TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-57606-1
Client Project/Site: APS Four Corners Power Plant

For:
AECOM Technical Services Inc.
7720 North 16th Street
Suite 100
Phoenix, Arizona 85020

Attn: Dan Sola

Authorized for release by:
11/20/2015 4:39:32 PM

John McFadden, Project Manager I
(330)497-9396
john.mcfadden@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Method Summary 6
Sample Summary 7
Detection Summary 8
Client Sample Results 11
Tracer Carrier Summary 14
QC Sample Results 15
QC Association Summary 20
Lab Chronicle 22
Certification Summary 24
Chain of Custody 25

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
U	Indicates the analyte was analyzed for but not detected.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified 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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 240-57606-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: AECOM Technical Services Inc.

Project: APS Four Corners Power Plant

Report Number: 240-57606-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 11/6/2015 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6º C.

TOTAL RECOVERABLE METALS (ICPMS)

Samples FC-CCR-MW64-110515 (240-57606-1), FC-CCR-MW65-110515 (240-57606-2) and FC-CCR-MW66-110515 (240-57606-3) were analyzed for total recoverable metals (ICPMS) in accordance with EPA Method 200.8. The samples were prepared on 11/09/2015 and analyzed on 11/10/2015 and 11/12/2015.

Arsenic and Lead were detected in method blank MB 240-205867/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Samples FC-CCR-MW64-110515 (240-57606-1)[5X], FC-CCR-MW65-110515 (240-57606-2)[5X] and FC-CCR-MW66-110515 (240-57606-3)[500X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: FC-CCR-MW64-110515 (240-57606-1), FC-CCR-MW65-110515 (240-57606-2) and FC-CCR-MW66-110515 (240-57606-3). The continuing calibration blanks and method blanks may not support the lower PQL.

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

Job ID: 240-57606-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

MERCURY
Samples FC-CCR-MW64-110515 (240-57606-1), FC-CCR-MW65-110515 (240-57606-2) and FC-CCR-MW66-110515 (240-57606-3) were analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 11/09/2015 and analyzed on 11/11/2015.

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

ALKALINITY
Samples FC-CCR-MW64-110515 (240-57606-1), FC-CCR-MW65-110515 (240-57606-2) and FC-CCR-MW66-110515 (240-57606-3) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 11/10/2015.

Alkalinity was detected in method blank MB 240-206296/30 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Alkalinity was detected in method blank MB 240-206296/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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

TOTAL DISSOLVED SOLIDS
Samples FC-CCR-MW64-110515 (240-57606-1), FC-CCR-MW65-110515 (240-57606-2) and FC-CCR-MW66-110515 (240-57606-3) were analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 11/12/2015 and 11/18/2015.

Reanalysis of the following sample was performed outside of the analytical holding time due to sample needing a larger dilution. Residue was greater than the 0.2 mg/L limit : FC-CCR-MW66-110515 (240-57606-3).

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

ANIONS
Samples FC-CCR-MW64-110515 (240-57606-1), FC-CCR-MW65-110515 (240-57606-2) and FC-CCR-MW66-110515 (240-57606-3) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 11/16/2015 and 11/17/2015.

Samples FC-CCR-MW64-110515 (240-57606-1)[5X], FC-CCR-MW65-110515 (240-57606-2)[5X], FC-CCR-MW66-110515 (240-57606-3)[20X] and FC-CCR-MW66-110515 (240-57606-3)[50X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

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

NITRATE-NITRITE AS NITROGEN
Samples FC-CCR-MW64-110515 (240-57606-1), FC-CCR-MW65-110515 (240-57606-2) and FC-CCR-MW66-110515 (240-57606-3) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 11/10/2015.

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

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
2320B-1997	Alkalinity, Total	SM	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

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 CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-57606-1	FC-CCR-MW64-110515	Water	11/05/15 09:30	11/06/15 10:20
240-57606-2	FC-CCR-MW65-110515	Water	11/05/15 11:45	11/06/15 10:20
240-57606-3	FC-CCR-MW66-110515	Water	11/05/15 15:35	11/06/15 10:20

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Client Sample ID: FC-CCR-MW64-110515 — Lab Sample ID: 240-57606-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00070	J B	0.0050	0.00018	mg/L	1		200.8	Total Recoverable
Boron	0.64		0.10	0.055	mg/L	5		200.8	Total Recoverable
Barium	0.027		0.0050	0.0011	mg/L	1		200.8	Total Recoverable
Calcium	87		1.0	0.24	mg/L	1		200.8	Total Recoverable
Cobalt	0.0015		0.0010	0.000021	mg/L	1		200.8	Total Recoverable
Chromium	0.00023	J	0.0020	0.00020	mg/L	1		200.8	Total Recoverable
Nickel	1.0	J	2.0	0.23	ug/L	1		200.8	Total Recoverable
Molybdenum	0.0057	J	0.010	0.00023	mg/L	1		200.8	Total Recoverable
Lead	0.00016	J B	0.0010	0.00011	mg/L	1		200.8	Total Recoverable
Selenium	0.00033	J	0.0050	0.00025	mg/L	1		200.8	Total Recoverable
Potassium	6.1		1.0	0.030	mg/L	1		200.8	Total Recoverable
Sodium	120		1.0	0.068	mg/L	1		200.8	Total Recoverable
Lithium	0.022		0.0080	0.00029	mg/L	1		200.8	Total Recoverable
Thallium	0.00011	J	0.0010	0.000074	mg/L	1		200.8	Total Recoverable
Alkalinity	320	B	5.0	1.9	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	320	B	5.0	1.9	mg/L	1		2320B-1997	Total/NA
Chloride	49		5.0	2.0	mg/L	5		300.0	Total/NA
Fluoride	1.5	J	5.0	0.045	mg/L	5		300.0	Total/NA
Sulfate	320		5.0	0.65	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	0.043	J	0.050	0.010	mg/L	1		353.2	Total/NA
Total Dissolved Solids	780		10	7.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-MW65-110515 — Lab Sample ID: 240-57606-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00071	J B	0.0050	0.00018	mg/L	1		200.8	Total Recoverable
Boron	0.86		0.10	0.055	mg/L	5		200.8	Total Recoverable
Barium	0.014		0.0050	0.0011	mg/L	1		200.8	Total Recoverable
Calcium	100		1.0	0.24	mg/L	1		200.8	Total Recoverable
Cobalt	0.0012		0.0010	0.000021	mg/L	1		200.8	Total Recoverable
Chromium	0.00049	J	0.0020	0.00020	mg/L	1		200.8	Total Recoverable
Nickel	3.7		2.0	0.23	ug/L	1		200.8	Total Recoverable
Molybdenum	0.0093	J	0.010	0.00023	mg/L	1		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Client Sample ID: FC-CCR-MW65-110515 (Continued) — Lab Sample ID: 240-57606-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.00034	J	0.0050	0.00025	mg/L	1		200.8	Total Recoverable
Potassium	3.2		1.0	0.030	mg/L	1		200.8	Total Recoverable
Sodium	140		1.0	0.068	mg/L	1		200.8	Total Recoverable
Lithium	0.054		0.0080	0.00029	mg/L	1		200.8	Total Recoverable
Alkalinity	390	B	5.0	1.9	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	390	B	5.0	1.9	mg/L	1		2320B-1997	Total/NA
Chloride	52		5.0	2.0	mg/L	5		300.0	Total/NA
Fluoride	2.0	J	5.0	0.045	mg/L	5		300.0	Total/NA
Sulfate	440		5.0	0.65	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	0.023	J	0.050	0.010	mg/L	1		353.2	Total/NA
Total Dissolved Solids	1000		20	15	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FC-CCR-MW66-110515 — Lab Sample ID: 240-57606-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0034	J B	0.0050	0.00018	mg/L	1		200.8	Total Recoverable
Boron	87		10	5.5	mg/L	500		200.8	Total Recoverable
Barium	0.016		0.0050	0.0011	mg/L	1		200.8	Total Recoverable
Calcium	470		1.0	0.24	mg/L	1		200.8	Total Recoverable
Cadmium	0.000062	J	0.0010	0.000061	mg/L	1		200.8	Total Recoverable
Cobalt	0.0051		0.0010	0.000021	mg/L	1		200.8	Total Recoverable
Chromium	0.0010	J	0.0020	0.00020	mg/L	1		200.8	Total Recoverable
Nickel	19		2.0	0.23	ug/L	1		200.8	Total Recoverable
Molybdenum	0.016		0.010	0.00023	mg/L	1		200.8	Total Recoverable
Lead	0.00018	J B	0.0010	0.00011	mg/L	1		200.8	Total Recoverable
Selenium	0.0022	J	0.0050	0.00025	mg/L	1		200.8	Total Recoverable
Potassium	29		1.0	0.030	mg/L	1		200.8	Total Recoverable
Sodium	310		1.0	0.068	mg/L	1		200.8	Total Recoverable
Lithium	0.24		0.0080	0.00029	mg/L	1		200.8	Total Recoverable
Thallium	0.00063	J	0.0010	0.000074	mg/L	1		200.8	Total Recoverable
Alkalinity	250	B	5.0	1.9	mg/L	1		2320B-1997	Total/NA
Bicarbonate Alkalinity as CaCO3	250	B	5.0	1.9	mg/L	1		2320B-1997	Total/NA
Chloride	870		20	8.1	mg/L	20		300.0	Total/NA
Fluoride	18	J	20	0.18	mg/L	20		300.0	Total/NA
Sulfate	7300		50	6.5	mg/L	50		300.0	Total/NA
Nitrate Nitrite as N	0.021	J	0.050	0.010	mg/L	1		353.2	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Client Sample ID: FC-CCR-MW66-110515 (Continued) — Lab Sample ID: 240-57606-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	11000	E	50	37	mg/L	1		SM 2540C	Total/NA
Total Dissolved Solids	11000	H	100	74	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Client Sample ID: FC-CCR-MW64-110515

Lab Sample ID: 240-57606-1

Date Collected: 11/05/15 09:30
Matrix: Water
Date Received: 11/06/15 10:20

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00070	J B	0.0050	0.00018	mg/L		11/09/15 12:31	11/10/15 17:12	1
Boron	0.64		0.10	0.055	mg/L		11/09/15 12:31	11/12/15 11:50	5
Barium	0.027		0.0050	0.0011	mg/L		11/09/15 12:31	11/10/15 17:12	1
Beryllium	0.0010	U	0.0010	0.000053	mg/L		11/09/15 12:31	11/10/15 17:12	1
Calcium	87		1.0	0.24	mg/L		11/09/15 12:31	11/10/15 17:12	1
Cadmium	0.0010	U	0.0010	0.000061	mg/L		11/09/15 12:31	11/10/15 17:12	1
Cobalt	0.0015		0.0010	0.000021	mg/L		11/09/15 12:31	11/10/15 17:12	1
Chromium	0.00023	J	0.0020	0.00020	mg/L		11/09/15 12:31	11/10/15 17:12	1
Nickel	1.0	J	2.0	0.23	ug/L		11/09/15 12:31	11/10/15 17:12	1
Molybdenum	0.0057	J	0.010	0.00023	mg/L		11/09/15 12:31	11/10/15 17:12	1
Lead	0.00016	J B	0.0010	0.00011	mg/L		11/09/15 12:31	11/10/15 17:12	1
Antimony	0.0020	U	0.0020	0.00016	mg/L		11/09/15 12:31	11/10/15 17:12	1
Selenium	0.00033	J	0.0050	0.00025	mg/L		11/09/15 12:31	11/10/15 17:12	1
Potassium	6.1		1.0	0.030	mg/L		11/09/15 12:31	11/10/15 17:12	1
Sodium	120		1.0	0.068	mg/L		11/09/15 12:31	11/10/15 17:12	1
Lithium	0.022		0.0080	0.00029	mg/L		11/09/15 12:31	11/10/15 17:12	1
Thallium	0.00011	J	0.0010	0.000074	mg/L		11/09/15 12:31	11/10/15 17:12	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.000090	mg/L		11/09/15 14:00	11/11/15 16:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	320	B	5.0	1.9	mg/L			11/10/15 11:27	1
Bicarbonate Alkalinity as CaCO3	320	B	5.0	1.9	mg/L			11/10/15 11:27	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	1.9	mg/L			11/10/15 11:27	1
Chloride	49		5.0	2.0	mg/L			11/16/15 14:29	5
Fluoride	1.5	J	5.0	0.045	mg/L			11/16/15 14:29	5
Sulfate	320		5.0	0.65	mg/L			11/16/15 14:29	5
Nitrate Nitrite as N	0.043	J	0.050	0.010	mg/L			11/10/15 19:14	1
Total Dissolved Solids	780		10	7.4	mg/L			11/12/15 13:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Client Sample ID: FC-CCR-MW65-110515

Lab Sample ID: 240-57606-2

Date Collected: 11/05/15 11:45
Matrix: Water
Date Received: 11/06/15 10:20

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00071	J B	0.0050	0.00018	mg/L		11/09/15 12:31	11/10/15 17:16	1
Boron	0.86		0.10	0.055	mg/L		11/09/15 12:31	11/12/15 11:55	5
Barium	0.014		0.0050	0.0011	mg/L		11/09/15 12:31	11/10/15 17:16	1
Beryllium	0.0010	U	0.0010	0.000053	mg/L		11/09/15 12:31	11/10/15 17:16	1
Calcium	100		1.0	0.24	mg/L		11/09/15 12:31	11/10/15 17:16	1
Cadmium	0.0010	U	0.0010	0.000061	mg/L		11/09/15 12:31	11/10/15 17:16	1
Cobalt	0.0012		0.0010	0.000021	mg/L		11/09/15 12:31	11/10/15 17:16	1
Chromium	0.00049	J	0.0020	0.00020	mg/L		11/09/15 12:31	11/10/15 17:16	1
Nickel	3.7		2.0	0.23	ug/L		11/09/15 12:31	11/10/15 17:16	1
Molybdenum	0.0093	J	0.010	0.00023	mg/L		11/09/15 12:31	11/10/15 17:16	1
Lead	0.0010	U	0.0010	0.00011	mg/L		11/09/15 12:31	11/10/15 17:16	1
Antimony	0.0020	U	0.0020	0.00016	mg/L		11/09/15 12:31	11/10/15 17:16	1
Selenium	0.00034	J	0.0050	0.00025	mg/L		11/09/15 12:31	11/10/15 17:16	1
Potassium	3.2		1.0	0.030	mg/L		11/09/15 12:31	11/10/15 17:16	1
Sodium	140		1.0	0.068	mg/L		11/09/15 12:31	11/10/15 17:16	1
Lithium	0.054		0.0080	0.00029	mg/L		11/09/15 12:31	11/10/15 17:16	1
Thallium	0.0010	U	0.0010	0.000074	mg/L		11/09/15 12:31	11/10/15 17:16	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.000090	mg/L		11/09/15 14:00	11/11/15 16:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	390	B	5.0	1.9	mg/L			11/10/15 11:53	1
Bicarbonate Alkalinity as CaCO3	390	B	5.0	1.9	mg/L			11/10/15 11:53	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	1.9	mg/L			11/10/15 11:53	1
Chloride	52		5.0	2.0	mg/L			11/16/15 14:49	5
Fluoride	2.0	J	5.0	0.045	mg/L			11/16/15 14:49	5
Sulfate	440		5.0	0.65	mg/L			11/16/15 14:49	5
Nitrate Nitrite as N	0.023	J	0.050	0.010	mg/L			11/10/15 19:15	1
Total Dissolved Solids	1000		20	15	mg/L			11/12/15 13:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Client Sample ID: FC-CCR-MW66-110515

Lab Sample ID: 240-57606-3

Date Collected: 11/05/15 15:35
Matrix: Water
Date Received: 11/06/15 10:20

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0034	J B	0.0050	0.00018	mg/L		11/09/15 12:31	11/10/15 17:20	1
Boron	87		10	5.5	mg/L		11/09/15 12:31	11/12/15 11:59	500
Barium	0.016		0.0050	0.0011	mg/L		11/09/15 12:31	11/10/15 17:20	1
Beryllium	0.0010	U	0.0010	0.000053	mg/L		11/09/15 12:31	11/10/15 17:20	1
Calcium	470		1.0	0.24	mg/L		11/09/15 12:31	11/10/15 17:20	1
Cadmium	0.000062	J	0.0010	0.000061	mg/L		11/09/15 12:31	11/10/15 17:20	1
Cobalt	0.0051		0.0010	0.000021	mg/L		11/09/15 12:31	11/10/15 17:20	1
Chromium	0.0010	J	0.0020	0.00020	mg/L		11/09/15 12:31	11/10/15 17:20	1
Nickel	19		2.0	0.23	ug/L		11/09/15 12:31	11/10/15 17:20	1
Molybdenum	0.016		0.010	0.00023	mg/L		11/09/15 12:31	11/10/15 17:20	1
Lead	0.00018	J B	0.0010	0.00011	mg/L		11/09/15 12:31	11/10/15 17:20	1
Antimony	0.0020	U	0.0020	0.00016	mg/L		11/09/15 12:31	11/10/15 17:20	1
Selenium	0.0022	J	0.0050	0.00025	mg/L		11/09/15 12:31	11/10/15 17:20	1
Potassium	29		1.0	0.030	mg/L		11/09/15 12:31	11/10/15 17:20	1
Sodium	310		1.0	0.068	mg/L		11/09/15 12:31	11/10/15 17:20	1
Lithium	0.24		0.0080	0.00029	mg/L		11/09/15 12:31	11/10/15 17:20	1
Thallium	0.00063	J	0.0010	0.000074	mg/L		11/09/15 12:31	11/10/15 17:20	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.000090	mg/L		11/09/15 14:00	11/11/15 16:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	250	B	5.0	1.9	mg/L			11/10/15 12:04	1
Bicarbonate Alkalinity as CaCO3	250	B	5.0	1.9	mg/L			11/10/15 12:04	1
Carbonate Alkalinity as CaCO3	5.0	U	5.0	1.9	mg/L			11/10/15 12:04	1
Chloride	870		20	8.1	mg/L			11/16/15 15:09	20
Fluoride	18	J	20	0.18	mg/L			11/16/15 15:09	20
Sulfate	7300		50	6.5	mg/L			11/17/15 14:07	50
Nitrate Nitrite as N	0.021	J	0.050	0.010	mg/L			11/10/15 19:16	1
Total Dissolved Solids	11000	E	50	37	mg/L			11/12/15 13:28	1
Total Dissolved Solids	11000	H	100	74	mg/L			11/18/15 15:37	1

Tracer/Carrier Summary

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)									
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)								
240-57606-1	FC-CCR-MW64-110515	79.6	91.6								
240-57606-2	FC-CCR-MW65-110515	50.4	97.2								
240-57606-3	FC-CCR-MW66-110515	94.4	94.6								
LCS 160-221016/2-A	Lab Control Sample	94.7	98.7								
LCSD 160-221016/3-A	Lab Control Sample Dup	92.0	93.8								
MB 160-221016/1-A	Method Blank	92.9	87.9								

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 240-205867/1-A
Matrix: Water
Analysis Batch: 206258

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 205867

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.000689	J	0.0050	0.00018	mg/L		11/09/15 12:31	11/10/15 15:07	1
Barium	0.0050	U	0.0050	0.0011	mg/L		11/09/15 12:31	11/10/15 15:07	1
Beryllium	0.0010	U	0.0010	0.000053	mg/L		11/09/15 12:31	11/10/15 15:07	1
Calcium	1.0	U	1.0	0.24	mg/L		11/09/15 12:31	11/10/15 15:07	1
Cadmium	0.0010	U	0.0010	0.000061	mg/L		11/09/15 12:31	11/10/15 15:07	1
Cobalt	0.0010	U	0.0010	0.000021	mg/L		11/09/15 12:31	11/10/15 15:07	1
Chromium	0.0020	U	0.0020	0.00020	mg/L		11/09/15 12:31	11/10/15 15:07	1
Nickel	2.0	U	2.0	0.23	ug/L		11/09/15 12:31	11/10/15 15:07	1
Molybdenum	0.010	U	0.010	0.00023	mg/L		11/09/15 12:31	11/10/15 15:07	1
Lead	0.000168	J	0.0010	0.00011	mg/L		11/09/15 12:31	11/10/15 15:07	1
Antimony	0.0020	U	0.0020	0.00016	mg/L		11/09/15 12:31	11/10/15 15:07	1
Selenium	0.0050	U	0.0050	0.00025	mg/L		11/09/15 12:31	11/10/15 15:07	1
Potassium	1.0	U	1.0	0.030	mg/L		11/09/15 12:31	11/10/15 15:07	1
Sodium	1.0	U	1.0	0.068	mg/L		11/09/15 12:31	11/10/15 15:07	1
Lithium	0.0080	U	0.0080	0.00029	mg/L		11/09/15 12:31	11/10/15 15:07	1
Thallium	0.0010	U	0.0010	0.000074	mg/L		11/09/15 12:31	11/10/15 15:07	1

Lab Sample ID: MB 240-205867/1-A
Matrix: Water
Analysis Batch: 206664

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 205867

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.020	U	0.020	0.011	mg/L		11/09/15 12:31	11/12/15 11:43	1

Lab Sample ID: LCS 240-205867/2-A
Matrix: Water
Analysis Batch: 206258

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 205867

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.981		mg/L		98	85 - 115
Barium	1.00	1.04		mg/L		104	85 - 115
Beryllium	1.00	0.929		mg/L		93	85 - 115
Calcium	10.0	9.93		mg/L		99	85 - 115
Cadmium	1.00	1.07		mg/L		107	85 - 115
Cobalt	1.00	1.01		mg/L		101	85 - 115
Chromium	1.00	0.984		mg/L		98	85 - 115
Nickel	1000	1090		ug/L		109	85 - 115
Molybdenum	0.100	0.0931		mg/L		93	85 - 115
Lead	1.00	1.04		mg/L		104	85 - 115
Antimony	0.100	0.0970		mg/L		97	85 - 115
Selenium	1.00	0.949		mg/L		95	85 - 115
Potassium	10.0	9.64		mg/L		96	85 - 115
Sodium	10.0	9.76		mg/L		98	85 - 115
Lithium	0.100	0.0971		mg/L		97	85 - 115
Thallium	0.250	0.252		mg/L		101	85 - 115

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-205867/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 206664 — **Prep Batch: 205867**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.100	0.0902		mg/L		90	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-205873/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206440 — **Prep Batch: 205873**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.000090	mg/L		11/09/15 14:00	11/11/15 16:17	1

Lab Sample ID: LCS 240-205873/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206440 — **Prep Batch: 205873**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00473		mg/L		95	85 - 115

Method: 2320B-1997 - Alkalinity, Total

Lab Sample ID: MB 240-206296/30 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206296

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	3.17	J	5.0	1.9	mg/L			11/10/15 13:51	1

Lab Sample ID: MB 240-206296/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206296

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	3.36	J	5.0	1.9	mg/L			11/10/15 09:41	1

Lab Sample ID: LCS 240-206296/29 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206296

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	354	402		mg/L		114	90 - 127

Lab Sample ID: LCS 240-206296/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206296

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	354	402		mg/L		113	90 - 127

Method: 2320B-1997 - Alkalinity, Total (Continued)

Lab Sample ID: 240-57606-1 DU — **Client Sample ID: FC-CCR-MW64-110515**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206296

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	320	B	317		mg/L		0.3	20
Bicarbonate Alkalinity as CaCO3	320	B	317		mg/L		0.3	20
Carbonate Alkalinity as CaCO3	5.0	U	5.0	U	mg/L		NC	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-206944/27 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206944

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.41	mg/L			11/16/15 20:09	1
Fluoride	1.0	U	1.0	0.0090	mg/L			11/16/15 20:09	1
Sulfate	1.0	U	1.0	0.13	mg/L			11/16/15 20:09	1

Lab Sample ID: MB 240-206944/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206944

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.41	mg/L			11/16/15 12:09	1
Fluoride	1.0	U	1.0	0.0090	mg/L			11/16/15 12:09	1
Sulfate	1.0	U	1.0	0.13	mg/L			11/16/15 12:09	1

Lab Sample ID: LCS 240-206944/28 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206944

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.8		mg/L		106	90 - 110
Fluoride	2.50	2.70		mg/L		108	90 - 110
Sulfate	50.0	52.2		mg/L		104	90 - 110

Lab Sample ID: LCS 240-206944/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206944

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.9		mg/L		106	90 - 110
Fluoride	2.50	2.62		mg/L		105	90 - 110
Sulfate	50.0	53.3		mg/L		107	90 - 110

Lab Sample ID: MB 240-207106/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207106

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.41	mg/L			11/17/15 10:34	1
Sulfate	1.0	U	1.0	0.13	mg/L			11/17/15 10:34	1

Lab Sample ID: LCS 240-207106/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207106

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.2		mg/L		104	90 - 110
Sulfate	50.0	49.7		mg/L		99	90 - 110

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 240-206185/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206185

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.050	U	0.050	0.010	mg/L			11/10/15 18:59	1

Lab Sample ID: LCS 240-206185/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206185

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	1.93	1.78		mg/L		92	90 - 110

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

Lab Sample ID: MB 240-206537/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	7.4	mg/L			11/12/15 13:28	1

Lab Sample ID: LCS 240-206537/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 206537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	543	516		mg/L		95	88 - 110

Lab Sample ID: MB 240-207436/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207436

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	7.4	mg/L			11/18/15 15:37	1

Lab Sample ID: LCS 240-207436/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207436

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	543	519		mg/L		96	88 - 110

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

Lab Sample ID: 240-57606-3 DU
Matrix: Water
Analysis Batch: 207436

Client Sample ID: FC-CCR-MW66-110515
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	11000	H		11100		mg/L				0.5	20

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Metals

Prep Batch: 205867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-1	FC-CCR-MW64-110515	Total Recoverable	Water	200.8	
240-57606-2	FC-CCR-MW65-110515	Total Recoverable	Water	200.8	
240-57606-3	FC-CCR-MW66-110515	Total Recoverable	Water	200.8	
LCS 240-205867/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
MB 240-205867/1-A	Method Blank	Total Recoverable	Water	200.8	

Prep Batch: 205873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-1	FC-CCR-MW64-110515	Total/NA	Water	245.1	
240-57606-2	FC-CCR-MW65-110515	Total/NA	Water	245.1	
240-57606-3	FC-CCR-MW66-110515	Total/NA	Water	245.1	
LCS 240-205873/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-205873/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 206258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-1	FC-CCR-MW64-110515	Total Recoverable	Water	200.8	205867
240-57606-2	FC-CCR-MW65-110515	Total Recoverable	Water	200.8	205867
240-57606-3	FC-CCR-MW66-110515	Total Recoverable	Water	200.8	205867
LCS 240-205867/2-A	Lab Control Sample	Total Recoverable	Water	200.8	205867
MB 240-205867/1-A	Method Blank	Total Recoverable	Water	200.8	205867

Analysis Batch: 206440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-1	FC-CCR-MW64-110515	Total/NA	Water	245.1	205873
240-57606-2	FC-CCR-MW65-110515	Total/NA	Water	245.1	205873
240-57606-3	FC-CCR-MW66-110515	Total/NA	Water	245.1	205873
LCS 240-205873/2-A	Lab Control Sample	Total/NA	Water	245.1	205873
MB 240-205873/1-A	Method Blank	Total/NA	Water	245.1	205873

Analysis Batch: 206664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-1	FC-CCR-MW64-110515	Total Recoverable	Water	200.8	205867
240-57606-2	FC-CCR-MW65-110515	Total Recoverable	Water	200.8	205867
240-57606-3	FC-CCR-MW66-110515	Total Recoverable	Water	200.8	205867
LCS 240-205867/2-A	Lab Control Sample	Total Recoverable	Water	200.8	205867
MB 240-205867/1-A	Method Blank	Total Recoverable	Water	200.8	205867

General Chemistry

Analysis Batch: 206185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-1	FC-CCR-MW64-110515	Total/NA	Water	353.2	
240-57606-2	FC-CCR-MW65-110515	Total/NA	Water	353.2	
240-57606-3	FC-CCR-MW66-110515	Total/NA	Water	353.2	
LCS 240-206185/5	Lab Control Sample	Total/NA	Water	353.2	
MB 240-206185/4	Method Blank	Total/NA	Water	353.2	

General Chemistry (Continued)

Analysis Batch: 206296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-1	FC-CCR-MW64-110515	Total/NA	Water	2320B-1997	
240-57606-1 DU	FC-CCR-MW64-110515	Total/NA	Water	2320B-1997	
240-57606-2	FC-CCR-MW65-110515	Total/NA	Water	2320B-1997	
240-57606-3	FC-CCR-MW66-110515	Total/NA	Water	2320B-1997	
LCS 240-206296/29	Lab Control Sample	Total/NA	Water	2320B-1997	
LCS 240-206296/4	Lab Control Sample	Total/NA	Water	2320B-1997	
MB 240-206296/30	Method Blank	Total/NA	Water	2320B-1997	
MB 240-206296/5	Method Blank	Total/NA	Water	2320B-1997	

Analysis Batch: 206537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-1	FC-CCR-MW64-110515	Total/NA	Water	SM 2540C	
240-57606-2	FC-CCR-MW65-110515	Total/NA	Water	SM 2540C	
240-57606-3	FC-CCR-MW66-110515	Total/NA	Water	SM 2540C	
LCS 240-206537/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 240-206537/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 206944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-1	FC-CCR-MW64-110515	Total/NA	Water	300.0	
240-57606-2	FC-CCR-MW65-110515	Total/NA	Water	300.0	
240-57606-3	FC-CCR-MW66-110515	Total/NA	Water	300.0	
LCS 240-206944/28	Lab Control Sample	Total/NA	Water	300.0	
LCS 240-206944/4	Lab Control Sample	Total/NA	Water	300.0	
MB 240-206944/27	Method Blank	Total/NA	Water	300.0	
MB 240-206944/3	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 207106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-3	FC-CCR-MW66-110515	Total/NA	Water	300.0	
LCS 240-207106/4	Lab Control Sample	Total/NA	Water	300.0	
MB 240-207106/3	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 207436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57606-3	FC-CCR-MW66-110515	Total/NA	Water	SM 2540C	
240-57606-3 DU	FC-CCR-MW66-110515	Total/NA	Water	SM 2540C	
LCS 240-207436/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 240-207436/1	Method Blank	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Client Sample ID: FC-CCR-MW64-110515 — Lab Sample ID: 240-57606-1

Date Collected: 11/05/15 09:30 — **Matrix: Water**
Date Received: 11/06/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.8			205867	11/09/15 12:31	WKD	TAL CAN
Total Recoverable	Analysis	200.8		1	206258	11/10/15 17:12	AS1	TAL CAN
Total Recoverable	Prep	200.8			205867	11/09/15 12:31	WKD	TAL CAN
Total Recoverable	Analysis	200.8		5	206664	11/12/15 11:50	AS1	TAL CAN
Total/NA	Prep	245.1			205873	11/09/15 14:00	WKD	TAL CAN
Total/NA	Analysis	245.1		1	206440	11/11/15 16:26	WAL	TAL CAN
Total/NA	Analysis	2320B-1997		1	206296	11/10/15 11:27	LCN	TAL CAN
Total/NA	Analysis	300.0		5	206944	11/16/15 14:29	LKG	TAL CAN
Total/NA	Analysis	353.2		1	206185	11/10/15 19:14	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	206537	11/12/15 13:28	JWW	TAL CAN

Client Sample ID: FC-CCR-MW65-110515 — Lab Sample ID: 240-57606-2

Date Collected: 11/05/15 11:45 — **Matrix: Water**
Date Received: 11/06/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.8			205867	11/09/15 12:31	WKD	TAL CAN
Total Recoverable	Analysis	200.8		1	206258	11/10/15 17:16	AS1	TAL CAN
Total Recoverable	Prep	200.8			205867	11/09/15 12:31	WKD	TAL CAN
Total Recoverable	Analysis	200.8		5	206664	11/12/15 11:55	AS1	TAL CAN
Total/NA	Prep	245.1			205873	11/09/15 14:00	WKD	TAL CAN
Total/NA	Analysis	245.1		1	206440	11/11/15 16:22	WAL	TAL CAN
Total/NA	Analysis	2320B-1997		1	206296	11/10/15 11:53	LCN	TAL CAN
Total/NA	Analysis	300.0		5	206944	11/16/15 14:49	LKG	TAL CAN
Total/NA	Analysis	353.2		1	206185	11/10/15 19:15	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	206537	11/12/15 13:28	JWW	TAL CAN

Client Sample ID: FC-CCR-MW66-110515 — Lab Sample ID: 240-57606-3

Date Collected: 11/05/15 15:35 — **Matrix: Water**
Date Received: 11/06/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.8			205867	11/09/15 12:31	WKD	TAL CAN
Total Recoverable	Analysis	200.8		1	206258	11/10/15 17:20	AS1	TAL CAN
Total Recoverable	Prep	200.8			205867	11/09/15 12:31	WKD	TAL CAN
Total Recoverable	Analysis	200.8		500	206664	11/12/15 11:59	AS1	TAL CAN
Total/NA	Prep	245.1			205873	11/09/15 14:00	WKD	TAL CAN
Total/NA	Analysis	245.1		1	206440	11/11/15 16:24	WAL	TAL CAN
Total/NA	Analysis	2320B-1997		1	206296	11/10/15 12:04	LCN	TAL CAN
Total/NA	Analysis	300.0		50	207106	11/17/15 14:07	LKG	TAL CAN
Total/NA	Analysis	300.0		20	206944	11/16/15 15:09	LKG	TAL CAN
Total/NA	Analysis	353.2		1	206185	11/10/15 19:16	JWW	TAL CAN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Client Sample ID: FC-CCR-MW66-110515

Lab Sample ID: 240-57606-3

Date Collected: 11/05/15 15:35

Matrix: Water

Date Received: 11/06/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	206537	11/12/15 13:28	JWW	TAL CAN
Total/NA	Analysis	SM 2540C		1	207436	11/18/15 15:37	GNR	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: APS Four Corners Power Plant

TestAmerica Job ID: 240-57606-1

Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-15
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-26-16
Kentucky (WW)	State Program	4	98016	12-31-15
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-15
Nevada	State Program	9	OH-000482008A	07-31-16
New Jersey	NELAP	2	OH001	11-30-15 *
New York	NELAP	2	10975	03-31-16
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-16
Pennsylvania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-16
Washington	State Program	10	C971	01-12-16
West Virginia DEP	State Program	3	210	12-31-15
Wisconsin	State Program	5	999518190	08-31-16

* Certification renewal pending - certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS

240-57606 Chain of Custody

TestAmerica Phoenix 25/C26

4625 E. Cotton Center Blvd.
Suite 189
Phoenix, AZ 85040
Phone: 602.437.3340 Fax:

Chain of Custody Record

097401

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other:

Client Contact	Project Manager: Dan Sola	Site Contact:	Date: 11-5-15	COC No: 097401
Company Name: Aecom	Tel/Fax:	Lab Contact: Becki Strait	Carrier: FedEX	1 of 1 COCs
Address: 7720 N. 16th St. #100	Analysis Turnaround Time			Sampler: Rick Smith
City/State/Zip: Phoenix AZ 85020	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 602-648-2530	TAT if different from Below _____			Walk-in Client:
Fax:	☒ 2 weeks			Lab Sampling:
Project Name: CCR	☐ 1 week			
Site: APS Four Corners Power Plant	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	200.8 Mod Cr5+ Sm	Nitrate/Nitrite - N	Calcd - TDS - Anions	903.0 Std Target List	904.0 Std Target List	Sample Specific Notes:
FC-CCR-MW64-110515	11-5-15	0930	G	GW	5	N	N	X	X	X	X	X	
FC-CCR-MW65-110515	11-5-15	1145	G	GW	5	N	N	X	X	X	X	X	
FC-CCR-MW66-110515	11-5-15	1535	G	GW	5	N	N	X	X	X	X	X	

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

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

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

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

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

Special Instructions/QC Requirements & Comments: Quote # 24015200

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:
	Aecom	11-5-15 1635	To FedEX		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TAL Gatlin	11/6/15 10:20

TestAmerica Canton Sample Receipt Form/Narrative **Login # :** 576000
Canton Facility

Client AECOM Site Name _____ Cooler unpacked by:
Cooler Received on 11/6/15 Opened on 11/6/15
FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
   IR GUN# 53 (CF +0.1 °C) Observed Cooler Temp. 2.5 °C Corrected Cooler Temp. 2.6 °C
   IR GUN# 48 (CF -0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C ☐ See Multiple Cooler Form
   ~~IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~
   IR GUN# 8 (CF -0.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   -Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
   -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# **HC554612**
12. Were VOAs on the COC? Yes No
13. Were air bubbles >6 mm in any VOA vials? Yes No NA
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other
Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

15. SAMPLE CONDITION
Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION
Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____.

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
FC-CCR-MW64-110515	240-57606-A-1	Plastic 250ml - with Sulfuric Acid	<2	_____	_____
FC-CCR-MW64-110515	240-57606-C-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
FC-CCR-MW64-110515	240-57606-D-1	Plastic 1 liter - Nitric Acid	<2	_____	_____
FC-CCR-MW64-110515	240-57606-E-1	Plastic 1 liter - Nitric Acid	<2	_____	_____
FC-CCR-MW65-110515	240-57606-A-2	Plastic 250ml - with Sulfuric Acid	<2	_____	_____
FC-CCR-MW65-110515	240-57606-C-2	Plastic 500ml - with Nitric Acid	<2	_____	_____
FC-CCR-MW65-110515	240-57606-D-2	Plastic 1 liter - Nitric Acid	<2	_____	_____
FC-CCR-MW65-110515	240-57606-E-2	Plastic 1 liter - Nitric Acid	<2	_____	_____
FC-CCR-MW66-110515	240-57606-A-3	Plastic 250ml - with Sulfuric Acid	<2	_____	_____
FC-CCR-MW66-110515	240-57606-C-3	Plastic 500ml - with Nitric Acid	<2	_____	_____
FC-CCR-MW66-110515	240-57606-D-3	Plastic 1 liter - Nitric Acid	<2	_____	_____
FC-CCR-MW66-110515	240-57606-E-3	Plastic 1 liter - Nitric Acid	<2	_____	_____