 05:53	10/23/17 22:28	1
Magnesium	1200	D2	4.0	mg/L		10/17/17 05:53	10/30/17 04:55	2
Potassium	18		0.50	mg/L		10/17/17 05:53	10/23/17 22:28	1
Sodium	810		0.50	mg/L		10/17/17 05:53	10/23/17 22:28	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	510		6.0	mg/L			10/18/17 17:51	1
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L			10/18/17 17:51	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:51	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 17:51	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:51	1
Total Dissolved Solids	12000	D2	100	mg/L			10/16/17 12:17	1
pH	7.1	H5	1.7	SU			10/19/17 14:30	1
Temperature	7.0	H5	0.1	Degrees C			10/19/17 14:30	1

Client Sample ID: FC-CCR-MW71-101317

Lab Sample ID: 550-91513-15
Date Collected: 10/13/17 13:47
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570	D2	400	mg/L			11/02/17 05:59	200
Fluoride	ND	D1 D5	2.0	mg/L			11/02/17 05:41	5
Sulfate	10000	D2	400	mg/L			11/02/17 05:59	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.54		0.050	mg/L		10/17/17 05:53	10/23/17 22:34	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW71-101317

Lab Sample ID: 550-91513-15
Date Collected: 10/13/17 13:47
Matrix: Water
Date Received: 10/14/17 10:01

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	420		2.0	mg/L		10/17/17 05:53	10/23/17 22:34	1
Magnesium	1700	D2	4.0	mg/L		10/17/17 05:53	10/30/17 05:13	2
Potassium	26		0.50	mg/L		10/17/17 05:53	10/23/17 22:34	1
Sodium	1000		0.50	mg/L		10/17/17 05:53	10/23/17 22:34	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	430		6.0	mg/L			10/18/17 18:00	1
Bicarbonate Alkalinity as CaCO3	430		6.0	mg/L			10/18/17 18:00	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:00	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 18:00	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:00	1
Total Dissolved Solids	15000	D2	100	mg/L			10/16/17 12:17	1
pH	7.2	H5	1.7	SU			10/19/17 14:30	1
Temperature	8.1	H5	0.1	Degrees C			10/19/17 14:30	1

Client Sample ID: FC-CCR-MW72-101317

Lab Sample ID: 550-91513-16
Date Collected: 10/13/17 13:09
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450	D2	10	mg/L			11/02/17 06:54	5
Fluoride	ND	D1 D5	2.0	mg/L			11/02/17 06:54	5
Sulfate	11000	D2	400	mg/L			11/02/17 07:13	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.22		0.050	mg/L		10/17/17 05:53	10/23/17 22:40	1
Calcium	430		2.0	mg/L		10/17/17 05:53	10/23/17 22:40	1
Magnesium	2300	D2	10	mg/L		10/17/17 05:53	10/30/17 20:38	5
Potassium	28		0.50	mg/L		10/17/17 05:53	10/23/17 22:40	1
Sodium	740		0.50	mg/L		10/17/17 05:53	10/23/17 22:40	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	610		6.0	mg/L			10/18/17 18:12	1
Bicarbonate Alkalinity as CaCO3	610		6.0	mg/L			10/18/17 18:12	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:12	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 18:12	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:12	1
Total Dissolved Solids	16000	D2	100	mg/L			10/16/17 12:17	1
pH	7.2	H5	1.7	SU			10/19/17 14:30	1
Temperature	7.7	H5	0.1	Degrees C			10/19/17 14:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW73-101217

Lab Sample ID: 550-91513-17
Date Collected: 10/12/17 10:53
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310	D2	40	mg/L			11/02/17 22:44	20
Fluoride	ND	D1 D5	0.80	mg/L			11/02/17 07:31	2
Sulfate	3900	D2	400	mg/L			11/02/17 07:50	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.050	mg/L		10/17/17 05:53	10/23/17 22:46	1
Calcium	510		2.0	mg/L		10/17/17 05:53	10/23/17 22:46	1
Magnesium	440		2.0	mg/L		10/17/17 05:53	10/23/17 22:46	1
Potassium	20		0.50	mg/L		10/17/17 05:53	10/23/17 22:46	1
Sodium	600		0.50	mg/L		10/17/17 05:53	10/23/17 22:46	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	480		6.0	mg/L			10/18/17 18:22	1
Bicarbonate Alkalinity as CaCO3	480		6.0	mg/L			10/18/17 18:22	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:22	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 18:22	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:22	1
Total Dissolved Solids	6600	D2	100	mg/L			10/16/17 08:55	1
pH	7.3	H5	1.7	SU			10/19/17 14:30	1
Temperature	8.3	H5	0.1	Degrees C			10/19/17 14:30	1

Client Sample ID: FC-CCR-FD01-101217

Lab Sample ID: 550-91513-18
Date Collected: 10/12/17 10:53
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300	D2	4.0	mg/L			11/02/17 04:56	2
Fluoride	ND	D1 D5	0.80	mg/L			11/02/17 04:56	2
Sulfate	3700	D2	400	mg/L			11/02/17 05:23	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.050	mg/L		10/17/17 05:53	10/23/17 22:51	1
Calcium	510		2.0	mg/L		10/17/17 05:53	10/23/17 22:51	1
Magnesium	430		2.0	mg/L		10/17/17 05:53	10/23/17 22:51	1
Potassium	20		0.50	mg/L		10/17/17 05:53	10/23/17 22:51	1
Sodium	590		0.50	mg/L		10/17/17 05:53	10/23/17 22:51	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	480		6.0	mg/L			10/18/17 18:32	1
Bicarbonate Alkalinity as CaCO3	480		6.0	mg/L			10/18/17 18:32	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:32	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 18:32	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:32	1
Total Dissolved Solids	6600	D2	100	mg/L			10/16/17 08:55	1
pH	7.1	H5	1.7	SU			10/19/17 14:30	1
Temperature	9.1	H5	0.1	Degrees C			10/19/17 14:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW74-101117

Lab Sample ID: 550-91513-19

Date Collected: 10/11/17 13:58
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	490	D2	200	mg/L			11/02/17 06:18	100
Fluoride	2.1	D1	0.80	mg/L			11/02/17 05:50	2
Sulfate	13000	D2	400	mg/L			11/02/17 06:45	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.3		0.050	mg/L		10/17/17 05:53	10/23/17 22:57	1
Calcium	380		2.0	mg/L		10/17/17 05:53	10/23/17 22:57	1
Magnesium	1000	D2	4.0	mg/L		10/17/17 05:53	10/30/17 05:47	2
Potassium	22		0.50	mg/L		10/17/17 05:53	10/23/17 22:57	1
Sodium	2900	D2	1.0	mg/L		10/17/17 05:53	10/30/17 05:47	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	390		6.0	mg/L			10/18/17 18:42	1
Bicarbonate Alkalinity as CaCO3	390		6.0	mg/L			10/18/17 18:42	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:42	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 18:42	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:42	1
Total Dissolved Solids	18000	D2	200	mg/L			10/16/17 08:55	1
pH	7.8	H5	1.7	SU			10/19/17 14:30	1
Temperature	8.7	H5	0.1	Degrees C			10/19/17 14:30	1

Client Sample ID: FC-CCR-MW75-101217

Lab Sample ID: 550-91513-20

Date Collected: 10/12/17 14:41
Matrix: Water
Date Received: 10/14/17 10:01

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310	D2	10	mg/L			11/02/17 07:13	5
Fluoride	ND	D1 D5	2.0	mg/L			11/02/17 07:13	5
Sulfate	4400	D2	400	mg/L			11/02/17 07:40	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	24		0.050	mg/L		10/17/17 05:53	10/23/17 23:03	1
Calcium	430		2.0	mg/L		10/17/17 05:53	10/23/17 23:03	1
Magnesium	220		2.0	mg/L		10/17/17 05:53	10/23/17 23:03	1
Potassium	21		0.50	mg/L		10/17/17 05:53	10/23/17 23:03	1
Sodium	1200		0.50	mg/L		10/17/17 05:53	10/23/17 23:03	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	96		6.0	mg/L			10/18/17 18:49	1
Bicarbonate Alkalinity as CaCO3	96		6.0	mg/L			10/18/17 18:49	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:49	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 18:49	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 18:49	1
Total Dissolved Solids	6600	D2	100	mg/L			10/16/17 12:17	1
pH	8.4	H5	1.7	SU			10/19/17 14:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW75-101217

Lab Sample ID: 550-91513-20

Date Collected: 10/12/17 14:41
Matrix: Water
Date Received: 10/14/17 10:01

General Chemistry (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature	7.7	H5	0.1		Degrees C			10/19/17 14:30	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-131383/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131383

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/31/17 02:25	1
Fluoride	ND		0.40	mg/L			10/31/17 02:25	1
Sulfate	ND		2.0	mg/L			10/31/17 02:25	1

Lab Sample ID: LCS 550-131383/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.7		mg/L		99	90 - 110
Fluoride	4.00	3.92		mg/L		98	90 - 110
Sulfate	20.0	19.5		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-131383/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131383

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	19.8		mg/L		99	90 - 110	0	20
Fluoride	4.00	3.90		mg/L		97	90 - 110	0	20
Sulfate	20.0	19.5		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-91108-A-1 MS ^100 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131383

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6700		2000	8520		mg/L		91	80 - 120
Fluoride	ND		400	432		mg/L		107	80 - 120
Sulfate	4000		2000	6130		mg/L		104	80 - 120

Lab Sample ID: 550-91108-A-1 MSD ^100 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6700		2000	8440		mg/L		87	80 - 120	1	20
Fluoride	ND		400	419		mg/L		103	80 - 120	3	20
Sulfate	4000		2000	6050		mg/L		100	80 - 120	1	20

Lab Sample ID: MB 550-131532/60 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131532

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			11/02/17 10:27	1
Fluoride	ND		0.40	mg/L			11/02/17 10:27	1
Sulfate	ND		2.0	mg/L			11/02/17 10:27	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-131532/62 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131532

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.1		mg/L		106	90 - 110
Fluoride	4.00	4.12		mg/L		103	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-131532/63 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131532

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.1		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.12		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: MB 550-131568/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131568

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			11/01/17 15:41	1
Fluoride	ND		0.40	mg/L			11/01/17 15:41	1
Sulfate	ND		2.0	mg/L			11/01/17 15:41	1

Lab Sample ID: LCS 550-131568/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.25		mg/L		106	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-131568/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131568

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.25		mg/L		106	90 - 110	0	20
Sulfate	20.0	20.3		mg/L		102	90 - 110	0	20

Lab Sample ID: MB 550-131634/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131634

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			11/02/17 14:42	1
Fluoride	ND		0.40	mg/L			11/02/17 14:42	1
Sulfate	ND		2.0	mg/L			11/02/17 14:42	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-131634/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131634

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.2		mg/L		106	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-131634/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131634

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.14		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-91513-1 MS — **Client Sample ID: FC-CCR-MW7-101217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131634

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND	D1 D5	8.00	8.39	D1	mg/L		101	80 - 120

Lab Sample ID: 550-91513-1 MS — **Client Sample ID: FC-CCR-MW7-101217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131634

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	ND		4000	4740	D1	mg/L		109	80 - 120
Sulfate	7100	D2	4000	10900	D2	mg/L		95	80 - 120

Lab Sample ID: 550-91513-1 MSD — **Client Sample ID: FC-CCR-MW7-101217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131634

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND	D1 D5	8.00	8.40	D1	mg/L		101	80 - 120	0	20

Lab Sample ID: 550-91513-1 MSD — **Client Sample ID: FC-CCR-MW7-101217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131634

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		4000	4730	D1	mg/L		109	80 - 120	0	20
Sulfate	7100	D2	4000	10800	D2	mg/L		94	80 - 120	1	20

Lab Sample ID: MB 550-131712/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 131712

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			11/03/17 16:59	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-131712/2
Matrix: Water
Analysis Batch: 131712

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40	mg/L			11/03/17 16:59	1
Sulfate	ND		2.0	mg/L			11/03/17 16:59	1

Lab Sample ID: LCS 550-131712/5
Matrix: Water
Analysis Batch: 131712

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.1		mg/L		105	90 - 110
Fluoride	4.00	4.11		mg/L		103	90 - 110
Sulfate	20.0	20.3		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-131712/6
Matrix: Water
Analysis Batch: 131712

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.10		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-91677-A-1 DU
Matrix: Water
Analysis Batch: 131712

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	3.6		3.57		mg/L		0.4	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-130097/1-A
Matrix: Water
Analysis Batch: 130717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 130097

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		10/17/17 05:53	10/23/17 20:55	1
Calcium	ND		2.0	mg/L		10/17/17 05:53	10/23/17 20:55	1
Magnesium	ND		2.0	mg/L		10/17/17 05:53	10/23/17 20:55	1
Potassium	ND		0.50	mg/L		10/17/17 05:53	10/23/17 20:55	1
Sodium	ND		0.50	mg/L		10/17/17 05:53	10/23/17 20:55	1

Lab Sample ID: LCS 550-130097/2-A
Matrix: Water
Analysis Batch: 130717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 130097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.930		mg/L		93	85 - 115
Calcium	21.0	20.1		mg/L		96	85 - 115
Magnesium	21.0	20.2		mg/L		96	85 - 115

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

Lab Sample ID: LCS 550-130097/2-A
Matrix: Water
Analysis Batch: 130717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 130097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	20.0	19.0		mg/L		95	85 - 115
Sodium	20.0	18.9		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-130097/3-A
Matrix: Water
Analysis Batch: 130717

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 130097

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.952		mg/L		95	85 - 115	2	20
Calcium	21.0	20.3		mg/L		97	85 - 115	1	20
Magnesium	21.0	20.2		mg/L		96	85 - 115	0	20
Potassium	20.0	19.1		mg/L		96	85 - 115	0	20
Sodium	20.0	18.8		mg/L		94	85 - 115	0	20

Lab Sample ID: 550-91513-1 MS
Matrix: Water
Analysis Batch: 130717

Client Sample ID: FC-CCR-MW7-101217
Prep Type: Total/NA
Prep Batch: 130097

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	7.2		1.00	7.96	M3	mg/L		79	70 - 130
Calcium	390	M3	21.0	389	M3	mg/L		11	70 - 130
Magnesium	550	M3	21.0	542	M3	mg/L		-46	70 - 130
Potassium	34		20.0	52.8		mg/L		96	70 - 130
Sodium	1600	M3	20.0	1550	M3	mg/L		-238	70 - 130

Lab Sample ID: 550-91513-1 MSD
Matrix: Water
Analysis Batch: 130717

Client Sample ID: FC-CCR-MW7-101217
Prep Type: Total/NA
Prep Batch: 130097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	7.2		1.00	8.06	M3	mg/L		89	70 - 130	1	20
Calcium	390	M3	21.0	401	M3	mg/L		70	70 - 130	3	20
Magnesium	550	M3	21.0	552	M3	mg/L		1	70 - 130	2	20
Potassium	34		20.0	54.1		mg/L		102	70 - 130	2	20
Sodium	1600	M3	20.0	1550	M3	mg/L		-222	70 - 130	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-130309/35
Matrix: Water
Analysis Batch: 130309

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:21	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:21	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:21	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 17:21	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 17:21	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-130309/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130309

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 13:13	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 13:13	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 13:13	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/17 13:13	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/17 13:13	1

Lab Sample ID: LCS 550-130309/34 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130309

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	260		mg/L		104	90 - 110

Lab Sample ID: LCS 550-130309/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130309

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	256		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-130309/20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130309

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	258		mg/L		103	90 - 110	1	20

Lab Sample ID: LCSD 550-130309/48 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130309

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	261		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-91452-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130309

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	15		15.4		mg/L		0.6	20
Bicarbonate Alkalinity as CaCO3	15		15.4		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

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-91513-1 DU — **Client Sample ID: FC-CCR-MW7-101217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130309

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	510			506		mg/L				0.5	20
Bicarbonate Alkalinity as CaCO3	510			506		mg/L				0.5	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: 550-91513-13 DU — **Client Sample ID: FC-CCR-MW69-101317**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130309

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	360			362		mg/L				0.1	20
Bicarbonate Alkalinity as CaCO3	360			362		mg/L				0.1	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Lab Sample ID: MB 550-130588/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130588

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			10/23/17 07:05	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			10/23/17 07:05	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			10/23/17 07:05	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			10/23/17 07:05	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			10/23/17 07:05	1

Lab Sample ID: LCS 550-130588/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130588

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			250	254		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-130588/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130588

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	2	20

Lab Sample ID: 550-91513-5 DU — **Client Sample ID: FC-CCR-MW62-101317**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130589

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	850			850		mg/L				0	20
Bicarbonate Alkalinity as CaCO3	850			850		mg/L				0	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-91513-5 DU — **Client Sample ID: FC-CCR-MW62-101317**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130589

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
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 550-129981/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 129981

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			10/16/17 08:55	1

Lab Sample ID: LCS 550-129981/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 129981

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 550-129981/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 129981

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	976		mg/L		98	90 - 110	0	10

Lab Sample ID: 550-91455-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 129981

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1330		mg/L				1	10

Lab Sample ID: 550-91513-1 DU — **Client Sample ID: FC-CCR-MW7-101217**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 129981

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		9940	D2	mg/L				1	10

Lab Sample ID: MB 550-130028/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130028

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			10/16/17 12:17	1

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

Lab Sample ID: LCS 550-130028/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130028

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

Lab Sample ID: LCSD 550-130028/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130028

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	976		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-91373-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130028

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1500			1480		mg/L				0.5	10

Lab Sample ID: 550-91513-9 DU — **Client Sample ID: FC-CCR-FD02-101317**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130028

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	980			994		mg/L				2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-130351/37 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130351

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.6	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-130351/48 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130351

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

Lab Sample ID: LCSSRM 550-130351/58 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 130351

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 550-130351/68
Matrix: Water
Analysis Batch: 130351

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0	H5	SU		100.1	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-130351/74
Matrix: Water
Analysis Batch: 130351

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

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

Lab Sample ID: 550-91513-1 DU
Matrix: Water
Analysis Batch: 130351

Client Sample ID: FC-CCR-MW7-101217
Prep Type: Total/NA

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	12.9	H5		12.7	H5	Degrees C				2	

Lab Sample ID: 550-91513-9 DU
Matrix: Water
Analysis Batch: 130351

Client Sample ID: FC-CCR-FD02-101317
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.6	H5	SU				0	5
Temperature	16.1	H5		16.2	H5	Degrees C				0.6	

Lab Sample ID: 550-91513-17 DU
Matrix: Water
Analysis Batch: 130351

Client Sample ID: FC-CCR-MW73-101217
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.3	H5		7.3	H5	SU				0.4	5
Temperature	8.3	H5		7.3	H5	Degrees C				13	

Lab Sample ID: 550-91513-20 DU
Matrix: Water
Analysis Batch: 130351

Client Sample ID: FC-CCR-MW75-101217
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.4	H5		8.4	H5	SU				0.2	5
Temperature	7.7	H5		8.2	H5	Degrees C				6	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

HPLC/IC

Analysis Batch: 131383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-2	FC-CCR-MW49A-101217	Total/NA	Water	300.0	
550-91513-2	FC-CCR-MW49A-101217	Total/NA	Water	300.0	
MB 550-131383/2	Method Blank	Total/NA	Water	300.0	
LCS 550-131383/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-131383/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-91108-A-1 MS ^100	Matrix Spike	Total/NA	Water	300.0	
550-91108-A-1 MSD ^100	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 131532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-3	FC-CCR-MW60-101217	Total/NA	Water	300.0	
550-91513-3	FC-CCR-MW60-101217	Total/NA	Water	300.0	
550-91513-4	FC-CCR-MW61-101217	Total/NA	Water	300.0	
550-91513-4	FC-CCR-MW61-101217	Total/NA	Water	300.0	
550-91513-5	FC-CCR-MW62-101317	Total/NA	Water	300.0	
550-91513-5	FC-CCR-MW62-101317	Total/NA	Water	300.0	
550-91513-6	FC-CCR-MW63-101317	Total/NA	Water	300.0	
550-91513-6	FC-CCR-MW63-101317	Total/NA	Water	300.0	
550-91513-7	FC-CCR-MW64-101317	Total/NA	Water	300.0	
550-91513-7	FC-CCR-MW64-101317	Total/NA	Water	300.0	
550-91513-8	FC-CCR-MW65-101317	Total/NA	Water	300.0	
550-91513-8	FC-CCR-MW65-101317	Total/NA	Water	300.0	
550-91513-9	FC-CCR-FD02-101317	Total/NA	Water	300.0	
550-91513-9	FC-CCR-FD02-101317	Total/NA	Water	300.0	
550-91513-10	FC-CCR-MW66-101317	Total/NA	Water	300.0	
550-91513-10	FC-CCR-MW66-101317	Total/NA	Water	300.0	
550-91513-11	FC-CCR-MW67-101317	Total/NA	Water	300.0	
550-91513-11	FC-CCR-MW67-101317	Total/NA	Water	300.0	
550-91513-12	FC-CCR-MW68-101317	Total/NA	Water	300.0	
550-91513-12	FC-CCR-MW68-101317	Total/NA	Water	300.0	
550-91513-13	FC-CCR-MW69-101317	Total/NA	Water	300.0	
550-91513-13	FC-CCR-MW69-101317	Total/NA	Water	300.0	
550-91513-14	FC-CCR-MW70-101317	Total/NA	Water	300.0	
550-91513-14	FC-CCR-MW70-101317	Total/NA	Water	300.0	
550-91513-15	FC-CCR-MW71-101317	Total/NA	Water	300.0	
550-91513-15	FC-CCR-MW71-101317	Total/NA	Water	300.0	
550-91513-16	FC-CCR-MW72-101317	Total/NA	Water	300.0	
550-91513-16	FC-CCR-MW72-101317	Total/NA	Water	300.0	
550-91513-17	FC-CCR-MW73-101217	Total/NA	Water	300.0	
550-91513-17	FC-CCR-MW73-101217	Total/NA	Water	300.0	
MB 550-131532/60	Method Blank	Total/NA	Water	300.0	
LCS 550-131532/62	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-131532/63	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 131568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-18	FC-CCR-FD01-101217	Total/NA	Water	300.0	
550-91513-18	FC-CCR-FD01-101217	Total/NA	Water	300.0	
550-91513-19	FC-CCR-MW74-101117	Total/NA	Water	300.0	
550-91513-19	FC-CCR-MW74-101117	Total/NA	Water	300.0	
550-91513-19	FC-CCR-MW74-101117	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 131568 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-20	FC-CCR-MW75-101217	Total/NA	Water	300.0	
550-91513-20	FC-CCR-MW75-101217	Total/NA	Water	300.0	
MB 550-131568/2	Method Blank	Total/NA	Water	300.0	
LCS 550-131568/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-131568/6	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 131634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-1	FC-CCR-MW7-101217	Total/NA	Water	300.0	
550-91513-1	FC-CCR-MW7-101217	Total/NA	Water	300.0	
550-91513-3	FC-CCR-MW60-101217	Total/NA	Water	300.0	
550-91513-4	FC-CCR-MW61-101217	Total/NA	Water	300.0	
550-91513-17	FC-CCR-MW73-101217	Total/NA	Water	300.0	
MB 550-131634/2	Method Blank	Total/NA	Water	300.0	
LCS 550-131634/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-131634/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-91513-1 MS	FC-CCR-MW7-101217	Total/NA	Water	300.0	
550-91513-1 MS	FC-CCR-MW7-101217	Total/NA	Water	300.0	
550-91513-1 MSD	FC-CCR-MW7-101217	Total/NA	Water	300.0	
550-91513-1 MSD	FC-CCR-MW7-101217	Total/NA	Water	300.0	

Analysis Batch: 131712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-5	FC-CCR-MW62-101317	Total/NA	Water	300.0	
MB 550-131712/2	Method Blank	Total/NA	Water	300.0	
LCS 550-131712/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-131712/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-91677-A-1 DU	Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 130097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-1	FC-CCR-MW7-101217	Total/NA	Water	200.7	
550-91513-2	FC-CCR-MW49A-101217	Total/NA	Water	200.7	
550-91513-3	FC-CCR-MW60-101217	Total/NA	Water	200.7	
550-91513-4	FC-CCR-MW61-101217	Total/NA	Water	200.7	
550-91513-5	FC-CCR-MW62-101317	Total/NA	Water	200.7	
550-91513-6	FC-CCR-MW63-101317	Total/NA	Water	200.7	
550-91513-7	FC-CCR-MW64-101317	Total/NA	Water	200.7	
550-91513-8	FC-CCR-MW65-101317	Total/NA	Water	200.7	
550-91513-9	FC-CCR-FD02-101317	Total/NA	Water	200.7	
550-91513-10	FC-CCR-MW66-101317	Total/NA	Water	200.7	
550-91513-11	FC-CCR-MW67-101317	Total/NA	Water	200.7	
550-91513-12	FC-CCR-MW68-101317	Total/NA	Water	200.7	
550-91513-13	FC-CCR-MW69-101317	Total/NA	Water	200.7	
550-91513-14	FC-CCR-MW70-101317	Total/NA	Water	200.7	
550-91513-15	FC-CCR-MW71-101317	Total/NA	Water	200.7	
550-91513-16	FC-CCR-MW72-101317	Total/NA	Water	200.7	
550-91513-17	FC-CCR-MW73-101217	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 130097 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-18	FC-CCR-FD01-101217	Total/NA	Water	200.7	
550-91513-19	FC-CCR-MW74-101117	Total/NA	Water	200.7	
550-91513-20	FC-CCR-MW75-101217	Total/NA	Water	200.7	
MB 550-130097/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-130097/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-130097/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-91513-1 MS	FC-CCR-MW7-101217	Total/NA	Water	200.7	
550-91513-1 MSD	FC-CCR-MW7-101217	Total/NA	Water	200.7	

Analysis Batch: 130717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-1	FC-CCR-MW7-101217	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-2	FC-CCR-MW49A-101217	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-3	FC-CCR-MW60-101217	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-4	FC-CCR-MW61-101217	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-5	FC-CCR-MW62-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-6	FC-CCR-MW63-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-7	FC-CCR-MW64-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-8	FC-CCR-MW65-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-9	FC-CCR-FD02-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-10	FC-CCR-MW66-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-11	FC-CCR-MW67-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-12	FC-CCR-MW68-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-13	FC-CCR-MW69-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-14	FC-CCR-MW70-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-15	FC-CCR-MW71-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-16	FC-CCR-MW72-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-17	FC-CCR-MW73-101217	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-18	FC-CCR-FD01-101217	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-19	FC-CCR-MW74-101117	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-20	FC-CCR-MW75-101217	Total/NA	Water	200.7 Rev 4.4	130097
MB 550-130097/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	130097
LCS 550-130097/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	130097
LCSD 550-130097/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-1 MS	FC-CCR-MW7-101217	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-1 MSD	FC-CCR-MW7-101217	Total/NA	Water	200.7 Rev 4.4	130097

Analysis Batch: 131241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-2	FC-CCR-MW49A-101217	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-10	FC-CCR-MW66-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-11	FC-CCR-MW67-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-12	FC-CCR-MW68-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-13	FC-CCR-MW69-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-14	FC-CCR-MW70-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-15	FC-CCR-MW71-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-19	FC-CCR-MW74-101117	Total/NA	Water	200.7 Rev 4.4	130097

Analysis Batch: 131342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-16	FC-CCR-MW72-101317	Total/NA	Water	200.7 Rev 4.4	130097

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Analysis Batch: 131728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-10	FC-CCR-MW66-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-11	FC-CCR-MW67-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-12	FC-CCR-MW68-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-13	FC-CCR-MW69-101317	Total/NA	Water	200.7 Rev 4.4	130097
550-91513-14	FC-CCR-MW70-101317	Total/NA	Water	200.7 Rev 4.4	130097

General Chemistry

Analysis Batch: 129981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-1	FC-CCR-MW7-101217	Total/NA	Water	SM 2540C	
550-91513-2	FC-CCR-MW49A-101217	Total/NA	Water	SM 2540C	
550-91513-3	FC-CCR-MW60-101217	Total/NA	Water	SM 2540C	
550-91513-4	FC-CCR-MW61-101217	Total/NA	Water	SM 2540C	
550-91513-17	FC-CCR-MW73-101217	Total/NA	Water	SM 2540C	
550-91513-18	FC-CCR-FD01-101217	Total/NA	Water	SM 2540C	
550-91513-19	FC-CCR-MW74-101117	Total/NA	Water	SM 2540C	
MB 550-129981/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-129981/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-129981/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-91455-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
550-91513-1 DU	FC-CCR-MW7-101217	Total/NA	Water	SM 2540C	

Analysis Batch: 130028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-5	FC-CCR-MW62-101317	Total/NA	Water	SM 2540C	
550-91513-6	FC-CCR-MW63-101317	Total/NA	Water	SM 2540C	
550-91513-7	FC-CCR-MW64-101317	Total/NA	Water	SM 2540C	
550-91513-8	FC-CCR-MW65-101317	Total/NA	Water	SM 2540C	
550-91513-9	FC-CCR-FD02-101317	Total/NA	Water	SM 2540C	
550-91513-10	FC-CCR-MW66-101317	Total/NA	Water	SM 2540C	
550-91513-11	FC-CCR-MW67-101317	Total/NA	Water	SM 2540C	
550-91513-12	FC-CCR-MW68-101317	Total/NA	Water	SM 2540C	
550-91513-13	FC-CCR-MW69-101317	Total/NA	Water	SM 2540C	
550-91513-14	FC-CCR-MW70-101317	Total/NA	Water	SM 2540C	
550-91513-15	FC-CCR-MW71-101317	Total/NA	Water	SM 2540C	
550-91513-16	FC-CCR-MW72-101317	Total/NA	Water	SM 2540C	
550-91513-20	FC-CCR-MW75-101217	Total/NA	Water	SM 2540C	
MB 550-130028/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-130028/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-130028/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-91373-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
550-91513-9 DU	FC-CCR-FD02-101317	Total/NA	Water	SM 2540C	

Analysis Batch: 130309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-1	FC-CCR-MW7-101217	Total/NA	Water	SM 2320B	
550-91513-2	FC-CCR-MW49A-101217	Total/NA	Water	SM 2320B	
550-91513-3	FC-CCR-MW60-101217	Total/NA	Water	SM 2320B	
550-91513-4	FC-CCR-MW61-101217	Total/NA	Water	SM 2320B	
550-91513-6	FC-CCR-MW63-101317	Total/NA	Water	SM 2320B	
550-91513-7	FC-CCR-MW64-101317	Total/NA	Water	SM 2320B	
550-91513-8	FC-CCR-MW65-101317	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 130309 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-9	FC-CCR-FD02-101317	Total/NA	Water	SM 2320B	
550-91513-10	FC-CCR-MW66-101317	Total/NA	Water	SM 2320B	
550-91513-11	FC-CCR-MW67-101317	Total/NA	Water	SM 2320B	
550-91513-12	FC-CCR-MW68-101317	Total/NA	Water	SM 2320B	
550-91513-13	FC-CCR-MW69-101317	Total/NA	Water	SM 2320B	
550-91513-14	FC-CCR-MW70-101317	Total/NA	Water	SM 2320B	
550-91513-15	FC-CCR-MW71-101317	Total/NA	Water	SM 2320B	
550-91513-16	FC-CCR-MW72-101317	Total/NA	Water	SM 2320B	
550-91513-17	FC-CCR-MW73-101217	Total/NA	Water	SM 2320B	
550-91513-18	FC-CCR-FD01-101217	Total/NA	Water	SM 2320B	
550-91513-19	FC-CCR-MW74-101117	Total/NA	Water	SM 2320B	
550-91513-20	FC-CCR-MW75-101217	Total/NA	Water	SM 2320B	
MB 550-130309/35	Method Blank	Total/NA	Water	SM 2320B	
MB 550-130309/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-130309/34	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-130309/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-130309/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-130309/48	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-91452-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-91513-1 DU	FC-CCR-MW7-101217	Total/NA	Water	SM 2320B	
550-91513-13 DU	FC-CCR-MW69-101317	Total/NA	Water	SM 2320B	

Analysis Batch: 130351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-1	FC-CCR-MW7-101217	Total/NA	Water	SM 4500 H+ B	
550-91513-2	FC-CCR-MW49A-101217	Total/NA	Water	SM 4500 H+ B	
550-91513-3	FC-CCR-MW60-101217	Total/NA	Water	SM 4500 H+ B	
550-91513-4	FC-CCR-MW61-101217	Total/NA	Water	SM 4500 H+ B	
550-91513-5	FC-CCR-MW62-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-6	FC-CCR-MW63-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-7	FC-CCR-MW64-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-8	FC-CCR-MW65-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-9	FC-CCR-FD02-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-10	FC-CCR-MW66-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-11	FC-CCR-MW67-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-12	FC-CCR-MW68-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-13	FC-CCR-MW69-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-14	FC-CCR-MW70-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-15	FC-CCR-MW71-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-16	FC-CCR-MW72-101317	Total/NA	Water	SM 4500 H+ B	
550-91513-17	FC-CCR-MW73-101217	Total/NA	Water	SM 4500 H+ B	
550-91513-18	FC-CCR-FD01-101217	Total/NA	Water	SM 4500 H+ B	
550-91513-19	FC-CCR-MW74-101117	Total/NA	Water	SM 4500 H+ B	
550-91513-20	FC-CCR-MW75-101217	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-130351/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-130351/48	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-130351/58	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-130351/68	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-130351/74	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-91513-1 DU	FC-CCR-MW7-101217	Total/NA	Water	SM 4500 H+ B	
550-91513-9 DU	FC-CCR-FD02-101317	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 130351 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-17 DU	FC-CCR-MW73-101217	Total/NA	Water	SM 4500 H+ B	
550-91513-20 DU	FC-CCR-MW75-101217	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 130588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-130588/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-130588/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-130588/3	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

Analysis Batch: 130589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-91513-5	FC-CCR-MW62-101317	Total/NA	Water	SM 2320B	
550-91513-5 DU	FC-CCR-MW62-101317	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-101217 — Lab Sample ID: 550-91513-1

Date Collected: 10/12/17 15:23 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	131634	11/02/17 16:51	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131634	11/02/17 17:46	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:15	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 14:28	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	129981		YET	TAL PHX
					(Start)	10/16/17 08:55		
					(End)	10/17/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Client Sample ID: FC-CCR-MW49A-101217 — Lab Sample ID: 550-91513-2

Date Collected: 10/12/17 16:16 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	131383	10/31/17 16:50	JAE	TAL PHX
Total/NA	Analysis	300.0		500	131383	10/31/17 17:08	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:21	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	131241	10/30/17 03:19	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 14:50	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	129981		YET	TAL PHX
					(Start)	10/16/17 08:55		
					(End)	10/17/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Client Sample ID: FC-CCR-MW60-101217 — Lab Sample ID: 550-91513-3

Date Collected: 10/12/17 12:35 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	131532	11/01/17 21:05	JAE	TAL PHX
Total/NA	Analysis	300.0		100	131532	11/01/17 21:24	JAE	TAL PHX
Total/NA	Analysis	300.0		100	131634	11/02/17 21:49	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:27	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 14:58	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	129981		YET	TAL PHX
					(Start)	10/16/17 08:55		
					(End)	10/17/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW61-101217 — Lab Sample ID: 550-91513-4

Date Collected: 10/12/17 13:28 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	131532	11/01/17 21:42	JAE	TAL PHX
Total/NA	Analysis	300.0		50	131532	11/01/17 22:01	JAE	TAL PHX
Total/NA	Analysis	300.0		50	131634	11/02/17 22:07	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:33	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 15:06	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	129981		YET	TAL PHX
					(Start)	10/16/17 08:55		
					(End)	10/17/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Client Sample ID: FC-CCR-MW62-101317 — Lab Sample ID: 550-91513-5

Date Collected: 10/13/17 10:24 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	131532	11/01/17 22:19	JAE	TAL PHX
Total/NA	Analysis	300.0		50	131532	11/01/17 22:38	JAE	TAL PHX
Total/NA	Analysis	300.0		50	131712	11/03/17 19:44	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:38	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130589	10/23/17 07:05	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Client Sample ID: FC-CCR-MW63-101317 — Lab Sample ID: 550-91513-6

Date Collected: 10/13/17 11:05 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	131532	11/01/17 23:33	JAE	TAL PHX
Total/NA	Analysis	300.0		50	131532	11/01/17 23:51	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:44	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 16:09	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW64-101317 — Lab Sample ID: 550-91513-7

Date Collected: 10/13/17 11:51
Date Received: 10/14/17 10:01
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	131532	11/02/17 00:10	JAE	TAL PHX
Total/NA	Analysis	300.0		50	131532	11/02/17 00:28	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:50	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 16:18	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Client Sample ID: FC-CCR-MW65-101317 — Lab Sample ID: 550-91513-8

Date Collected: 10/13/17 09:27
Date Received: 10/14/17 10:01
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	131532	11/02/17 00:46	JAE	TAL PHX
Total/NA	Analysis	300.0		20	131532	11/02/17 01:05	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:53	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 16:27	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Client Sample ID: FC-CCR-FD02-101317 — Lab Sample ID: 550-91513-9

Date Collected: 10/13/17 09:27
Date Received: 10/14/17 10:01
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	131532	11/02/17 01:23	JAE	TAL PHX
Total/NA	Analysis	300.0		20	131532	11/02/17 01:42	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:56	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 16:37	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW66-101317 — Lab Sample ID: 550-91513-10

Date Collected: 10/13/17 09:58
Date Received: 10/14/17 10:01
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	131532	11/02/17 02:00	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131532	11/02/17 02:18	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 21:58	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	131241	10/30/17 04:08	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	131728	11/03/17 16:53	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 16:46	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Client Sample ID: FC-CCR-MW67-101317 — Lab Sample ID: 550-91513-11

Date Collected: 10/13/17 15:31
Date Received: 10/14/17 10:01
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	131532	11/02/17 03:14	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131532	11/02/17 03:32	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 22:10	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	131241	10/30/17 04:20	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	131728	11/03/17 16:59	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 16:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 12:08	NEL	TAL PHX

Client Sample ID: FC-CCR-MW68-101317 — Lab Sample ID: 550-91513-12

Date Collected: 10/13/17 15:06
Date Received: 10/14/17 10:01
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	131532	11/02/17 03:50	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131532	11/02/17 04:09	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 22:16	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW68-101317 — Lab Sample ID: 550-91513-12

Date Collected: 10/13/17 15:06 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	131241	10/30/17 04:32	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	131728	11/03/17 17:05	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 17:06	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 14:30	NEL	TAL PHX

Client Sample ID: FC-CCR-MW69-101317 — Lab Sample ID: 550-91513-13

Date Collected: 10/13/17 14:30 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	131532	11/02/17 04:27	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131532	11/02/17 04:46	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 22:22	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	131241	10/30/17 04:43	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	131728	11/03/17 17:11	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 17:31	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 14:30	NEL	TAL PHX

Client Sample ID: FC-CCR-MW70-101317 — Lab Sample ID: 550-91513-14

Date Collected: 10/13/17 12:13 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	131532	11/02/17 05:04	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131532	11/02/17 05:22	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 22:28	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	131241	10/30/17 04:55	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	131728	11/03/17 17:16	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 17:51	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 14:30	NEL	TAL PHX

Client Sample ID: FC-CCR-MW71-101317 — Lab Sample ID: 550-91513-15

Date Collected: 10/13/17 13:47 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	131532	11/02/17 05:41	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131532	11/02/17 05:59	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 22:34	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	131241	10/30/17 05:13	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 18:00	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 14:30	NEL	TAL PHX

Client Sample ID: FC-CCR-MW72-101317 — Lab Sample ID: 550-91513-16

Date Collected: 10/13/17 13:09 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	131532	11/02/17 06:54	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131532	11/02/17 07:13	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 22:40	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	131342	10/30/17 20:38	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 18:12	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 14:30	NEL	TAL PHX

Client Sample ID: FC-CCR-MW73-101217 — Lab Sample ID: 550-91513-17

Date Collected: 10/12/17 10:53 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	131532	11/02/17 07:31	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131532	11/02/17 07:50	JAE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW73-101217 — Lab Sample ID: 550-91513-17

Date Collected: 10/12/17 10:53 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	131634	11/02/17 22:44	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 22:46	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 18:22	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	129981		YET	TAL PHX
					(Start)	10/16/17 08:55		
					(End)	10/17/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 14:30	NEL	TAL PHX

Client Sample ID: FC-CCR-FD01-101217 — Lab Sample ID: 550-91513-18

Date Collected: 10/12/17 10:53 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	131568	11/02/17 04:56	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131568	11/02/17 05:23	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 22:51	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 18:32	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	129981		YET	TAL PHX
					(Start)	10/16/17 08:55		
					(End)	10/17/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 14:30	NEL	TAL PHX

Client Sample ID: FC-CCR-MW74-101117 — Lab Sample ID: 550-91513-19

Date Collected: 10/11/17 13:58 — **Matrix: Water**
Date Received: 10/14/17 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	131568	11/02/17 05:50	JAE	TAL PHX
Total/NA	Analysis	300.0		100	131568	11/02/17 06:18	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131568	11/02/17 06:45	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 22:57	ARE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	131241	10/30/17 05:47	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 18:42	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	129981		YET	TAL PHX
					(Start)	10/16/17 08:55		
					(End)	10/17/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 14:30	NEL	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-91513-1
SDG: Cholla

Client Sample ID: FC-CCR-MW75-101217

Lab Sample ID: 550-91513-20

Date Collected: 10/12/17 14:41
Date Received: 10/14/17 10:01

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	131568	11/02/17 07:13	JAE	TAL PHX
Total/NA	Analysis	300.0		200	131568	11/02/17 07:40	JAE	TAL PHX
Total/NA	Prep	200.7			130097	10/17/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	130717	10/23/17 23:03	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	130309	10/18/17 18:49	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	130028		YET	TAL PHX
					(Start)	10/16/17 12:17		
					(End)	10/17/17 11:15		
Total/NA	Analysis	SM 4500 H+ B		1	130351	10/19/17 14:30	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: CCR

TestAmerica Job ID: 550-91513-1
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: CCR

TestAmerica Job ID: 550-91513-1
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

91513

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

11/7/2017

Regulatory Program: CCR

Client Contact	Doug Lavarnway	Doug Lavarnway	10/14/2017	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:
FC-CCR-MW7-101217	10/12/2017	1523	G	W	2	N	x	x	x	x	x	x	-01
FC-CCR-MW49A-101217	10/12/2017	1616	G	W	2	N	x	x	x	x	x	x	-02
FC-CCR-MW60-101217	10/12/2017	1235	G	W	2	N	x	x	x	x	x	x	-03
FC-CCR-MW61-101217	10/12/2017	1328	G	W	2	N	x	x	x	x	x	x	-04
FC-CCR-MW62-101317	10/13/2017	1024	G	W	2	N	x	x	x	x	x	x	-05
FC-CCR-MW63-101317	10/13/2017	1105	G	W	2	N	x	x	x	x	x	x	-06
FC-CCR-MW64-101317	10/13/2017	1151	G	W	2	N	x	x	x	x	x	x	-07
FC-CCR-MW65-101317	10/13/2017	927	G	W	2	N	x	x	x	x	x	x	-08
FC-CCR-FD02-101317	10/13/2017	927	G	W	2	N	x	x	x	x	x	x	-09

Pr NO3; 5=NaOH; 6= Other _____

Po
Ar 550-91513 Chain of Custody
Co

Please List any EPA Waste Codes for the sample in the

☑ 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:

2.0°C, 2.3°C, 1.6°C, 3.1°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	10/14 1300			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 10/14/17 1530

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

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

Chain of Custody Record

91593

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

11/7/2017

Regulatory Program: CCR

Client Contact	**Doug Lavarnway**	**Doug Lavarnway**	**10/14/2017**
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:
FC-CCR-MW66-101317	10/13/2017	958	G	W	2	N	x	x	x	x	x	x	-10
FC-CCR-MW67-101317	10/13/2017	1531	G	W	2	N	x	x	x	x	x	x	-11
FC-CCR-MW68-101317	10/13/2017	1506	G	W	2	N	x	x	x	x	x	x	-12
FC-CCR-MW69-101317	10/13/2017	1430	G	W	2	N	x	x	x	x	x	x	-13
FC-CCR-MW70-101317	10/13/2017	1213	G	W	2	N	x	x	x	x	x	x	-14
FC-CCR-MW71-101317	10/13/2017	1347	G	W	2	N	x	x	x	x	x	x	-15
FC-CCR-MW72-101317	10/13/2017	1309	G	W	2	N	x	x	x	x	x	x	-16
FC-CCR-MW73-101217	10/12/2017	1053	G	W	2	N	x	x	x	x	x	x	-17
FC-CCR-FD01-101217	10/12/2017	1053	G	W	2	N	x	x	x	x	x	x	-18
FC-CCR-MW74-101117	10/11/2017	1358	G	W	2	N	x	x	x	x	x	x	-19
FC-CCR-MW75-101217	10/12/2017	1441	G	W	2	N	x	x	x	x	x	x	-20

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

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

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

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

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

Special Instructions/QC Requirements & Comments:

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doug Lavarnway	APS	10/14 1000			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time: 10-14-17 1001

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-91513-1
SDG Number: Cholla

Login Number: 91513
List Number: 1
Creator: Doerr, Bret C

List Source: TestAmerica Phoenix

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