TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Job ID: 550-94035-1
TestAmerica Sample Delivery Group: Cholla
Client Project/Site: CCR

For:
Arizona Public Service Company
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Joseph City, Arizona 86032

Attn: Doug Lavarnway

Authorized for release by:
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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: 550-94035-1
SDG: Cholla

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
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: 550-94035-1

Laboratory: TestAmerica Phoenix

Narrative

Job Narrative
550-94035-1

Comments
No additional comments.

Receipt
The samples were received on 12/2/2017 7:51 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.6º C and 1.1º C.

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

Metals
Method(s) 200.7 Rev 4.4: The following samples was diluted to bring the concentration of Boron within the calibration range: FC-CCR-FD01-113017 (550-94035-11) and FC-CCR-MW70-113017 (550-94035-13). Elevated reporting limits (RLs) are provided.

Method(s) 200.7 Rev 4.4: The following samples was diluted to bring the concentration of Magnesium within the calibration range: FC-CCR-MW66-113017 (550-94035-8), FC-CCR-MW67-112917 (550-94035-9), FC-CCR-MW68-113017 (550-94035-10), FC-CCR-FD01-113017 (550-94035-11), FC-CCR-MW69-112917 (550-94035-12), FC-CCR-MW70-113017 (550-94035-13), FC-CCR-MW72-112917 (550-94035-15) and FC-CCR-MW74-113017 (550-94035-17). Elevated reporting limits (RLs) are provided.

Method(s) 200.7 Rev 4.4: The following samples was diluted to bring the concentration of Sodium within the calibration range: FC-CCR-MW49A-113017 (550-94035-2) and FC-CCR-MW74-113017 (550-94035-17). Elevated reporting limits (RLs) are provided.

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

General Chemistry
No 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: 550-94035-1
SDG: Cholla

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-94035-1	FC-CCR-MW7-113017	Water	11/30/17 15:26	12/02/17 07:51
550-94035-2	FC-CCR-MW49A-113017	Water	11/30/17 16:02	12/02/17 07:51
550-94035-3	FC-CCR-MW61-113017	Water	11/30/17 14:33	12/02/17 07:51
550-94035-4	FC-CCR-MW62-113017	Water	11/30/17 12:02	12/02/17 07:51
550-94035-5	FC-CCR-MW63-113017	Water	11/30/17 12:34	12/02/17 07:51
550-94035-6	FC-CCR-MW64-113017	Water	11/30/17 12:54	12/02/17 07:51
550-94035-7	FC-CCR-MW65-113017	Water	11/30/17 11:13	12/02/17 07:51
550-94035-8	FC-CCR-MW66-113017	Water	11/30/17 11:36	12/02/17 07:51
550-94035-9	FC-CCR-MW67-112917	Water	11/29/17 15:32	12/02/17 07:51
550-94035-10	FC-CCR-MW68-113017	Water	11/30/17 09:13	12/02/17 07:51
550-94035-11	FC-CCR-FD01-113017	Water	11/30/17 09:13	12/02/17 07:51
550-94035-12	FC-CCR-MW69-112917	Water	11/29/17 15:00	12/02/17 07:51
550-94035-13	FC-CCR-MW70-113017	Water	11/30/17 13:23	12/02/17 07:51
550-94035-14	FC-CCR-MW71-113017	Water	11/30/17 10:02	12/02/17 07:51
550-94035-15	FC-CCR-MW72-112917	Water	11/29/17 16:49	12/02/17 07:51
550-94035-16	FC-CCR-MW73-112917	Water	11/29/17 16:24	12/02/17 07:51
550-94035-17	FC-CCR-MW74-113017	Water	11/30/17 14:05	12/02/17 07:51
550-94035-18	FC-CCR-MW75-113017	Water	11/30/17 14:57	12/02/17 07:51
550-94035-19	FC-CCR-FD02-113017	Water	11/30/17 14:57	12/02/17 07:51

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-113017 — Lab Sample ID: 550-94035-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	440	D2	400	mg/L	200		300.0	Total/NA
Sulfate	6600	D2	400	mg/L	200		300.0	Total/NA
Boron	7.7	M3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	560	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	38		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900	M3	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW49A-113017 — Lab Sample ID: 550-94035-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	560	D2	20	mg/L	10		300.0	Total/NA
Sulfate	17000	D2	1000	mg/L	500		300.0	Total/NA
Boron	2.2		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	1000	D2	4.0	mg/L	2		200.7 Rev 4.4	Total/NA
Potassium	79		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	6100	D2	2.0	mg/L	4		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	780		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	780		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	23000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW61-113017 — Lab Sample ID: 550-94035-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	310	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.2		0.40	mg/L	1		300.0	Total/NA
Sulfate	3500	D2	100	mg/L	50		300.0	Total/NA
Boron	39		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	22		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		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	78		6.0	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	11		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5500	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.8	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW62-113017 — Lab Sample ID: 550-94035-4

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW62-113017 (Continued) — Lab Sample ID: 550-94035-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	130	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4		0.40	mg/L	1		300.0	Total/NA
Sulfate	3400	D2	100	mg/L	50		300.0	Total/NA
Boron	2.3		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	570		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	360		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	740		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	800		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	800		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5900	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW63-113017 — Lab Sample ID: 550-94035-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	91		2.0	mg/L	1		300.0	Total/NA
Fluoride	1.8		0.40	mg/L	1		300.0	Total/NA
Sulfate	2700	D2	100	mg/L	50		300.0	Total/NA
Boron	1.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	560		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.6		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	360		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	4500	D2	40	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW64-113017 — Lab Sample ID: 550-94035-6

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	350	D2	100	mg/L	50		300.0	Total/NA
Boron	0.64		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	90		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	34		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.9		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	780		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW65-113017 — Lab Sample ID: 550-94035-7

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW65-113017 (Continued) — Lab Sample ID: 550-94035-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	53		2.0	mg/L	1		300.0	Total/NA
Fluoride	2.0		0.40	mg/L	1		300.0	Total/NA
Sulfate	410	D2	40	mg/L	20		300.0	Total/NA
Boron	0.79		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	100		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	57		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	990		20	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	21.0	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW66-113017 — Lab Sample ID: 550-94035-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1900	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	140	D2	0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2900	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	48		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	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	19000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.3	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW67-112917 — Lab Sample ID: 550-94035-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	mg/L	200		300.0	Total/NA
Fluoride	24	D2	2.0	mg/L	5		300.0	Total/NA
Sulfate	15000	D2	400	mg/L	200		300.0	Total/NA
Boron	160	D2	0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	3200	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	51		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	910		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	320		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	23000	D2	200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW68-113017 — Lab Sample ID: 550-94035-10

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW68-113017 (Continued) — Lab Sample ID: 550-94035-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	mg/L	200		300.0	Total/NA
Fluoride	10	D2	2.0	mg/L	5		300.0	Total/NA
Sulfate	9700	D2	400	mg/L	200		300.0	Total/NA
Boron	130	D2	0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2200	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	16		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	580		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	580		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.4	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD01-113017 — Lab Sample ID: 550-94035-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	mg/L	200		300.0	Total/NA
Fluoride	10	D2	2.0	mg/L	5		300.0	Total/NA
Sulfate	9400	D2	400	mg/L	200		300.0	Total/NA
Boron	130	D2	0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2200	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	16		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	580		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	580		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW69-112917 — Lab Sample ID: 550-94035-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	400	mg/L	200		300.0	Total/NA
Fluoride	21	D2	2.0	mg/L	5		300.0	Total/NA
Sulfate	13000	D2	400	mg/L	200		300.0	Total/NA
Boron	150	D2	0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2800	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	51		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	830		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	20000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW70-113017 — Lab Sample ID: 550-94035-13

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW70-113017 (Continued) — Lab Sample ID: 550-94035-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400	mg/L	200		300.0	Total/NA
Fluoride	2.7	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	6300	D2	400	mg/L	200		300.0	Total/NA
Boron	92	D2	0.10	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	560		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	19		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	880		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	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	11000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	6.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.1	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW71-113017 — Lab Sample ID: 550-94035-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	540	D2	400	mg/L	200		300.0	Total/NA
Sulfate	10000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.56		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	1700	D2	4.0	mg/L	2		200.7 Rev 4.4	Total/NA
Potassium	29		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	430		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	430		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	15000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW72-112917 — Lab Sample ID: 550-94035-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450	D2	10	mg/L	5		300.0	Total/NA
Sulfate	10000	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	500		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	2300	D2	8.0	mg/L	4		200.7 Rev 4.4	Total/NA
Potassium	28		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	760		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	590		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	590		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	17.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW73-112917 — Lab Sample ID: 550-94035-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	420	D2	40	mg/L	20		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: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW73-112917 (Continued) — Lab Sample ID: 550-94035-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	5600	D2	400	mg/L	200		300.0	Total/NA
Boron	1.8		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	550		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	640		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	32		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1200		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	650		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	650		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8900	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.7	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW74-113017 — Lab Sample ID: 550-94035-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	470	D2	200	mg/L	100		300.0	Total/NA
Fluoride	1.9		0.80	mg/L	2		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Boron	1.4		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		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	28		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3500	D2	1.0	mg/L	2		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	17000	D2	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	19.2	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-MW75-113017 — Lab Sample ID: 550-94035-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300	D2	10	mg/L	5		300.0	Total/NA
Sulfate	4400	D2	400	mg/L	200		300.0	Total/NA
Boron	26		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	490		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	24		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1300		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	90		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6500	D2	100	mg/L	1		SM 2540C	Total/NA
pH	8.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.9	H5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: FC-CCR-FD02-113017 — Lab Sample ID: 550-94035-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	300	D2	10	mg/L	5		300.0	Total/NA
Sulfate	4300	D2	400	mg/L	200		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: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-FD02-113017 (Continued) — Lab Sample ID: 550-94035-19

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Boron	25		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	480		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	24		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1200		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	90		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6300	D2	100		mg/L	1		SM 2540C	Total/NA
pH	8.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	16.7	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: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-113017

Lab Sample ID: 550-94035-1
Date Collected: 11/30/17 15:26
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	440	D2	400	mg/L			12/05/17 19:04	200
Fluoride	ND	D1 D5	0.80	mg/L			12/05/17 18:09	2
Sulfate	6600	D2	400	mg/L			12/05/17 19:04	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7.7	M3	0.050	mg/L		12/04/17 05:53	12/06/17 16:07	1
Calcium	420	M3	2.0	mg/L		12/04/17 05:53	12/06/17 16:07	1
Magnesium	560	M3	2.0	mg/L		12/04/17 05:53	12/06/17 16:07	1
Potassium	38		0.50	mg/L		12/04/17 05:53	12/06/17 16:07	1
Sodium	1900	M3	0.50	mg/L		12/04/17 05:53	12/06/17 16:07	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	500		6.0	mg/L			12/04/17 17:36	1
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L			12/04/17 17:36	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 17:36	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 17:36	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 17:36	1
Total Dissolved Solids	10000	D2	100	mg/L			12/05/17 11:16	1
pH	7.5	H5	1.7	SU			12/05/17 16:00	1
Temperature	20.6	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW49A-113017

Lab Sample ID: 550-94035-2
Date Collected: 11/30/17 16:02
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	560	D2	20	mg/L			12/05/17 19:59	10
Fluoride	ND	D1 D5	4.0	mg/L			12/05/17 19:59	10
Sulfate	17000	D2	1000	mg/L			12/05/17 20:17	500

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		12/04/17 05:53	12/06/17 16:22	1
Calcium	420		2.0	mg/L		12/04/17 05:53	12/06/17 16:22	1
Magnesium	1000	D2	4.0	mg/L		12/04/17 05:53	12/06/17 16:15	2
Potassium	79		0.50	mg/L		12/04/17 05:53	12/06/17 16:22	1
Sodium	6100	D2	2.0	mg/L		12/04/17 05:53	12/07/17 11:45	4

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	780		6.0	mg/L			12/04/17 16:11	1
Bicarbonate Alkalinity as CaCO3	780		6.0	mg/L			12/04/17 16:11	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 16:11	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 16:11	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 16:11	1
Total Dissolved Solids	23000	D2	200	mg/L			12/05/17 11:16	1
pH	7.4	H5	1.7	SU			12/05/17 16:00	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW49A-113017 — Lab Sample ID: 550-94035-2

Date Collected: 11/30/17 16:02 — **Matrix: Water**
Date Received: 12/02/17 07:51

General Chemistry (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature	20.6	H5	0.1		Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW61-113017 — Lab Sample ID: 550-94035-3

Date Collected: 11/30/17 14:33 — **Matrix: Water**
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310	D2	100		mg/L			12/05/17 21:31	50
Fluoride	1.2		0.40		mg/L			12/05/17 21:13	1
Sulfate	3500	D2	100		mg/L			12/05/17 21:31	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	39		0.050		mg/L		12/04/17 05:53	12/06/17 16:29	1
Calcium	520		2.0		mg/L		12/04/17 05:53	12/06/17 16:29	1
Magnesium	120		2.0		mg/L		12/04/17 05:53	12/06/17 16:29	1
Potassium	22		0.50		mg/L		12/04/17 05:53	12/06/17 16:29	1
Sodium	1100		0.50		mg/L		12/04/17 05:53	12/06/17 16:29	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	90		6.0		mg/L			12/04/17 16:18	1
Bicarbonate Alkalinity as CaCO3	78		6.0		mg/L			12/04/17 16:18	1
Carbonate Alkalinity as CaCO3	11		6.0		mg/L			12/04/17 16:18	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			12/04/17 16:18	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			12/04/17 16:18	1
Total Dissolved Solids	5500	D2	100		mg/L			12/05/17 11:16	1
pH	8.5	H5	1.7		SU			12/05/17 16:00	1
Temperature	20.8	H5	0.1		Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW62-113017 — Lab Sample ID: 550-94035-4

Date Collected: 11/30/17 12:02 — **Matrix: Water**
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130	D2	100		mg/L			12/05/17 22:08	50
Fluoride	1.4		0.40		mg/L			12/05/17 21:49	1
Sulfate	3400	D2	100		mg/L			12/05/17 22:08	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3		0.050		mg/L		12/04/17 05:53	12/06/17 16:36	1
Calcium	570		2.0		mg/L		12/04/17 05:53	12/06/17 16:36	1
Magnesium	360		2.0		mg/L		12/04/17 05:53	12/06/17 16:36	1
Potassium	10		0.50		mg/L		12/04/17 05:53	12/06/17 16:36	1
Sodium	740		0.50		mg/L		12/04/17 05:53	12/06/17 16:36	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW62-113017

Lab Sample ID: 550-94035-4
Date Collected: 11/30/17 12:02
Matrix: Water
Date Received: 12/02/17 07:51

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	800		6.0	mg/L			12/05/17 12:45	1
Bicarbonate Alkalinity as CaCO3	800		6.0	mg/L			12/05/17 12:45	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/05/17 12:45	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/05/17 12:45	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/05/17 12:45	1
Total Dissolved Solids	5900	D2	100	mg/L			12/05/17 11:16	1
pH	7.0	H5	1.7	SU			12/05/17 16:00	1
Temperature	16.3	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW63-113017

Lab Sample ID: 550-94035-5
Date Collected: 11/30/17 12:34
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	91		2.0	mg/L			12/05/17 22:26	1
Fluoride	1.8		0.40	mg/L			12/05/17 22:26	1
Sulfate	2700	D2	100	mg/L			12/05/17 22:45	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.050	mg/L		12/04/17 05:53	12/06/17 16:42	1
Calcium	560		2.0	mg/L		12/04/17 05:53	12/06/17 16:42	1
Magnesium	270		2.0	mg/L		12/04/17 05:53	12/06/17 16:42	1
Potassium	6.6		0.50	mg/L		12/04/17 05:53	12/06/17 16:42	1
Sodium	360		0.50	mg/L		12/04/17 05:53	12/06/17 16:42	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	500		6.0	mg/L			12/04/17 16:42	1
Bicarbonate Alkalinity as CaCO3	500		6.0	mg/L			12/04/17 16:42	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 16:42	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 16:42	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 16:42	1
Total Dissolved Solids	4500	D2	40	mg/L			12/05/17 11:16	1
pH	7.2	H5	1.7	SU			12/05/17 16:00	1
Temperature	20.6	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW64-113017

Lab Sample ID: 550-94035-6
Date Collected: 11/30/17 12:54
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52		2.0	mg/L			12/05/17 23:03	1
Fluoride	1.4		0.40	mg/L			12/05/17 23:03	1
Sulfate	350	D2	100	mg/L			12/05/17 23:21	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.64		0.050	mg/L		12/04/17 05:53	12/06/17 16:49	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW64-113017

Lab Sample ID: 550-94035-6
Date Collected: 11/30/17 12:54
Matrix: Water
Date Received: 12/02/17 07:51

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	90		2.0	mg/L		12/04/17 05:53	12/06/17 16:49	1
Magnesium	34		2.0	mg/L		12/04/17 05:53	12/06/17 16:49	1
Potassium	5.9		0.50	mg/L		12/04/17 05:53	12/06/17 16:49	1
Sodium	120		0.50	mg/L		12/04/17 05:53	12/06/17 16:49	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	230		6.0	mg/L			12/04/17 16:51	1
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L			12/04/17 16:51	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 16:51	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 16:51	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 16:51	1
Total Dissolved Solids	780		20	mg/L			12/05/17 11:16	1
pH	7.7	H5	1.7	SU			12/05/17 16:00	1
Temperature	20.7	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW65-113017

Lab Sample ID: 550-94035-7
Date Collected: 11/30/17 11:13
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	53		2.0	mg/L			12/05/17 23:40	1
Fluoride	2.0		0.40	mg/L			12/05/17 23:40	1
Sulfate	410	D2	40	mg/L			12/05/17 23:58	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.79		0.050	mg/L		12/04/17 05:53	12/06/17 16:52	1
Calcium	100		2.0	mg/L		12/04/17 05:53	12/06/17 16:52	1
Magnesium	57		2.0	mg/L		12/04/17 05:53	12/06/17 16:52	1
Potassium	3.5		0.50	mg/L		12/04/17 05:53	12/06/17 16:52	1
Sodium	140		0.50	mg/L		12/04/17 05:53	12/06/17 16:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	330		6.0	mg/L			12/04/17 17:00	1
Bicarbonate Alkalinity as CaCO3	330		6.0	mg/L			12/04/17 17:00	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 17:00	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 17:00	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 17:00	1
Total Dissolved Solids	990		20	mg/L			12/05/17 11:16	1
pH	7.6	H5	1.7	SU			12/05/17 16:00	1
Temperature	21.0	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW66-113017

Lab Sample ID: 550-94035-8
Date Collected: 11/30/17 11:36
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900	D2	400	mg/L			12/06/17 01:12	200
Fluoride	26	D2	2.0	mg/L			12/06/17 00:53	5
Sulfate	13000	D2	400	mg/L			12/06/17 01:12	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	140	D2	0.10	mg/L		12/04/17 05:53	12/06/17 17:01	2
Calcium	500		2.0	mg/L		12/04/17 05:53	12/06/17 17:08	1
Magnesium	2900	D2	8.0	mg/L		12/04/17 05:53	12/07/17 11:52	4
Potassium	48		0.50	mg/L		12/04/17 05:53	12/06/17 17:08	1
Sodium	770		0.50	mg/L		12/04/17 05:53	12/06/17 17:08	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	270		6.0	mg/L			12/04/17 17:09	1
Bicarbonate Alkalinity as CaCO3	270		6.0	mg/L			12/04/17 17:09	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 17:09	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 17:09	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 17:09	1
Total Dissolved Solids	19000	D2	200	mg/L			12/05/17 11:16	1
pH	7.3	H5	1.7	SU			12/05/17 16:00	1
Temperature	20.3	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW67-112917

Lab Sample ID: 550-94035-9
Date Collected: 11/29/17 15:32
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	mg/L			12/06/17 01:49	200
Fluoride	24	D2	2.0	mg/L			12/06/17 01:30	5
Sulfate	15000	D2	400	mg/L			12/06/17 01:49	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	160	D2	0.10	mg/L		12/04/17 05:53	12/06/17 17:15	2
Calcium	520		2.0	mg/L		12/04/17 05:53	12/06/17 17:22	1
Magnesium	3200	D2	8.0	mg/L		12/04/17 05:53	12/07/17 11:58	4
Potassium	51		0.50	mg/L		12/04/17 05:53	12/06/17 17:22	1
Sodium	910		0.50	mg/L		12/04/17 05:53	12/06/17 17:22	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	320		6.0	mg/L			12/04/17 17:56	1
Bicarbonate Alkalinity as CaCO3	320		6.0	mg/L			12/04/17 17:56	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 17:56	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 17:56	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 17:56	1
Total Dissolved Solids	23000	D2	200	mg/L			12/04/17 08:11	1
pH	7.3	H5	1.7	SU			12/05/17 16:00	1
Temperature	16.7	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW68-113017

Lab Sample ID: 550-94035-10
Date Collected: 11/30/17 09:13
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	mg/L			12/06/17 02:25	200
Fluoride	10	D2	2.0	mg/L			12/06/17 02:07	5
Sulfate	9700	D2	400	mg/L			12/06/17 02:25	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2	0.10	mg/L		12/04/17 05:53	12/06/17 17:29	2
Calcium	520		2.0	mg/L		12/04/17 05:53	12/06/17 17:36	1
Magnesium	2200	D2	8.0	mg/L		12/04/17 05:53	12/07/17 12:05	4
Potassium	16		0.50	mg/L		12/04/17 05:53	12/06/17 17:36	1
Sodium	680		0.50	mg/L		12/04/17 05:53	12/06/17 17:36	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	580		6.0	mg/L			12/04/17 18:07	1
Bicarbonate Alkalinity as CaCO3	580		6.0	mg/L			12/04/17 18:07	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:07	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 18:07	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:07	1
Total Dissolved Solids	16000	D2	100	mg/L			12/06/17 08:14	1
pH	7.1	H5	1.7	SU			12/05/17 16:00	1
Temperature	20.4	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-FD01-113017

Lab Sample ID: 550-94035-11
Date Collected: 11/30/17 09:13
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	mg/L			12/06/17 23:30	200
Fluoride	10	D2	2.0	mg/L			12/06/17 02:44	5
Sulfate	9400	D2	400	mg/L			12/06/17 23:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	130	D2	0.10	mg/L		12/04/17 05:53	12/07/17 12:19	2
Calcium	520		2.0	mg/L		12/04/17 05:53	12/06/17 17:50	1
Magnesium	2200	D2	8.0	mg/L		12/04/17 05:53	12/07/17 12:12	4
Potassium	16		0.50	mg/L		12/04/17 05:53	12/06/17 17:50	1
Sodium	680		0.50	mg/L		12/04/17 05:53	12/06/17 17:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	580		6.0	mg/L			12/04/17 18:17	1
Bicarbonate Alkalinity as CaCO3	580		6.0	mg/L			12/04/17 18:17	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:17	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 18:17	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:17	1
Total Dissolved Solids	16000	D2	100	mg/L			12/06/17 08:14	1
pH	7.1	H5	1.7	SU			12/05/17 16:00	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-FD01-113017
Lab Sample ID: 550-94035-11

Date Collected: 11/30/17 09:13
Date Received: 12/02/17 07:51
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	20.1	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW69-112917
Lab Sample ID: 550-94035-12

Date Collected: 11/29/17 15:00
Date Received: 12/02/17 07:51
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	400	mg/L			12/06/17 03:39	200
Fluoride	21	D2	2.0	mg/L			12/06/17 03:21	5
Sulfate	13000	D2	400	mg/L			12/06/17 03:39	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	150	D2	0.10	mg/L		12/04/17 05:53	12/06/17 17:57	2
Calcium	500		2.0	mg/L		12/04/17 05:53	12/06/17 18:09	1
Magnesium	2800	D2	8.0	mg/L		12/04/17 05:53	12/07/17 12:26	4
Potassium	51		0.50	mg/L		12/04/17 05:53	12/06/17 18:09	1
Sodium	830		0.50	mg/L		12/04/17 05:53	12/06/17 18:09	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	330		6.0	mg/L			12/04/17 18:27	1
Bicarbonate Alkalinity as CaCO3	330		6.0	mg/L			12/04/17 18:27	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:27	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 18:27	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:27	1
Total Dissolved Solids	20000	D2	100	mg/L			12/04/17 08:11	1
pH	7.4	H5	1.7	SU			12/05/17 16:00	1
Temperature	17.2	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW70-113017
Lab Sample ID: 550-94035-13

Date Collected: 11/30/17 13:23
Date Received: 12/02/17 07:51
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	mg/L			12/06/17 04:53	200
Fluoride	2.7	D2	0.80	mg/L			12/06/17 04:34	2
Sulfate	6300	D2	400	mg/L			12/06/17 04:53	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	92	D2	0.10	mg/L		12/04/17 05:53	12/07/17 12:33	2
Calcium	560		2.0	mg/L		12/04/17 05:53	12/06/17 18:16	1
Magnesium	1200	D2	4.0	mg/L		12/04/17 05:53	12/07/17 12:33	2
Potassium	19		0.50	mg/L		12/04/17 05:53	12/06/17 18:16	1
Sodium	880		0.50	mg/L		12/04/17 05:53	12/06/17 18:16	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW70-113017
Lab Sample ID: 550-94035-13

Date Collected: 11/30/17 13:23
Matrix: Water
Date Received: 12/02/17 07:51

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	510		6.0	mg/L			12/04/17 18:37	1
Bicarbonate Alkalinity as CaCO3	510		6.0	mg/L			12/04/17 18:37	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:37	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 18:37	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:37	1
Total Dissolved Solids	11000	D2	100	mg/L			12/06/17 08:14	1
pH	6.9	H5	1.7	SU			12/05/17 16:00	1
Temperature	20.1	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW71-113017
Lab Sample ID: 550-94035-14

Date Collected: 11/30/17 10:02
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	540	D2	400	mg/L			12/06/17 05:30	200
Fluoride	ND	D1 D5	2.0	mg/L			12/06/17 05:11	5
Sulfate	10000	D2	400	mg/L			12/06/17 05:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.56		0.050	mg/L		12/04/17 05:53	12/06/17 18:30	1
Calcium	490		2.0	mg/L		12/04/17 05:53	12/06/17 18:30	1
Magnesium	1700	D2	4.0	mg/L		12/04/17 05:53	12/06/17 18:23	2
Potassium	29		0.50	mg/L		12/04/17 05:53	12/06/17 18:30	1
Sodium	1100		0.50	mg/L		12/04/17 05:53	12/06/17 18:30	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	430		6.0	mg/L			12/04/17 18:47	1
Bicarbonate Alkalinity as CaCO3	430		6.0	mg/L			12/04/17 18:47	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:47	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 18:47	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:47	1
Total Dissolved Solids	15000	D2	100	mg/L			12/06/17 08:14	1
pH	7.1	H5	1.7	SU			12/05/17 16:00	1
Temperature	20.2	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW72-112917
Lab Sample ID: 550-94035-15

Date Collected: 11/29/17 16:49
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450	D2	10	mg/L			12/06/17 05:48	5
Fluoride	ND	D1 D5	2.0	mg/L			12/06/17 05:48	5
Sulfate	10000	D2	400	mg/L			12/06/17 06:06	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		12/04/17 05:53	12/06/17 18:43	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW72-112917

Lab Sample ID: 550-94035-15
Date Collected: 11/29/17 16:49
Matrix: Water
Date Received: 12/02/17 07:51

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		12/04/17 05:53	12/06/17 18:43	1
Magnesium	2300	D2	8.0	mg/L		12/04/17 05:53	12/07/17 12:39	4
Potassium	28		0.50	mg/L		12/04/17 05:53	12/06/17 18:43	1
Sodium	760		0.50	mg/L		12/04/17 05:53	12/06/17 18:43	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	590		6.0	mg/L			12/04/17 18:58	1
Bicarbonate Alkalinity as CaCO3	590		6.0	mg/L			12/04/17 18:58	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:58	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 18:58	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 18:58	1
Total Dissolved Solids	16000	D2	100	mg/L			12/04/17 08:11	1
pH	7.2	H5	1.7	SU			12/05/17 16:00	1
Temperature	17.2	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW73-112917

Lab Sample ID: 550-94035-16
Date Collected: 11/29/17 16:24
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	420	D2	40	mg/L			12/06/17 06:43	20
Fluoride	ND	D1 D5	0.80	mg/L			12/06/17 06:25	2
Sulfate	5600	D2	400	mg/L			12/06/17 07:02	200

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		12/04/17 05:53	12/06/17 18:50	1
Calcium	550		2.0	mg/L		12/04/17 05:53	12/06/17 18:50	1
Magnesium	640		2.0	mg/L		12/04/17 05:53	12/06/17 18:50	1
Potassium	32		0.50	mg/L		12/04/17 05:53	12/06/17 18:50	1
Sodium	1200		0.50	mg/L		12/04/17 05:53	12/06/17 18:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	650		6.0	mg/L			12/04/17 19:09	1
Bicarbonate Alkalinity as CaCO3	650		6.0	mg/L			12/04/17 19:09	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 19:09	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 19:09	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 19:09	1
Total Dissolved Solids	8900	D2	100	mg/L			12/04/17 08:11	1
pH	7.1	H5	1.7	SU			12/05/17 16:00	1
Temperature	16.7	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW74-113017

Lab Sample ID: 550-94035-17
Date Collected: 11/30/17 14:05
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	470	D2	200	mg/L			12/06/17 08:15	100
Fluoride	1.9		0.80	mg/L			12/06/17 07:20	2
Sulfate	12000	D2	400	mg/L			12/06/17 08:34	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.4		0.050	mg/L		12/04/17 05:53	12/06/17 18:57	1
Calcium	460		2.0	mg/L		12/04/17 05:53	12/06/17 18:57	1
Magnesium	1200	D2	4.0	mg/L		12/04/17 05:53	12/07/17 12:46	2
Potassium	28		0.50	mg/L		12/04/17 05:53	12/06/17 18:57	1
Sodium	3500	D2	1.0	mg/L		12/04/17 05:53	12/07/17 12:46	2

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	380		6.0	mg/L			12/04/17 19:19	1
Bicarbonate Alkalinity as CaCO3	380		6.0	mg/L			12/04/17 19:19	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 19:19	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/04/17 19:19	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/04/17 19:19	1
Total Dissolved Solids	17000	D2	100	mg/L			12/06/17 08:14	1
pH	7.6	H5	1.7	SU			12/05/17 16:00	1
Temperature	19.2	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample ID: FC-CCR-MW75-113017

Lab Sample ID: 550-94035-18
Date Collected: 11/30/17 14:57
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300	D2	10	mg/L			12/06/17 08:52	5
Fluoride	ND	D1 D5	2.0	mg/L			12/06/17 08:52	5
Sulfate	4400	D2	400	mg/L			12/06/17 09:10	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	26		0.050	mg/L		12/04/17 05:53	12/06/17 19:04	1
Calcium	490		2.0	mg/L		12/04/17 05:53	12/06/17 19:04	1
Magnesium	230		2.0	mg/L		12/04/17 05:53	12/06/17 19:04	1
Potassium	24		0.50	mg/L		12/04/17 05:53	12/06/17 19:04	1
Sodium	1300		0.50	mg/L		12/04/17 05:53	12/06/17 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	90		6.0	mg/L			12/05/17 12:45	1
Bicarbonate Alkalinity as CaCO3	90		6.0	mg/L			12/05/17 12:45	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			12/05/17 12:45	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			12/05/17 12:45	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			12/05/17 12:45	1
Total Dissolved Solids	6500	D2	100	mg/L			12/06/17 08:14	1
pH	8.3	H5	1.7	SU			12/05/17 16:00	1
Temperature	16.9	H5	0.1	Degrees C			12/05/17 16:00	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-FD02-113017

Lab Sample ID: 550-94035-19

Date Collected: 11/30/17 14:57
Matrix: Water
Date Received: 12/02/17 07:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**300**	**D2**	10		mg/L			12/06/17 10:06	5
Fluoride	ND	D1 D5	2.0		mg/L			12/06/17 10:06	5
Sulfate	**4300**	**D2**	400		mg/L			12/06/17 10:24	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	**25**		0.050		mg/L		12/04/17 05:53	12/06/17 19:11	1
Calcium	**480**		2.0		mg/L		12/04/17 05:53	12/06/17 19:11	1
Magnesium	**230**		2.0		mg/L		12/04/17 05:53	12/06/17 19:11	1
Potassium	**24**		0.50		mg/L		12/04/17 05:53	12/06/17 19:11	1
Sodium	**1200**		0.50		mg/L		12/04/17 05:53	12/06/17 19:11	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**90**		6.0		mg/L			12/05/17 12:45	1
Bicarbonate Alkalinity as CaCO3	**90**		6.0		mg/L			12/05/17 12:45	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			12/05/17 12:45	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			12/05/17 12:45	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			12/05/17 12:45	1
Total Dissolved Solids	**6300**	**D2**	100		mg/L			12/06/17 08:14	1
pH	**8.3**	**H5**	1.7		SU			12/05/17 16:00	1
Temperature	**16.7**	**H5**	0.1		Degrees C			12/05/17 16:00	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-134072/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134072

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/05/17 16:00	1
Fluoride	ND		0.40		mg/L			12/05/17 16:00	1
Sulfate	ND		2.0		mg/L			12/05/17 16:00	1

Lab Sample ID: LCS 550-134072/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134072

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.5		mg/L		107	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-134072/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134072

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.4		mg/L		107	90 - 110	0	20
Fluoride	4.00	4.06		mg/L		101	90 - 110	1	20
Sulfate	20.0	20.5		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-94035-1 MS — **Client Sample ID: FC-CCR-MW7-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134072

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND	D1 D5	8.00	8.21	D1	mg/L		98	80 - 120

Lab Sample ID: 550-94035-1 MS — **Client Sample ID: FC-CCR-MW7-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134072

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	440	D2	4000	4880	D2	mg/L		111	80 - 120
Sulfate	6600	D2	4000	10900	D2	mg/L		107	80 - 120

Lab Sample ID: 550-94035-1 MSD — **Client Sample ID: FC-CCR-MW7-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134072

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	8.27	D1	mg/L		99	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-94035-1 MSD — **Client Sample ID: FC-CCR-MW7-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134072

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	440	D2	4000	5020	D2	mg/L		114	80 - 120	3	20
Sulfate	6600	D2	4000	11000	D2	mg/L		109	80 - 120	1	20

Lab Sample ID: MB 550-134073/60 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134073

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			12/06/17 09:47	1
Fluoride	ND		0.40	mg/L			12/06/17 09:47	1
Sulfate	ND		2.0	mg/L			12/06/17 09:47	1

Lab Sample ID: LCS 550-134073/73 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134073

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.5		mg/L		107	90 - 110
Fluoride	4.00	4.14		mg/L		104	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-134073/74 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134073

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.5		mg/L		108	90 - 110	0	20
Fluoride	4.00	4.15		mg/L		104	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-93268-B-1 MS ^20 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134073

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	40	D1	400	485	D1	mg/L		111	80 - 120
Fluoride	ND	D1	80.0	84.9	D1	mg/L		106	80 - 120
Sulfate	1200	D2	400	1610	D2	mg/L		96	80 - 120

Lab Sample ID: 550-93268-B-1 MSD ^20 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134073

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	40	D1	400	485	D1	mg/L		111	80 - 120	0	20
Fluoride	ND	D1	80.0	85.0	D1	mg/L		106	80 - 120	0	20
Sulfate	1200	D2	400	1590	D2	mg/L		93	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-134159/18 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134159

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			12/07/17 02:15	1
Fluoride	ND		0.40		mg/L			12/07/17 02:15	1
Sulfate	ND		2.0		mg/L			12/07/17 02:15	1

Lab Sample ID: LCS 550-134159/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134159

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.6		mg/L		108	90 - 110
Fluoride	4.00	4.12		mg/L		103	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-134159/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134159

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.6		mg/L		108	90 - 110	0	20
Fluoride	4.00	4.11		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-93939-A-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134159

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	8.6		20.0	31.3		mg/L		114	80 - 120
Fluoride	1.4		4.00	5.68		mg/L		108	80 - 120
Sulfate	9.2		20.0	30.5		mg/L		107	80 - 120

Lab Sample ID: 550-93939-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134159

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	8.6		20.0	32.0		mg/L		117	80 - 120	2	20
Fluoride	1.4		4.00	5.81		mg/L		111	80 - 120	2	20
Sulfate	9.2		20.0	31.2		mg/L		110	80 - 120	2	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-133779/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134132 — **Prep Batch: 133779**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		12/04/17 05:53	12/06/17 15:44	1
Calcium	ND		2.0		mg/L		12/04/17 05:53	12/06/17 15:44	1

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

Lab Sample ID: MB 550-133779/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134132 — **Prep Batch: 133779**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		2.0	mg/L		12/04/17 05:53	12/06/17 15:44	1
Potassium	ND		0.50	mg/L		12/04/17 05:53	12/06/17 15:44	1
Sodium	ND		0.50	mg/L		12/04/17 05:53	12/06/17 15:44	1

Lab Sample ID: LCS 550-133779/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134132 — **Prep Batch: 133779**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.991		mg/L		99	85 - 115
Calcium	21.0	21.7		mg/L		103	85 - 115
Magnesium	21.0	20.8		mg/L		99	85 - 115
Potassium	20.0	19.4		mg/L		97	85 - 115
Sodium	20.0	19.3		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-133779/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134132 — **Prep Batch: 133779**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.981		mg/L		98	85 - 115	1	20
Calcium	21.0	21.4		mg/L		102	85 - 115	1	20
Magnesium	21.0	20.5		mg/L		98	85 - 115	2	20
Potassium	20.0	19.0		mg/L		95	85 - 115	2	20
Sodium	20.0	19.2		mg/L		96	85 - 115	1	20

Lab Sample ID: 550-94035-1 MS — **Client Sample ID: FC-CCR-MW7-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134132 — **Prep Batch: 133779**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	7.7	M3	1.00	8.21	M3	mg/L		54	70 - 130
Calcium	420	M3	21.0	408	M3	mg/L		-39	70 - 130
Magnesium	560	M3	21.0	550	M3	mg/L		-58	70 - 130
Potassium	38		20.0	57.9		mg/L		100	70 - 130
Sodium	1900	M3	20.0	1820	M3	mg/L		-347	70 - 130

Lab Sample ID: 550-94035-1 MSD — **Client Sample ID: FC-CCR-MW7-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134132 — **Prep Batch: 133779**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	7.7	M3	1.00	8.34	M3	mg/L		66	70 - 130	1	20
Calcium	420	M3	21.0	414	M3	mg/L		-8	70 - 130	2	20
Magnesium	560	M3	21.0	565	M3	mg/L		13	70 - 130	3	20
Potassium	38		20.0	59.9		mg/L		110	70 - 130	3	20
Sodium	1900	M3	20.0	1870	M3	mg/L		-65	70 - 130	3	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-133889/35 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133889

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			12/04/17 15:20	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			12/04/17 15:20	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			12/04/17 15:20	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			12/04/17 15:20	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			12/04/17 15:20	1

Lab Sample ID: LCS 550-133889/34 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133889

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			250	255		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-133889/48 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133889

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3			250	257		mg/L		103	90 - 110	1	20

Lab Sample ID: 550-94009-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133889

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	130			135		mg/L				2	20
Bicarbonate Alkalinity as CaCO3	130			135		mg/L				2	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Lab Sample ID: 550-94035-1 DU — **Client Sample ID: FC-CCR-MW7-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133889

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	500			505		mg/L				0.2	20
Bicarbonate Alkalinity as CaCO3	500			505		mg/L				0.2	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

Lab Sample ID: MB 550-133972/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133972

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			12/05/17 12:45	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			12/05/17 12:45	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-133972/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133972

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			12/05/17 12:45	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			12/05/17 12:45	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			12/05/17 12:45	1

Lab Sample ID: LCS 550-133972/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133972

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

Lab Sample ID: LCSD 550-133972/7 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133972

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

Lab Sample ID: 550-94066-B-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133972

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	280			280		mg/L				1	20
Bicarbonate Alkalinity as CaCO3	280			280		mg/L				1	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Alkalinity, Phenolphthalein	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

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

Lab Sample ID: MB 550-133788/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133788

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			12/04/17 08:11	1

Lab Sample ID: LCS 550-133788/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133788

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	950		mg/L		95	90 - 110		

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

Lab Sample ID: LCSD 550-133788/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133788

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	964		mg/L		96	90 - 110	1	10

Lab Sample ID: 550-93954-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133788

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	370			352		mg/L				4	10

Lab Sample ID: 550-94035-15 DU — **Client Sample ID: FC-CCR-MW72-112917**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133788

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	16000	D2		15400	D2	mg/L				2	10

Lab Sample ID: MB 550-133934/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133934

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			12/05/17 11:16	1

Lab Sample ID: LCS 550-133934/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133934

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 550-133934/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133934

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

Lab Sample ID: 550-94035-1 DU — **Client Sample ID: FC-CCR-MW7-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133934

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	10000	D2		10100	D2	mg/L				3	10

Lab Sample ID: MB 550-134016/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134016

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			12/06/17 08:14	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Lab Sample ID: LCS 550-134016/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134016

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	980		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-134016/3 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134016

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	966		mg/L		97	90 - 110	1	10

Lab Sample ID: 550-94035-10 DU — **Client Sample ID: FC-CCR-MW68-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 134016

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	16000	D2		15600	D2	mg/L				2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-133990/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133990

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: LCSSRM 550-133990/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133990

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 550-133990/24 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133990

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.4	98.5 - 101.5		

Lab Sample ID: 550-94035-1 DU — **Client Sample ID: FC-CCR-MW7-113017**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 133990

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.5	H5		7.5	H5	SU				0.4	5
Temperature	20.6	H5		20.5	H5	Degrees C				0.5	

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

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

Lab Sample ID: 550-94035-19 DU
Matrix: Water
Analysis Batch: 133990

Client Sample ID: FC-CCR-FD02-113017
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.3	H5		8.3	H5	SU				0.1	5
Temperature	16.7	H5		16.2	H5	Degrees C				3	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

HPLC/IC

Analysis Batch: 134072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-1	FC-CCR-MW7-113017	Total/NA	Water	300.0	
550-94035-1	FC-CCR-MW7-113017	Total/NA	Water	300.0	
550-94035-2	FC-CCR-MW49A-113017	Total/NA	Water	300.0	
550-94035-2	FC-CCR-MW49A-113017	Total/NA	Water	300.0	
550-94035-3	FC-CCR-MW61-113017	Total/NA	Water	300.0	
550-94035-3	FC-CCR-MW61-113017	Total/NA	Water	300.0	
550-94035-4	FC-CCR-MW62-113017	Total/NA	Water	300.0	
550-94035-4	FC-CCR-MW62-113017	Total/NA	Water	300.0	
550-94035-5	FC-CCR-MW63-113017	Total/NA	Water	300.0	
550-94035-5	FC-CCR-MW63-113017	Total/NA	Water	300.0	
550-94035-6	FC-CCR-MW64-113017	Total/NA	Water	300.0	
550-94035-6	FC-CCR-MW64-113017	Total/NA	Water	300.0	
550-94035-7	FC-CCR-MW65-113017	Total/NA	Water	300.0	
550-94035-7	FC-CCR-MW65-113017	Total/NA	Water	300.0	
550-94035-8	FC-CCR-MW66-113017	Total/NA	Water	300.0	
550-94035-8	FC-CCR-MW66-113017	Total/NA	Water	300.0	
550-94035-9	FC-CCR-MW67-112917	Total/NA	Water	300.0	
550-94035-9	FC-CCR-MW67-112917	Total/NA	Water	300.0	
550-94035-10	FC-CCR-MW68-113017	Total/NA	Water	300.0	
550-94035-10	FC-CCR-MW68-113017	Total/NA	Water	300.0	
550-94035-11	FC-CCR-FD01-113017	Total/NA	Water	300.0	
550-94035-12	FC-CCR-MW69-112917	Total/NA	Water	300.0	
550-94035-12	FC-CCR-MW69-112917	Total/NA	Water	300.0	
550-94035-13	FC-CCR-MW70-113017	Total/NA	Water	300.0	
550-94035-13	FC-CCR-MW70-113017	Total/NA	Water	300.0	
550-94035-14	FC-CCR-MW71-113017	Total/NA	Water	300.0	
550-94035-14	FC-CCR-MW71-113017	Total/NA	Water	300.0	
550-94035-15	FC-CCR-MW72-112917	Total/NA	Water	300.0	
550-94035-15	FC-CCR-MW72-112917	Total/NA	Water	300.0	
550-94035-16	FC-CCR-MW73-112917	Total/NA	Water	300.0	
550-94035-16	FC-CCR-MW73-112917	Total/NA	Water	300.0	
550-94035-16	FC-CCR-MW73-112917	Total/NA	Water	300.0	
550-94035-17	FC-CCR-MW74-113017	Total/NA	Water	300.0	
550-94035-17	FC-CCR-MW74-113017	Total/NA	Water	300.0	
550-94035-17	FC-CCR-MW74-113017	Total/NA	Water	300.0	
550-94035-18	FC-CCR-MW75-113017	Total/NA	Water	300.0	
550-94035-18	FC-CCR-MW75-113017	Total/NA	Water	300.0	
MB 550-134072/2	Method Blank	Total/NA	Water	300.0	
LCS 550-134072/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-134072/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-94035-1 MS	FC-CCR-MW7-113017	Total/NA	Water	300.0	
550-94035-1 MS	FC-CCR-MW7-113017	Total/NA	Water	300.0	
550-94035-1 MSD	FC-CCR-MW7-113017	Total/NA	Water	300.0	
550-94035-1 MSD	FC-CCR-MW7-113017	Total/NA	Water	300.0	

Analysis Batch: 134073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-19	FC-CCR-FD02-113017	Total/NA	Water	300.0	
550-94035-19	FC-CCR-FD02-113017	Total/NA	Water	300.0	
MB 550-134073/60	Method Blank	Total/NA	Water	300.0	
LCS 550-134073/73	Lab Control Sample	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 134073 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-134073/74	Lab Control Sample Dup	Total/NA	Water	300.0	
550-93268-B-1 MS ^20	Matrix Spike	Total/NA	Water	300.0	
550-93268-B-1 MSD ^20	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 134159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-11	FC-CCR-FD01-113017	Total/NA	Water	300.0	
MB 550-134159/18	Method Blank	Total/NA	Water	300.0	
LCS 550-134159/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-134159/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-93939-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-93939-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 133779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-1	FC-CCR-MW7-113017	Total/NA	Water	200.7	
550-94035-2	FC-CCR-MW49A-113017	Total/NA	Water	200.7	
550-94035-3	FC-CCR-MW61-113017	Total/NA	Water	200.7	
550-94035-4	FC-CCR-MW62-113017	Total/NA	Water	200.7	
550-94035-5	FC-CCR-MW63-113017	Total/NA	Water	200.7	
550-94035-6	FC-CCR-MW64-113017	Total/NA	Water	200.7	
550-94035-7	FC-CCR-MW65-113017	Total/NA	Water	200.7	
550-94035-8	FC-CCR-MW66-113017	Total/NA	Water	200.7	
550-94035-9	FC-CCR-MW67-112917	Total/NA	Water	200.7	
550-94035-10	FC-CCR-MW68-113017	Total/NA	Water	200.7	
550-94035-11	FC-CCR-FD01-113017	Total/NA	Water	200.7	
550-94035-12	FC-CCR-MW69-112917	Total/NA	Water	200.7	
550-94035-13	FC-CCR-MW70-113017	Total/NA	Water	200.7	
550-94035-14	FC-CCR-MW71-113017	Total/NA	Water	200.7	
550-94035-15	FC-CCR-MW72-112917	Total/NA	Water	200.7	
550-94035-16	FC-CCR-MW73-112917	Total/NA	Water	200.7	
550-94035-17	FC-CCR-MW74-113017	Total/NA	Water	200.7	
550-94035-18	FC-CCR-MW75-113017	Total/NA	Water	200.7	
550-94035-19	FC-CCR-FD02-113017	Total/NA	Water	200.7	
MB 550-133779/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-133779/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-133779/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-94035-1 MS	FC-CCR-MW7-113017	Total/NA	Water	200.7	
550-94035-1 MSD	FC-CCR-MW7-113017	Total/NA	Water	200.7	

Analysis Batch: 134132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-1	FC-CCR-MW7-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-2	FC-CCR-MW49A-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-2	FC-CCR-MW49A-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-3	FC-CCR-MW61-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-4	FC-CCR-MW62-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-5	FC-CCR-MW63-113017	Total/NA	Water	200.7 Rev 4.4	133779

Metals (Continued)

Analysis Batch: 134132 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-6	FC-CCR-MW64-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-7	FC-CCR-MW65-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-8	FC-CCR-MW66-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-8	FC-CCR-MW66-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-9	FC-CCR-MW67-112917	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-9	FC-CCR-MW67-112917	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-10	FC-CCR-MW68-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-10	FC-CCR-MW68-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-11	FC-CCR-FD01-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-12	FC-CCR-MW69-112917	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-12	FC-CCR-MW69-112917	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-13	FC-CCR-MW70-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-14	FC-CCR-MW71-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-14	FC-CCR-MW71-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-15	FC-CCR-MW72-112917	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-16	FC-CCR-MW73-112917	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-17	FC-CCR-MW74-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-18	FC-CCR-MW75-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-19	FC-CCR-FD02-113017	Total/NA	Water	200.7 Rev 4.4	133779
MB 550-133779/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	133779
LCS 550-133779/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	133779
LCSD 550-133779/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-1 MS	FC-CCR-MW7-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-1 MSD	FC-CCR-MW7-113017	Total/NA	Water	200.7 Rev 4.4	133779

Analysis Batch: 134174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-2	FC-CCR-MW49A-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-8	FC-CCR-MW66-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-9	FC-CCR-MW67-112917	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-10	FC-CCR-MW68-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-11	FC-CCR-FD01-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-11	FC-CCR-FD01-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-12	FC-CCR-MW69-112917	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-13	FC-CCR-MW70-113017	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-15	FC-CCR-MW72-112917	Total/NA	Water	200.7 Rev 4.4	133779
550-94035-17	FC-CCR-MW74-113017	Total/NA	Water	200.7 Rev 4.4	133779

General Chemistry

Analysis Batch: 133788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-9	FC-CCR-MW67-112917	Total/NA	Water	SM 2540C	
550-94035-12	FC-CCR-MW69-112917	Total/NA	Water	SM 2540C	
550-94035-15	FC-CCR-MW72-112917	Total/NA	Water	SM 2540C	
550-94035-16	FC-CCR-MW73-112917	Total/NA	Water	SM 2540C	
MB 550-133788/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-133788/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-133788/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-93954-B-1 DU	Duplicate	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 133788 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-15 DU	FC-CCR-MW72-112917	Total/NA	Water	SM 2540C	

Analysis Batch: 133889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-1	FC-CCR-MW7-113017	Total/NA	Water	SM 2320B	
550-94035-2	FC-CCR-MW49A-113017	Total/NA	Water	SM 2320B	
550-94035-3	FC-CCR-MW61-113017	Total/NA	Water	SM 2320B	
550-94035-5	FC-CCR-MW63-113017	Total/NA	Water	SM 2320B	
550-94035-6	FC-CCR-MW64-113017	Total/NA	Water	SM 2320B	
550-94035-7	FC-CCR-MW65-113017	Total/NA	Water	SM 2320B	
550-94035-8	FC-CCR-MW66-113017	Total/NA	Water	SM 2320B	
550-94035-9	FC-CCR-MW67-112917	Total/NA	Water	SM 2320B	
550-94035-10	FC-CCR-MW68-113017	Total/NA	Water	SM 2320B	
550-94035-11	FC-CCR-FD01-113017	Total/NA	Water	SM 2320B	
550-94035-12	FC-CCR-MW69-112917	Total/NA	Water	SM 2320B	
550-94035-13	FC-CCR-MW70-113017	Total/NA	Water	SM 2320B	
550-94035-14	FC-CCR-MW71-113017	Total/NA	Water	SM 2320B	
550-94035-15	FC-CCR-MW72-112917	Total/NA	Water	SM 2320B	
550-94035-16	FC-CCR-MW73-112917	Total/NA	Water	SM 2320B	
550-94035-17	FC-CCR-MW74-113017	Total/NA	Water	SM 2320B	
MB 550-133889/35	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-133889/34	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-133889/48	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-94009-A-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-94035-1 DU	FC-CCR-MW7-113017	Total/NA	Water	SM 2320B	

Analysis Batch: 133934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-1	FC-CCR-MW7-113017	Total/NA	Water	SM 2540C	
550-94035-2	FC-CCR-MW49A-113017	Total/NA	Water	SM 2540C	
550-94035-3	FC-CCR-MW61-113017	Total/NA	Water	SM 2540C	
550-94035-4	FC-CCR-MW62-113017	Total/NA	Water	SM 2540C	
550-94035-5	FC-CCR-MW63-113017	Total/NA	Water	SM 2540C	
550-94035-6	FC-CCR-MW64-113017	Total/NA	Water	SM 2540C	
550-94035-7	FC-CCR-MW65-113017	Total/NA	Water	SM 2540C	
550-94035-8	FC-CCR-MW66-113017	Total/NA	Water	SM 2540C	
MB 550-133934/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-133934/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-133934/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-94035-1 DU	FC-CCR-MW7-113017	Total/NA	Water	SM 2540C	

Analysis Batch: 133972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-18	FC-CCR-MW75-113017	Total/NA	Water	SM 2320B	
550-94035-19	FC-CCR-FD02-113017	Total/NA	Water	SM 2320B	
MB 550-133972/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-133972/2	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-133972/7	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-94066-B-2 DU	Duplicate	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 133973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-4	FC-CCR-MW62-113017	Total/NA	Water	SM 2320B	

Analysis Batch: 133990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-1	FC-CCR-MW7-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-2	FC-CCR-MW49A-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-3	FC-CCR-MW61-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-4	FC-CCR-MW62-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-5	FC-CCR-MW63-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-6	FC-CCR-MW64-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-7	FC-CCR-MW65-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-8	FC-CCR-MW66-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-9	FC-CCR-MW67-112917	Total/NA	Water	SM 4500 H+ B	
550-94035-10	FC-CCR-MW68-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-11	FC-CCR-FD01-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-12	FC-CCR-MW69-112917	Total/NA	Water	SM 4500 H+ B	
550-94035-13	FC-CCR-MW70-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-14	FC-CCR-MW71-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-15	FC-CCR-MW72-112917	Total/NA	Water	SM 4500 H+ B	
550-94035-16	FC-CCR-MW73-112917	Total/NA	Water	SM 4500 H+ B	
550-94035-17	FC-CCR-MW74-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-18	FC-CCR-MW75-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-19	FC-CCR-FD02-113017	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-133990/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-133990/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-133990/24	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-94035-1 DU	FC-CCR-MW7-113017	Total/NA	Water	SM 4500 H+ B	
550-94035-19 DU	FC-CCR-FD02-113017	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 134016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-94035-10	FC-CCR-MW68-113017	Total/NA	Water	SM 2540C	
550-94035-11	FC-CCR-FD01-113017	Total/NA	Water	SM 2540C	
550-94035-13	FC-CCR-MW70-113017	Total/NA	Water	SM 2540C	
550-94035-14	FC-CCR-MW71-113017	Total/NA	Water	SM 2540C	
550-94035-17	FC-CCR-MW74-113017	Total/NA	Water	SM 2540C	
550-94035-18	FC-CCR-MW75-113017	Total/NA	Water	SM 2540C	
550-94035-19	FC-CCR-FD02-113017	Total/NA	Water	SM 2540C	
MB 550-134016/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-134016/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-134016/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-94035-10 DU	FC-CCR-MW68-113017	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW7-113017 — Lab Sample ID: 550-94035-1

Date Collected: 11/30/17 15:26 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	134072	12/05/17 18:09	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/05/17 19:04	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 16:07	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 17:36	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133934		YET	TAL PHX
					(Start)	12/05/17 11:16		
					(End)	12/06/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW49A-113017 — Lab Sample ID: 550-94035-2

Date Collected: 11/30/17 16:02 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	134072	12/05/17 19:59	JAE	TAL PHX
Total/NA	Analysis	300.0		500	134072	12/05/17 20:17	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	134132	12/06/17 16:15	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 16:22	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	134174	12/07/17 11:45	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 16:11	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133934		YET	TAL PHX
					(Start)	12/05/17 11:16		
					(End)	12/06/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW61-113017 — Lab Sample ID: 550-94035-3

Date Collected: 11/30/17 14:33 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	134072	12/05/17 21:13	JAE	TAL PHX
Total/NA	Analysis	300.0		50	134072	12/05/17 21:31	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 16:29	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 16:18	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133934		YET	TAL PHX
					(Start)	12/05/17 11:16		
					(End)	12/06/17 10:15		

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW61-113017 — Lab Sample ID: 550-94035-3

Date Collected: 11/30/17 14:33 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW62-113017 — Lab Sample ID: 550-94035-4

Date Collected: 11/30/17 12:02 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	134072	12/05/17 21:49	JAE	TAL PHX
Total/NA	Analysis	300.0		50	134072	12/05/17 22:08	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 16:36	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133973	12/05/17 12:45	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133934		YET	TAL PHX
					(Start)	12/05/17 11:16		
					(End)	12/06/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW63-113017 — Lab Sample ID: 550-94035-5

Date Collected: 11/30/17 12:34 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	134072	12/05/17 22:26	JAE	TAL PHX
Total/NA	Analysis	300.0		50	134072	12/05/17 22:45	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 16:42	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 16:42	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133934		YET	TAL PHX
					(Start)	12/05/17 11:16		
					(End)	12/06/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW64-113017 — Lab Sample ID: 550-94035-6

Date Collected: 11/30/17 12:54 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	134072	12/05/17 23:03	JAE	TAL PHX
Total/NA	Analysis	300.0		50	134072	12/05/17 23:21	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 16:49	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 16:51	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW64-113017 — Lab Sample ID: 550-94035-6

Date Collected: 11/30/17 12:54
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	133934		YET	TAL PHX
					(Start)	12/05/17 11:16		
					(End)	12/06/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW65-113017 — Lab Sample ID: 550-94035-7

Date Collected: 11/30/17 11:13
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	134072	12/05/17 23:40	JAE	TAL PHX
Total/NA	Analysis	300.0		20	134072	12/05/17 23:58	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 16:52	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 17:00	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133934		YET	TAL PHX
					(Start)	12/05/17 11:16		
					(End)	12/06/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW66-113017 — Lab Sample ID: 550-94035-8

Date Collected: 11/30/17 11:36
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	134072	12/06/17 00:53	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 01:12	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	134132	12/06/17 17:01	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 17:08	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	134174	12/07/17 11:52	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 17:09	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133934		YET	TAL PHX
					(Start)	12/05/17 11:16		
					(End)	12/06/17 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW67-112917 — Lab Sample ID: 550-94035-9

Date Collected: 11/29/17 15:32
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	134072	12/06/17 01:30	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 01:49	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	134132	12/06/17 17:15	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 17:22	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	134174	12/07/17 11:58	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 17:56	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133788		YET	TAL PHX
					(Start)	12/04/17 08:11		
					(End)	12/05/17 10:25		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW68-113017 — Lab Sample ID: 550-94035-10

Date Collected: 11/30/17 09:13
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	134072	12/06/17 02:07	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 02:25	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	134132	12/06/17 17:29	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 17:36	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	134174	12/07/17 12:05	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 18:07	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	134016		YET	TAL PHX
					(Start)	12/06/17 08:14		
					(End)	12/07/17 10:10		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-FD01-113017 — Lab Sample ID: 550-94035-11

Date Collected: 11/30/17 09:13
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	134072	12/06/17 02:44	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134159	12/06/17 23:30	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 17:50	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-FD01-113017 — Lab Sample ID: 550-94035-11

Date Collected: 11/30/17 09:13
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	134174	12/07/17 12:12	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	134174	12/07/17 12:19	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 18:17	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	134016		YET	TAL PHX
					(Start)	12/06/17 08:14		
					(End)	12/07/17 10:10		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW69-112917 — Lab Sample ID: 550-94035-12

Date Collected: 11/29/17 15:00
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	134072	12/06/17 03:21	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 03:39	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	134132	12/06/17 17:57	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 18:09	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	134174	12/07/17 12:26	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 18:27	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133788		YET	TAL PHX
					(Start)	12/04/17 08:11		
					(End)	12/05/17 10:25		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW70-113017 — Lab Sample ID: 550-94035-13

Date Collected: 11/30/17 13:23
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	134072	12/06/17 04:34	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 04:53	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 18:16	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	134174	12/07/17 12:33	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 18:37	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW70-113017 — Lab Sample ID: 550-94035-13

Date Collected: 11/30/17 13:23 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	134016		YET	TAL PHX
					(Start)	12/06/17 08:14		
					(End)	12/07/17 10:10		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW71-113017 — Lab Sample ID: 550-94035-14

Date Collected: 11/30/17 10:02 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	134072	12/06/17 05:11	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 05:30	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	134132	12/06/17 18:23	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 18:30	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 18:47	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	134016		YET	TAL PHX
					(Start)	12/06/17 08:14		
					(End)	12/07/17 10:10		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW72-112917 — Lab Sample ID: 550-94035-15

Date Collected: 11/29/17 16:49 — **Matrix: Water**
Date Received: 12/02/17 07:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	134072	12/06/17 05:48	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 06:06	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 18:43	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		4	134174	12/07/17 12:39	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 18:58	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133788		YET	TAL PHX
					(Start)	12/04/17 08:11		
					(End)	12/05/17 10:25		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW73-112917 — Lab Sample ID: 550-94035-16

Date Collected: 11/29/17 16:24
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	134072	12/06/17 06:25	JAE	TAL PHX
Total/NA	Analysis	300.0		20	134072	12/06/17 06:43	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 07:02	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 18:50	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 19:09	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	133788		YET	TAL PHX
					(Start)	12/04/17 08:11		
					(End)	12/05/17 10:25		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW74-113017 — Lab Sample ID: 550-94035-17

Date Collected: 11/30/17 14:05
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	134072	12/06/17 07:20	JAE	TAL PHX
Total/NA	Analysis	300.0		100	134072	12/06/17 08:15	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 08:34	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 18:57	ARE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	134174	12/07/17 12:46	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133889	12/04/17 19:19	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	134016		YET	TAL PHX
					(Start)	12/06/17 08:14		
					(End)	12/07/17 10:10		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-MW75-113017 — Lab Sample ID: 550-94035-18

Date Collected: 11/30/17 14:57
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	134072	12/06/17 08:52	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134072	12/06/17 09:10	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 19:04	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133972	12/05/17 12:45	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	134016		YET	TAL PHX
					(Start)	12/06/17 08:14		
					(End)	12/07/17 10:10		

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR

TestAmerica Job ID: 550-94035-1
SDG: Cholla

Client Sample ID: FC-CCR-MW75-113017 — Lab Sample ID: 550-94035-18

Date Collected: 11/30/17 14:57
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	NEL	TAL PHX

Client Sample ID: FC-CCR-FD02-113017 — Lab Sample ID: 550-94035-19

Date Collected: 11/30/17 14:57
Date Received: 12/02/17 07:51
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	134073	12/06/17 10:06	JAE	TAL PHX
Total/NA	Analysis	300.0		200	134073	12/06/17 10:24	JAE	TAL PHX
Total/NA	Prep	200.7			133779	12/04/17 05:53	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	134132	12/06/17 19:11	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	133972	12/05/17 12:45	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	134016		YET	TAL PHX
					(Start)	12/06/17 08:14		
					(End)	12/07/17 10:10		
Total/NA	Analysis	SM 4500 H+ B		1	133990	12/05/17 16:00	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: 550-94035-1
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: 550-94035-1
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

94035

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

12/7/2017

Regulatory Program: CCR

TestAmerica Laboratories, Inc.

Client Contact	**Doug Lavarnway**	**Doug Lavarnway**	**12/1/2017**
APS Four Corners	**928-587-0319**	**Lab Contact:**	**Carrier:**
End of County Road 6675	**Analysis Turnaround Time**		
Fruitland, New Mexico 87416	**RUSH**		
(928) 587-0319 Phone	TAT if different from Below _____		
(xxx) xxx-xxxx FAX			
Project Name: CCR			
Site: Cholla			
P O # 100585147			

COC No: 1 of 2 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 200.7 Rev 4.4 (B, Ca, Na, K, Mg)	EPA 300.0 (Cl, F, SO4)	SM 2540C (TDS)	SM 4500-HB (pH)	SM 2320B (HCO3)	Sample Specific Notes:
FC-CCR-MW7-113017	11/30/2017	1526	G	W	2	N	x	x	x	x	x	x	-01
FC-CCR-MW49A-113017	11/30/2017	1602	G	W	2	N	x	x	x	x	x	x	-02
FC-CCR-MW61-113017	11/30/2017	1433	G	W	2	N	x	x	x	x	x	x	-03
FC-CCR-MW62-113017	11/30/2017	1202	G	W	2	N	x	x	x	x	x	x	-04
FC-CCR-MW63-113017	11/30/2017	1234	G	W	2	N	x	x	x	x	x	x	-05
FC-CCR-MW64-113017	11/30/2017	1254	G	W	2	N	x	x	x	x	x	x	-06
FC-CCR-MW65-113017	11/30/2017	1113	G	W	2	N	x	x	x	x	x	x	-07
FC-CCR-MW66-113017	11/30/2017	1136	G	W	2	N	x	x	x	x	x	x	-08

550-94035 Chain of Custody

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

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

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

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

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

1.1°C, 0.6°C cdo/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	12/01 0930	[illegible]	Red J	12/1/17 9:30am
Duane Petersen	Red J	12/02/17 0751			
			Received in Laboratory by:		12-2-17 0751

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

94035

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

12/7/2017

Regulatory Program: CCR

TestAmerica Laboratories, Inc.

Client Contact	**Doug Lavarnway**	**Doug Lavarnway**	**12/1/2017**
APS Four Corners	**928-587-0319**	**Lab Contact:**	**Carrier:**
End of County Road 6675	**Analysis Turnaround Time**		
Fruitland, New Mexico 87416	**RUSH**		
(928) 587-0319 Phone	TAT if different from Below _____		
(xxx) xxx-xxxx FAX			
Project Name: CCR			
Site: Cholla			
P O # 100585147			

COC No: 2 of 2 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-MW67-112917	11/29/2017	1532	G	W	2	N	x	x	x	x	x	x	-09
FC-CCR-MW68-113017	11/30/2017	913	G	W	2	N	x	x	x	x	x	x	-10
FC-CCR-FD01-113017	11/30/2017	913	G	W	2	N	x	x	x	x	x	x	-11
FC-CCR-MW69-112917	11/29/2017	1500	G	W	2	N	x	x	x	x	x	x	-12
FC-CCR-MW70-113017	11/30/2017	1323	G	W	2	N	x	x	x	x	x	x	-13
FC-CCR-MW71-113017	11/30/2017	1002	G	W	2	N	x	x	x	x	x	x	-14
FC-CCR-MW72-112917	11/29/2017	1649	G	W	2	N	x	x	x	x	x	x	-15
FC-CCR-MW73-112917	11/29/2017	1624	G	W	2	N	x	x	x	x	x	x	-16
FC-CCR-MW74-113017	11/30/2017	1405	G	W	2	N	x	x	x	x	x	x	-17
FC-CCR-MW75-113017	11/30/2017	1457	G	W	2	N	x	x	x	x	x	x	-18
FC-CCR-FD02-113017	11/30/2017	1457	G	W	2	N	x	x	x	x	x	x	-19

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:

1.1°C, 0.6°C

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

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doug Lavarnway	APS	12/01 930	[signature]	RedJ	12/1/17 9:30 am
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Doyle Peterson	RedJ	12/02 0751			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
			[signature]		12-2-17 0751

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

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-94035-1
SDG Number: Cholla

Login Number: 94035
List Number: 1
Creator: Doerr, Bret C

List Source: TestAmerica Phoenix

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