Mr. Ken Mallary
USEPA Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, GA 30303-8960

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ENVIRONMENTAL

Subject:
Response to NC DEQ Comments
Post-Removal Action Baseline Groundwater Monitoring Report
Former Virginia-Carolina Chemical Company Winston-Salem Site
Winston-Salem, Forsyth County, North Carolina
NCN 000 410 344

Date:
June 13, 2016

Contact:
Anna Hagemeister

Phone:
303-471-3926

Email:
Anna.Hagemeister@arcadis.com

Our ref:
B0085732

ARCADIS G&M of North Carolina, Inc.

Dear Mr. Mallary:

On behalf of ExxonMobil Environmental Services Company (EMES), this letter provides responses to comments received from the North Carolina Department of Environmental Quality (NCDEQ) (dated February 8, 2016) regarding the Post-Removal Action Baseline Groundwater Monitoring Report at the Former Virginia-Carolina Chemical Company Winston-Salem Site (Site) located in Winston-Salem, Forsyth County, North Carolina.

Comments are provided in bold typeface followed by the response in standard typeface.

<u>Section 2.4 Sampling and Analysis:</u> Please supplement Section 2.4 – *Sampling and Analysis* with an appendix containing field notes, equipment calibration logs, groundwater elevation measurements, groundwater well sampling forms including chemical parameter stabilization criteria, etc. documenting the October 2014 baseline groundwater sampling event.

<u>Response:</u>

Field notes, including equipment calibration logs and groundwater elevation measurements (Depth to Water [DTW]), and groundwater well sampling documentation including incremental chemical parameter stabilization criteria are included as **Attachment 1.**

<u>Section 2.7 Data Validation:</u> Please supplement Section 2.7 – *Data Validation* with an appendix containing the data validation report of laboratory analytical results from the October 2014 baseline groundwater sampling event.

<u>Response:</u>

The data validation report for the October 2014 baseline groundwater sampling event is included as **Attachment 2**.

<u>Section 3.2 Groundwater Analytical Results:</u> Please supplement Section 3.2 – *Groundwater Analytical Results* with an appendix containing the laboratory analytical results for the October 2014 baseline groundwater sampling event.

<u>Response:</u>

The groundwater analytical results for the October 2014 baseline groundwater sampling event are included as **Attachment 3**.

<u>Section 3.3 Waste Characterization Results:</u> Please supplement Section 3.3 – *Waste Characterization Results* with an appendix containing the laboratory analytical results for the investigative-derived waste (IDW) waste characterization.

<u>Response:</u>

IDW waste characterization results for the October 2014 baseline groundwater sampling event are included as **Attachment 4**.

If you have any additional comments or questions, please contact Bruce Frink at 813.973.8580, or myself 303-471-3926.

Sincerely,

Arcadis G&M of North Carolina, Inc.

Anna Hagemeister
Senior Environmental Engineer

Copies:
David Mattison, NCDEQ
Bruce Frink, ExxonMobil

Enclosures:

Attachments

1 Field Notes – October 2014
2 ExxonMobil VCC Winston Salem Data Review - October 2014
3 Groundwater Laboratory Analytical Report – October 2014
4 IDW Laboratory Analytical Report – October 2014

ATTACHMENT 1

Field Notes – October 2014

Location: Winston Salem, NC Date: 10-20-14

Project / Client: PRGMP / Xom

DTW Round

Monday October 20, 2014
Weather: Clear 70°F

0700 BWC left home to acquire equipment
1000 BWC on site. Met with TWT
Rex Bohn
Ryan

Went over JSA's for the day and other HAS issues.

1100 BWC going through equipment in preparation of sampling.

1125 Begin Full DTW Round

Time	Well ID	DTW	DTB BG	DTB TOC
1130	WS-MW-08	36.25	45.10	48.35
1140	WS-MW-09	36.75	45.30	48.30
1158	WS-MW-06	31.86	40.00	43.13
1200	WS-MW-05	21.99	31.35	31.35
1205	WS-MW-07	14.38	28.50	31.50
1210	WS-MW-2R	27.18	38.30	41.35
1145	WS-MW-01	Dry	45.15	45.15

Location Winston-Salem, NC Date 10-20-14

Project / Client PRGMP/XOM

Setup

1230 Begin calibration of YSI 556 to the following:

Wes Reading	Adjusted to
pH = 6.99	N/A
pH = 3.92	N/A
pH = 10.04	N/A
Spec Cond = 1.214 ms/cm	1.413 ms/cm
ORP = 245 mv	N/A
DO = 98.9% Sat	N/A

Checked Hach Turbidimeter to:

0 ntu
15 ntu
100 ntu
750 ntu

Checked out.

1305 Disconnect Stainless Steel Bladder pump and put new poly bladder in pump

1325 Set up on WS-MW-07

Static DTW = 14.35

DTB = ~~[illegible]~~ 31.50

Placed disconnect Bladder Pump to 23.0'

Location Winston-Salem, NC Date 10-20-14

Project / Client PRGMP/XOM

WS-MW-07

below TOC.

1330 Begin pumping WS-MW-07 @ 200 ml/m with bladder pump.

Time	Temp (°C)	Spcond (ms/cm)	DO (mg/L)	pH	ORP (mV)	Turb (ntu)	FR	DTW
1335	16.55	1.173	1.60	4.94	257	129	200	14.70
1340	16.56	1.180	1.30	4.93	262	113	150	14.80
1345	16.55	1.180	1.30	4.97	255	82	150	14.72
1350	16.43	1.183	1.35	4.92	259	48	150	14.74
1355	16.55	1.181	1.33	4.93	255	44	150	14.73
1400	16.43	1.178	1.46	4.84	252	29	150	14.72
1405	16.37	1.171	1.59	4.93	241	34	150	14.71
1410	16.23	1.170	1.72	4.93	210	24	150	14.72
1415	16.18	1.166	1.71	4.85	218	22	150	14.72
1420	16.19	1.162	1.76	4.88	223	19	150	14.73
1425	16.22	1.162	1.78	4.91	224	17	150	14.73

1430 Collected WS-MW-07 and Filled the following:

1-250ml HNO_3 As, Pb Total

* 1-250ml HNO_3 Dissolved As, Pb

* Field filtered using 0.45 micron filter.

Location Winston Salem, NC Date 10-20-14
Project / Client PRGMP / Xom
WS-MW-07

Characteristics: Clear & colorless
Removed 2.5 gallons of water prior to collecting sample.

1445 Decon Bladder pump.

1455 Set up on WS-MW-2R
Static DTW: 27.18
DTB: 41.35
Placed Bladder pump to 36.0' below TOC.

1505 Begin pumping WS-MW-2R @ 150ml/min with bladder pump.

Time	Temp °C	Spcond mS/cm	DO mg/L	pH	ORP mV	Turb ntu	FR	DTW
1515	17.41	0.313	6.07	4.91	275	73	150	27.48
1520	16.83	0.308	5.50	4.86	278	82	150	27.55
1525	16.89	0.307	5.37	4.89	277	77	150	27.55
1530	16.72	0.307	5.24	4.88	276	49	150	27.55
1535	16.60	0.307	5.12	4.82	275	38	150	27.55
1540	16.99	0.306	5.25	4.87	275	34	150	27.56
1545	17.01	0.307	5.37	4.83	275	30	150	27.55
1550	17.01	0.307	5.25	4.84	274	21	150	27.55

Location Winston Salem, NC Date 10-20-14
Project / Client PRGMP / Xom
WS-MW-2R / WS-QAQC-DUP-01

Time	Temp	Spcond	DO	pH	ORP	Turb	FR	DTW
1555	16.86	0.307	5.31	4.86	273	19	150	27.55
1600	16.87	0.307	5.32	4.96	270	16	150	27.55

1605 Collected WS-MW-2R and Blind Duplicate NIR WS-QAQC-DUP-01 and filled the following containers:
2-250ml HNO_3 Total As, Pb
* 2-250ml HNO_3 Dissolved As, Pb

* Field filtered using 0.45 micron in line filter

Characteristics: Clear & colorless
Removed a total of 2.5 gallons prior to collection

1625 Deconned Bladder pump
1635 Set up on WS-MW-06
Static DTW: 31.86
DTB: 43.13
Placed deconned pump to 38.0' Below TOC

1640 Begin pumping WS-MW-06 @ 150ml/min

Location: Winston Salem, NC Date: 10-20-14

Project / Client: PRGMP / XOM

WS-MW-06 MS/MSD

using bladder pump.

Time	Temp (oC)	SpCond (mS/cm)	DO (mg/L)	pH	ORP (mV)	Turb (ntu)	ER	DTW
1655	17.68	0.246	5.56	4.32	143	316	200	31.88
1700	17.23	0.246	5.21	4.31	191	292	200	31.88
1705	17.03	0.246	5.14	4.32	186	331	200	31.90
1710	16.86	0.240	4.98	4.31	179	325	200	31.90
1715	16.88	0.241	4.90	4.32	179	244	200	31.90
1720	16.87	0.241	4.87	4.33	178	186	200	31.90
1725	16.86	0.239	4.90	4.33	178	139	200	31.90
1730	16.78	0.240	4.97	4.34	177	94	200	31.90
1735	16.75	0.241	4.95	4.34	177	60	200	31.90
1740	16.72	0.241	4.82	4.36	177	48	200	31.90
1745	16.68	0.243	4.85	4.38	176	44	200	31.90
1750	16.65	0.245	4.79	4.36	176	43	200	31.90

1755 Collected WS-MW-06 and Matrix Spike
1755 WS-MW-06 MS and matrix spike Dup lical
1755 WS-MW-06 MSD and filled the following containers

3-250ml HNO_3 As Pb Total
* 3-250ml HNO_3 Diss As, Pb

* Field filtered using 0.45 micron filter

Location: Winston Salem, NC Date: 10-20-14

Project / Client: PRGMP / XOM

Calibration

Removed 3.5 gallons of water prior to collecting sample.
Characteristics: Clear Colorless

1820 Disconnect Pump
1840 Bail off site
1900 Back at hotel.

Tuesday October 21, 2014
Weather: Clear 70°F

0700 Left the hotel.
0725 Arrived on site, Met with TWT and PW to paint wells. Went over health and safety issues for the day

0800 Begin calibration of YSI 556

Was Reading	Adjusted to
pH = 4.04	NIR
pH = 7.07	NIR
pH = 10.01	NIR
SpCond = 1.400 mS/cm	NIR
ORP = 242 mV	NIR
DO = 98.7% Sat	100% Sat

Location Winston Salem, NC Date 10-21-14

Project / Client PRGMP / XOM

WS-MW-09

Check the Hach Turbidimeter to

0 ntu
15 ntu
100 ntu
750 ntu

checked out.

0830 Set up on WS-MW-09

Static DTW = 36.75

DTB = 48.30

Placed decomned Bladder pump to 43.0' below TOC.

0840 Begin pumping WS-MW-09 @ 200 ml/min with bladder pump

Time	Temp (oc)	Spec Cond (mS/cm)	DO (mg/L)	pH	ORP	Turb	Flow Rate	DTW
0850	15.06	0.299	8.09	4.74	263	192	200	36.8[illegible]
0855	14.92	0.301	7.79	4.71	264	168	200	36.8[illegible]
0900	14.91	0.302	7.32	4.72	262	106	200	36.90
0905	14.88	0.301	7.28	4.75	253	50	200	36.90
0910	14.91	0.301	7.47	4.78	250	37	200	36.90
0915	14.93	0.303	7.51	4.81	246	26	200	36.90
0920	14.99	0.304	7.35	4.82	243	21	200	36.90
0925	15.01	0.305	7.38	4.82	241	14	200	36.90

Location Winston Salem, NC Date 10-21-14

Project / Client PRGMP / XOM

WS-MW-09

0930 collected WS-MW-09 and filled the following containers:

1-250ml HNO_3 As Pb

* 1-250ml HNO_3 Dissolved As, Pb

* Field filtered using 0.45 micron filter

Characteristics: Cleared colorless

Removed 2.0 gallons of water prior to collecting sample.

0945 Decomned Bladder pump.

1000 Set up on WS-MW-05

Static DTW 22.00

DTB = 31.35

1015 Placed decomned Bladder pump to 26.0' below TOC.

Begin pumping WS-MW-05 @ 275 ml/min

Time	Temp (oc)	Spec Cond (mS/cm)	DO (mg/L)	pH	ORP (mv)	Turb (ntu)	FR	DTW
1025	16.73	0.208	6.34	3.84	281	426	275	22.25
1030	16.55	0.209	6.27	3.90	271	315	275	22.25
1035	16.48	0.210	6.26	4.08	264	182	275	22.25

Location: Winston Salem, NC Date: 10-21-14
Project / Client: PRGMP/XOM
WS-MW-05

WS-MW-05

Time	°C Temp	mS/cm Spec Cond	mg/L DO	pH	mV ORP	ntu Turb	FR	DTW
1040	16.47	0.213	6.25	4.15	253	103	275	22.25
1045	16.47	0.219	6.30	4.72	254	38	275	22.25
1050	16.47	0.222	6.21	4.89	251	31	275	22.25
1055	16.50	0.223	6.28	4.86	248	28	275	22.25
1100	16.50	0.224	6.26	4.92	242	22	275	22.25

1105 Collected WS-MW-05 and filled the following:
1-250ml HNO_3 As, Pb
* 1-250ml HNO_3 Dissolved As, Pb

* Field filtered using 0.45 micron filter

Removed 3.5 gallons of water prior to collection..

Characteristics: Clear & Colorless

1130 Collected WS-QAQC-EB-01 (Equipment Blank) by pouring laboratory supplied DI water over a decomned bladder

Location: Winston Salem, NC Date: 10-21-14
Project / Client: PRGMP/XOM
WS-MW-08

pump and filled:
1-250ml HNO_3 As, Pb.

1140 Set up on WS-MW-08
Static DTW = 36.25
DTB = 48.35

1145 Placed decomned Bladder pump to 43.0' below TOC.

1147 Begin pumping WS-MW-08@

Time	°C Temp	mS/cm Spec Cond	mg/L DO	pH	mV ORP	ntu Turb	FR	DTW
1155	17.33	1.203	1.27	4.96	194	323	250	36.30
1200	16.76	1.205	0.37	4.92	160	166	250	36.30
1205	16.73	1.204	0.30	4.90	156	134	250	36.30
1210	16.70	1.200	0.27	4.90	153	98	250	36.30
1215	16.59	1.197	0.24	4.89	151	72	250	36.30
1220	16.62	1.189	0.23	4.85	150	63	250	36.30
1225	16.53	1.175	0.21	4.84	149	46	250	36.30
1230	16.46	1.170	0.20	4.84	148	38	250	36.30
1235	16.42	1.157	0.20	4.83	148	36	250	36.30
1240	16.37	1.134	0.18	4.84	146	29	250	36.30
1245	16.44	1.120	0.18	4.84	145	32	250	36.30

Location Winston Salem, NC Date 10-21-14
Project / Client PRGMP/XOM

WS-MW-08

1250 Collected WS-MW-08 and Filled the following:

1-250ml HNO_3 As, Pb
* 1-250ml HNO_3 Diss As, Pb

*Collected using 0.45 micron Filter in line
Removed 3.5 gallons of water prior to collecting sample.

Characteristics: Clear & Colorless
Begin clean up of equipment

1415 Set up at the drum staging area
Drum Inventory:

Drum #	Contents	IDW Sample
#1	Soil MW-07	IDW-01
#2	Soil MW-07	
#3	Soil MW-07	
#4	Soil MW-2R	
#5	Soil MW-2R	IDW-02
#6	Soil MW-2R	
#7	Soil MW-2R	
#8	Soil MW-06	

Location Winston Salem, NC Date 10-21-14
Project / Client PRGMP/XOM

Drum Inventory

Drum #	Contents	IDW Sample
#9	Soil MW-06	IDW-03
#10	Soil MW-06	
#11	Soil MW-09	
#12	Soil MW-09	
#13	Soil MW-09	IDW-04
#14	Soil MW-08	
#15	Soil MW-08	
#16	Soil MW-08	
#17	Soil MW-08	
#18	Decon Pad water	IDW-05
#19	Decon Pad water	
#20	Decon Pad water	
#21	Purge water wells	IDW-06
#22	Purge water wells	
#23	Purge water wells	
#24	Purge water wells	

Totals
Soil = 17
Decon Pad water = 3
Purge water = 4
Total = 24 Drums

Location Winston Salem, NC Date 10-21-14
Project / Client PRGMP/Xom
Soil IDW

1430 Begin opening up all drums for Sampling activities

1445 Collected WSIDW-01 (Waste) by compositing 4-drums (#1 through #4) and mixed in Ziplock for
2-4oz glass TCLP Metals

1500 Collected WS-IDW-02 (waste) by compositing 4-drums (#5 through #8) and mixed in Ziplock for:
2-4oz glass TCLP Metals

1515 Collected WS-IDW-03 (waste) by compositing 4-drums (#9 through #12) and mixed in Ziplock for
2-4oz glass TCLP Metals

1530 Collected WS-IDW-04 (waste) by compositing 5-drums (#13 through #17) and mixed in Ziplock for
2-4oz glass TCLP Metals

Location Winston Salem, NC Date 10-21-14
Project / Client PRGMP/Xom
Decon Pad water / Purge Water IDW

1600 Collected WS-IDW-05 from decon Pad water drums # 18 through #20 by composing in Zip lock Bag and transferring into the following
1-250ml vp pH
1-250ml HNO_3 TAL Metals

1615 Collected WS-IDW-06 from purge water drums # 21 through #24 by compositing in Zplock Bag and transferring into the following:
1-250ml vp pH
1-250ml HNO_3 TAL Metals

Begin closing all drums.

1645 Checked out with Steve from Waste Management and informed him where the drums are located and Status.

1715 BWL off site to prepare samples for FedEx
1830 BWL to FedEx.

ATTACHMENT 2

ExxonMobil VCC Winston Salem
Data Review - October 2014

Imagine the result

ExxonMobil VCC Winston Salem

Data Review

WINSTON SALEM, NORTH CAROLINA

Metals Analysis

SDG #490-64370-1

Analyses Performed By:
Test America Laboratories, Inc.
Nashville, Tennessee

Report: #22666R
Review Level: Tier III
Project: B0085732.1401.00004

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #490-64370-1 for samples collected in association with the ExxonMobil VCC-Wiston Salem site in Winston Salem, North Carolina. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis	
						MET	MISC
490-64370-1	WS-MW-07	490-64370-1	Water	10/20/2014		X	
	WS-MW-2R	490-64370-2	Water	10/20/2014		X	
	WS-MW-06	490-64370-3	Water	10/20/2014		X	
	WS-QAQC-DUP-01	490-64370-4	Water	10/20/2014	WS-MW-2R	X	
	WS-MW-09	490-64370-5	Water	10/21/2014		X	
	WS-MW-05	490-64370-6	Water	10/21/2014		X	
	WS-MW-08	490-64370-7	Water	10/21/2014		X	
	WS-QAQC-EB-01	490-64370-8	Water	10/21/2014		X	

Note:

1. The matrix spike/matrix spike duplicate (MS/MSD) analyses for SW6010 analysis were performed on sample locations WS-MW-06 and WS-QAQC-DUP-01.

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

INORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Methods 6010 and 6020. Data were reviewed in accordance with USEPA National Functional Guidelines of October 2004.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

  B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).

- Quantitation (Q) Qualifiers

  E The reported value is estimated due to the presence of interference.

  N Spiked sample recovery is not within control limits.

  * Duplicate analysis is not within control limits.

- Validation Qualifiers

  J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

  UB Analyte considered non-detect at the listed value due to associated blank contamination.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

METALS ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010B/6020	Water	180 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.
	Soil	180 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. Therefore, sample results greater than the BAL resulted in the removal of the laboratory qualifier (B). No other qualification of the sample results was required.

3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

3.1 Initial Calibration and Continuing Calibration

The correct number and type of standards were analyzed. The correlation coefficient of the initial calibration was greater than 0.995 for all non-ICP analytes and all initial calibration verification standard recoveries were within control limits.

All continuing calibration verification standard recoveries were within the control limit.

3.2 CRDL Check Standard

The CRDL check standard serves to verify the linearity of calibration of the analysis at the CRDL. The CRDL standard is not required for the analysis of aluminum (Al), barium (Ba), calcium (Ca), iron (Fe),

magnesium (Mg), sodium (Na), and potassium (K). The criteria used to evaluate the CRDL standard analysis are presented below in the CRDL standards evaluation table.

All CRDL standard recoveries were within control limits.

3.3 ICP Interference Control Sample (ICS)

The ICS verifies the laboratories interelement and background correction factors.

All ICS exhibited recoveries within the control limits.

4. Mass Spectrometer Tuning (SW-846 6020 analysis only)

The %RSD of the absolute signals for all analytes in the tuning solution must be less than 5% for each analyte and the instrument mass resolution must be within 0.1 amu over manufacturer‘s specifications the range of 6-210 amu.

Mass spectrometer performance and system performance was acceptable.

5. Internal Standard Performance (SW-846 6020 analysis only)

Internal standard performance criteria insure that the ICP/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard analytes associated with the metals must exhibit a percent recovery within the established acceptance limits of 60% to 125%

All internal standard responses were within control limits.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD)/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

6.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the analyte’s concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD analysis exhibited recoveries within the control limits.

6.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the CRDL. A control limit of 20% for water matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the CRDL, a control limit of one times the CRDL is applied for water matrices.

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD.

7. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
WS-MW-2R/ WS-QAQC-DUP-01	Lead (total – SW6010)	0.0117	0.0618	NC
	Lead (dissolved– SW6010)	0.0057	0.0403	NC

NC = Non-compliant

The analyte lead (total and dissolved) associated with samples locations WS-MW-2R and WS-QAQC-DUP-01 exhibited a field duplicate RPD greater than the control limit. The associated sample results from sample locations for the listed analytes were qualified as estimated.

9. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries within the control limits.

10. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

All serial dilutions were within control limits.

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR METALS

METALS: SW-846 6010	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks		X	X		
B. Method Blanks		X		X	
C. Equipment/Field Blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X	X		
ICP Serial Dilution		X		X	
Total vs. Dissolved		X		X	
Reporting Limit Verification		X		X	
Raw Data		X		X	
Tier III Validation					
Initial Calibration Verification		X		X	
Continuing Calibration Verification		X		X	
CRDL Standard		X		X	
ICP Interference Check		X		X	
Transcription/calculation errors present		X		X	
Reporting limits adjusted to reflect sample dilutions		X		X	

VALIDATION PERFORMED BY: Todd Church

SIGNATURE:

DATE: December 3, 2014

PEER REVIEW: Dennis Capria

DATE: December 17, 2014

DATA QUALIFIER SUMMARY

REPORT NUMBER 22666T
ANALYTICAL DATA VALIDATION SUMMARY

Sample Delivery Group No.	Sample ID	Compound	Qualifier	Reason
Inorganic Analysis				
490-64370-1	WS-MW-07	Lead (total)	UJ	Field duplicate RPD
		Lead (dissolved)	J	Field duplicate RPD
	WS-MW-2R	Lead (total)	J	Field duplicate RPD
		Lead (dissolved)	J	Field duplicate RPD
	WS-MW-06	Lead (total)	J	Field duplicate RPD
		Lead (dissolved)	J	Field duplicate RPD
	WS-QAQC-DUP-01	Lead (total)	J	Field duplicate RPD
		Lead (dissolved)	J	Field duplicate RPD
	WS-MW-09	Lead (total)	J	Field duplicate RPD
		Lead (dissolved)	J	Field duplicate RPD
	WS-MW-05	Lead (total)	J	Field duplicate RPD
		Lead (dissolved)	J	Field duplicate RPD
	WS-MW-08	Lead (total)	J	Field duplicate RPD
		Lead (dissolved)	J	Field duplicate RPD
	WS-QAQC-EB-01	None	--	--

CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS

Qualifiers

Metals

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.

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)

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-07

Lab Sample ID: 490-64370-1

Date Collected: 10/20/14 14:30

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0160**		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 20:16	1
Lead	ND	UJ	0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 20:16	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0117**		0.0100	0.00720	mg/L		10/27/14 13:28	10/29/14 01:40	1
Lead	**0.00340**	**J**	0.00500	0.00200	mg/L		10/27/14 13:28	10/29/14 01:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-2R

Lab Sample ID: 490-64370-2

Date Collected: 10/20/14 16:05

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 20:19	1
Lead	**0.0117**	J	0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 20:19	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/27/14 13:28	10/29/14 01:43	1
Lead	**0.00570**	J	0.00500	0.00200	mg/L		10/27/14 13:28	10/29/14 01:43	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-06

Lab Sample ID: 490-64370-3

Date Collected: 10/20/14 17:55

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:30	1
Lead	**0.0111**	J	0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:30	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/27/14 13:28	10/29/14 01:47	1
Lead	**0.00600**	J	0.00500	0.00200	mg/L		10/27/14 13:28	10/29/14 01:47	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-QAQC-DUP-01

Lab Sample ID: 490-64370-4

Date Collected: 10/20/14 00:01

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:40	1
Lead	**0.0618**	J	0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:40	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 14:58	10/29/14 17:26	1
Lead	**0.0403**	J	0.00500	0.00200	mg/L		10/28/14 14:58	10/29/14 17:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-09

Lab Sample ID: 490-64370-5

Date Collected: 10/21/14 09:30

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0275		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:44	1
Lead	0.00700	J	0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:44	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0262		0.0100	0.00720	mg/L		10/28/14 14:58	10/29/14 17:49	1
Lead	0.00610	J	0.00500	0.00200	mg/L		10/28/14 14:58	10/29/14 17:49	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-05

Lab Sample ID: 490-64370-6

Date Collected: 10/21/14 11:05

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00720	J	0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:47	1
Lead	0.00270	J	0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:47	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00840	J	0.0100	0.00720	mg/L		10/28/14 14:58	10/29/14 17:52	1
Lead	0.00290	J	0.00500	0.00200	mg/L		10/28/14 14:58	10/29/14 17:52	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-08

Lab Sample ID: 490-64370-7

Date Collected: 10/21/14 12:50

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	0.0720	mg/L		10/28/14 07:42	10/30/14 15:30	10
Lead	**0.0234**	J	0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:51	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	0.0720	mg/L		10/28/14 14:58	10/30/14 15:22	10
Lead	**0.0217**	J	0.00500	0.00200	mg/L		10/28/14 14:58	10/29/14 17:56	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0523**		0.00200	0.000500	mg/L		11/09/14 12:18	11/11/14 19:17	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0503**		0.00200	0.000500	mg/L		11/09/14 12:16	11/11/14 23:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-QAQC-EB-01

Lab Sample ID: 490-64370-8

Date Collected: 10/21/14 11:30

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 20:05	1
Lead	ND		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 20:05	1

Loc: 490
64370

11/12/2014

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton
Nashville, TN 37204

Phone: 615-726-0177
Toll Free: 800-765-0980
Fax: 615-726-3404

ExxonMobil

Consultant Name: ARCADIS Cary - Exxon (10141)
Address: 801 Corporate Center Dr, Suite 300
City/State/Zip: Raleigh, NC 27607
ExxonMobil Project Mgr:
Consultant Project Mgr: Matt Pelton
Consultant Telephone Number: 919-469-1952 Fax No.: 919-469-5676
Sampler Name: (Print) Brian Lavgren
Sampler Signature: [signature]

TA Account #: 49001238 PO: B0085732.1401
Invoice To: Arcadis
Report To: Matt Pelton
Project Name: VCC Winston Salem
Retail # (MRN #):
Major Project (AFE#):
Site Address: 3000 N. Liberty Street
City, State, Zip: Winston Salem, NC
Regulatory District (CA)

Sample ID or Field ID	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass (Yellow Label)	HNO_3 (Red Label)	None (Black Label)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify):	Analyze For: 6010 Dissolved As, Pb	6010 Total As, Pb	6010 TAL Metals	6010 TCLP Metals	pH														RUSH TAT (Pre-Schedule)*	TAT request (in Bus. Days)	Fax Results (yes or no)	Due Date of Report
WS-MW-07	10-20-14	1430	2	X		X							2		X						1	1																1				
WS-MW-2R	10-20-14	1605	2	X		X							2		X						1	1																2				
WS-MW-06	10-20-14	1755	2	X		X							2		X						1	1																3				
WS-MW-06MS	10-20-14	1755	2	X		X							2		X						1	1																				
WS-MW-06MSD	10-20-14	1755	2	X		X							2		X						1	1																				
WS-QAQC-DUP-01	10-20-14	NIR	2	X		X							2		X						1	1																4				
WS-MW-09	10-21-14	0930	2	X		X							2		X						1	1																5				
WS-MW-05	10-21-14	1105	2	X		X							2		X						1	1																6				
WS-MW-08	10-21-14	1250	2	X		X							2		X						1	1																7				
WS-QAQC-EB-01	10-21-14	1130	1	X									1		X							1																8				

Comments/Special Instructions:

Laboratory Comments:
Temperature Upon Receipt: 2.1c
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
QC Deliverables (please circle one)
Level 2 Level 3 Level 4 Other

Relinquished by:	Date	Time	Received by:	Date	Time
[signature] Brian Lavgren	10-21-14	1800	FedEx	10-21-14	1800
Relinquished by:	Date	Time	Received by TestAmerica:	Date	Time
			[signature] TAN	10-22-14	0830

* It will be the responsibility of ExxonMobil or its consultant to notify the TestAmerica Project Manager by phone or fax that a rush sample will be submitted.
TA Project Manager: Date:

ATTACHMENT 3

Groundwater Laboratory Analytical Report – October 2014

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-64370-1
Client Project/Site: VCC Winston Salem
Revision: 1

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Matt Pelton

Authorized for release by:
11/12/2014 4:02:59 PM

Heather Wagner, Project Manager I
(615)301-5763
heather.wagner@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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
Sample Summary 3
Case Narrative 4
Definitions 5
Client Sample Results 6
QC Sample Results 14
QC Association 17
Chronicle 20
Method Summary 22
Certification Summary 23
Chain of Custody 24
Receipt Checklists 27

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-64370-1	WS-MW-07	Ground Water	10/20/14 14:30	10/22/14 08:30
490-64370-2	WS-MW-2R	Ground Water	10/20/14 16:05	10/22/14 08:30
490-64370-3	WS-MW-06	Ground Water	10/20/14 17:55	10/22/14 08:30
490-64370-4	WS-QAQC-DUP-01	Ground Water	10/20/14 00:01	10/22/14 08:30
490-64370-5	WS-MW-09	Ground Water	10/21/14 09:30	10/22/14 08:30
490-64370-6	WS-MW-05	Ground Water	10/21/14 11:05	10/22/14 08:30
490-64370-7	WS-MW-08	Ground Water	10/21/14 12:50	10/22/14 08:30
490-64370-8	WS-QAQC-EB-01	Ground Water	10/21/14 11:30	10/22/14 08:30

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Job ID: 490-64370-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-64370-1

Comments
REVISED REPORT: Revised to include results for 6020 arsenic anlaysis on sample WS-MW-08 (490-64370-7). This report replaces the report issued 10/31/14.

Receipt
The samples were received on 10/22/2014 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1º C.

Metals
Method(s) 6010C: The following sample(s) was diluted due to the nature of the sample matrix: WS-MW-08 (490-64370-7). 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.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Qualifiers

Metals

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.

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)

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-07

Lab Sample ID: 490-64370-1

Date Collected: 10/20/14 14:30

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0160**		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 20:16	1
Lead	ND		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 20:16	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0117**		0.0100	0.00720	mg/L		10/27/14 13:28	10/29/14 01:40	1
Lead	**0.00340**	**J**	0.00500	0.00200	mg/L		10/27/14 13:28	10/29/14 01:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-2R

Lab Sample ID: 490-64370-2

Date Collected: 10/20/14 16:05

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 20:19	1
Lead	**0.0117**		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 20:19	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/27/14 13:28	10/29/14 01:43	1
Lead	**0.00570**		0.00500	0.00200	mg/L		10/27/14 13:28	10/29/14 01:43	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-06

Lab Sample ID: 490-64370-3

Date Collected: 10/20/14 17:55

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:30	1
Lead	**0.0111**		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:30	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/27/14 13:28	10/29/14 01:47	1
Lead	**0.00600**		0.00500	0.00200	mg/L		10/27/14 13:28	10/29/14 01:47	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-QAQC-DUP-01

Lab Sample ID: 490-64370-4

Date Collected: 10/20/14 00:01

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:40	1
Lead	**0.0618**		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:40	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 14:58	10/29/14 17:26	1
Lead	**0.0403**		0.00500	0.00200	mg/L		10/28/14 14:58	10/29/14 17:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-09

Lab Sample ID: 490-64370-5

Date Collected: 10/21/14 09:30

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0275		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:44	1
Lead	0.00700		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:44	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0262		0.0100	0.00720	mg/L		10/28/14 14:58	10/29/14 17:49	1
Lead	0.00610		0.00500	0.00200	mg/L		10/28/14 14:58	10/29/14 17:49	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-05

Lab Sample ID: 490-64370-6

Date Collected: 10/21/14 11:05

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00720	J	0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:47	1
Lead	0.00270	J	0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:47	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00840	J	0.0100	0.00720	mg/L		10/28/14 14:58	10/29/14 17:52	1
Lead	0.00290	J	0.00500	0.00200	mg/L		10/28/14 14:58	10/29/14 17:52	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-08

Lab Sample ID: 490-64370-7

Date Collected: 10/21/14 12:50

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	0.0720	mg/L		10/28/14 07:42	10/30/14 15:30	10
Lead	**0.0234**		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:51	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.100	0.0720	mg/L		10/28/14 14:58	10/30/14 15:22	10
Lead	**0.0217**		0.00500	0.00200	mg/L		10/28/14 14:58	10/29/14 17:56	1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0523**		0.00200	0.000500	mg/L		11/09/14 12:18	11/11/14 19:17	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0503**		0.00200	0.000500	mg/L		11/09/14 12:16	11/11/14 23:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-QAQC-EB-01

Lab Sample ID: 490-64370-8

Date Collected: 10/21/14 11:30

Matrix: Ground Water

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 20:05	1
Lead	ND		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 20:05	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 490-201364/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 202087 — **Prep Batch: 201364**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:23	1
Lead	ND		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:23	1

Lab Sample ID: LCS 490-201364/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 202087 — **Prep Batch: 201364**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.05540		mg/L		111	80 - 120
Lead	0.0500	0.04820		mg/L		96	80 - 120

Lab Sample ID: 490-64370-3 MS — **Client Sample ID: WS-MW-06**
Matrix: Ground Water — **Prep Type: Total/NA**
Analysis Batch: 202087 — **Prep Batch: 201364**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.0500	0.05250		mg/L		105	75 - 125
Lead	0.0111		0.0500	0.05980		mg/L		97	75 - 125

Lab Sample ID: 490-64370-3 MSD — **Client Sample ID: WS-MW-06**
Matrix: Ground Water — **Prep Type: Total/NA**
Analysis Batch: 202087 — **Prep Batch: 201364**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.0500	0.05410		mg/L		108	75 - 125	3	20
Lead	0.0111		0.0500	0.06180		mg/L		101	75 - 125	3	20

Lab Sample ID: MB 490-201274/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 201714 — **Prep Batch: 201274**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/27/14 13:28	10/29/14 00:25	1
Lead	ND		0.00500	0.00200	mg/L		10/27/14 13:28	10/29/14 00:25	1

Lab Sample ID: LCS 490-201274/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 201714 — **Prep Batch: 201274**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.05410		mg/L		108	80 - 120
Lead	0.0500	0.04980		mg/L		100	80 - 120

Lab Sample ID: LCSD 490-201274/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 201714 — **Prep Batch: 201274**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0500	0.05650		mg/L		113	80 - 120	4	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSD 490-201274/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 201714 — **Prep Batch: 201274**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	0.0500	0.04980		mg/L		100	80 - 120	0	20

Lab Sample ID: MB 490-201584/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 202087 — **Prep Batch: 201584**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 14:58	10/29/14 17:19	1
Lead	ND		0.00500	0.00200	mg/L		10/28/14 14:58	10/29/14 17:19	1

Lab Sample ID: LCS 490-201584/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 202087 — **Prep Batch: 201584**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0500	0.05620		mg/L		112	80 - 120
Lead	0.0500	0.05010		mg/L		100	80 - 120

Lab Sample ID: 490-64370-4 MS — **Client Sample ID: WS-QAQC-DUP-01**
Matrix: Ground Water — **Prep Type: Dissolved**
Analysis Batch: 202087 — **Prep Batch: 201584**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		0.0500	0.05990		mg/L		120	75 - 125
Lead	0.0403		0.0500	0.08980		mg/L		99	75 - 125

Lab Sample ID: 490-64370-4 MSD — **Client Sample ID: WS-QAQC-DUP-01**
Matrix: Ground Water — **Prep Type: Dissolved**
Analysis Batch: 202087 — **Prep Batch: 201584**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		0.0500	0.05770		mg/L		115	75 - 125	4	20
Lead	0.0403		0.0500	0.08980		mg/L		99	75 - 125	0	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 490-204700/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205362 — **Prep Batch: 204700**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00200	0.000500	mg/L		11/09/14 12:18	11/11/14 18:15	1

Lab Sample ID: LCS 490-204700/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205362 — **Prep Batch: 204700**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.09188		mg/L		92	80 - 120

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 490-65743-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205362 — **Prep Batch: 204700**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	0.0113		0.100	0.1009		mg/L		90	75 - 125		

Lab Sample ID: 490-65743-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 205362 — **Prep Batch: 204700**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0113		0.100	0.09994		mg/L		89	75 - 125	1	20

Lab Sample ID: MB 490-204699/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 205362 — **Prep Batch: 204699**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00200	0.000500	mg/L		11/09/14 12:16	11/11/14 22:26	1

Lab Sample ID: LCS 490-204699/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 205362 — **Prep Batch: 204699**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			0.100	0.09750		mg/L		98	80 - 120		

Lab Sample ID: LCSD 490-204699/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 205362 — **Prep Batch: 204699**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			0.100	0.1017		mg/L		102	80 - 120	4	20

Lab Sample ID: 490-65053-G-11-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205362 — **Prep Batch: 204699**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	0.000958	J	0.100	0.09366		mg/L		93	75 - 125		

Lab Sample ID: 490-65053-G-11-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 205362 — **Prep Batch: 204699**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.000958	J	0.100	0.09390		mg/L		93	75 - 125	0	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Metals

Prep Batch: 201274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-1	WS-MW-07	Dissolved	Ground Water	3005A	
490-64370-2	WS-MW-2R	Dissolved	Ground Water	3005A	
490-64370-3	WS-MW-06	Dissolved	Ground Water	3005A	
490-64370-3 MS	WS-MW-06	Dissolved	Ground Water	3005A	
490-64370-3 MSD	WS-MW-06	Dissolved	Ground Water	3005A	
LCS 490-201274/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-201274/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 490-201274/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 201364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-1	WS-MW-07	Total/NA	Ground Water	3010A	
490-64370-2	WS-MW-2R	Total/NA	Ground Water	3010A	
490-64370-3	WS-MW-06	Total/NA	Ground Water	3010A	
490-64370-3 MS	WS-MW-06	Total/NA	Ground Water	3010A	
490-64370-3 MSD	WS-MW-06	Total/NA	Ground Water	3010A	
490-64370-4	WS-QAQC-DUP-01	Total/NA	Ground Water	3010A	
490-64370-5	WS-MW-09	Total/NA	Ground Water	3010A	
490-64370-6	WS-MW-05	Total/NA	Ground Water	3010A	
490-64370-7	WS-MW-08	Total/NA	Ground Water	3010A	
490-64370-8	WS-QAQC-EB-01	Total/NA	Ground Water	3010A	
LCS 490-201364/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 490-201364/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 201584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-4	WS-QAQC-DUP-01	Dissolved	Ground Water	3005A	
490-64370-4 MS	WS-QAQC-DUP-01	Dissolved	Ground Water	3005A	
490-64370-4 MSD	WS-QAQC-DUP-01	Dissolved	Ground Water	3005A	
490-64370-5	WS-MW-09	Dissolved	Ground Water	3005A	
490-64370-6	WS-MW-05	Dissolved	Ground Water	3005A	
490-64370-7	WS-MW-08	Dissolved	Ground Water	3005A	
LCS 490-201584/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 490-201584/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 201714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-1	WS-MW-07	Dissolved	Ground Water	6010C	201274
490-64370-2	WS-MW-2R	Dissolved	Ground Water	6010C	201274
490-64370-3	WS-MW-06	Dissolved	Ground Water	6010C	201274
490-64370-3 MS	WS-MW-06	Dissolved	Ground Water	6010C	201274
490-64370-3 MSD	WS-MW-06	Dissolved	Ground Water	6010C	201274
LCS 490-201274/2-A	Lab Control Sample	Total Recoverable	Water	6010C	201274
LCSD 490-201274/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	201274
MB 490-201274/1-A	Method Blank	Total Recoverable	Water	6010C	201274

Analysis Batch: 202087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-1	WS-MW-07	Total/NA	Ground Water	6010C	201364
490-64370-2	WS-MW-2R	Total/NA	Ground Water	6010C	201364
490-64370-3	WS-MW-06	Total/NA	Ground Water	6010C	201364

Metals (Continued)

Analysis Batch: 202087 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-3 MS	WS-MW-06	Total/NA	Ground Water	6010C	201364
490-64370-3 MSD	WS-MW-06	Total/NA	Ground Water	6010C	201364
490-64370-4	WS-QAQC-DUP-01	Dissolved	Ground Water	6010C	201584
490-64370-4	WS-QAQC-DUP-01	Total/NA	Ground Water	6010C	201364
490-64370-4 MS	WS-QAQC-DUP-01	Dissolved	Ground Water	6010C	201584
490-64370-4 MSD	WS-QAQC-DUP-01	Dissolved	Ground Water	6010C	201584
490-64370-5	WS-MW-09	Dissolved	Ground Water	6010C	201584
490-64370-5	WS-MW-09	Total/NA	Ground Water	6010C	201364
490-64370-6	WS-MW-05	Dissolved	Ground Water	6010C	201584
490-64370-6	WS-MW-05	Total/NA	Ground Water	6010C	201364
490-64370-7	WS-MW-08	Dissolved	Ground Water	6010C	201584
490-64370-7	WS-MW-08	Total/NA	Ground Water	6010C	201364
490-64370-8	WS-QAQC-EB-01	Total/NA	Ground Water	6010C	201364
LCS 490-201364/2-A	Lab Control Sample	Total/NA	Water	6010C	201364
LCS 490-201584/2-A	Lab Control Sample	Total Recoverable	Water	6010C	201584
MB 490-201364/1-A	Method Blank	Total/NA	Water	6010C	201364
MB 490-201584/1-A	Method Blank	Total Recoverable	Water	6010C	201584

Analysis Batch: 202290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-7	WS-MW-08	Dissolved	Ground Water	6010C	201584
490-64370-7	WS-MW-08	Total/NA	Ground Water	6010C	201364

Prep Batch: 204699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-7	WS-MW-08	Dissolved	Ground Water	3005A	
490-65053-G-11-B MS	Matrix Spike	Dissolved	Water	3005A	
490-65053-G-11-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	
LCS 490-204699/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 490-204699/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 490-204699/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 204700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-7	WS-MW-08	Total/NA	Ground Water	3010A	
490-65743-A-1-B MS	Matrix Spike	Total/NA	Water	3010A	
490-65743-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	
LCS 490-204700/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 490-204700/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 205362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64370-7	WS-MW-08	Dissolved	Ground Water	6020	204699
490-64370-7	WS-MW-08	Total/NA	Ground Water	6020	204700
490-65053-G-11-B MS	Matrix Spike	Dissolved	Water	6020	204699
490-65053-G-11-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020	204699
490-65743-A-1-B MS	Matrix Spike	Total/NA	Water	6020	204700
490-65743-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	6020	204700
LCS 490-204699/2-A	Lab Control Sample	Total Recoverable	Water	6020	204699
LCS 490-204700/2-A	Lab Control Sample	Total/NA	Water	6020	204700
LCSD 490-204699/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020	204699

Metals (Continued)

Analysis Batch: 205362 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-204699/1-A	Method Blank	Total Recoverable	Water	6020	204699
MB 490-204700/1-A	Method Blank	Total/NA	Water	6020	204700

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-07 — Lab Sample ID: 490-64370-1

Date Collected: 10/20/14 14:30 — **Matrix: Ground Water**
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			201274	10/27/14 13:28	ADN	TAL NSH
Dissolved	Analysis	6010C		1	201714	10/29/14 01:40	LTB	TAL NSH
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		1	202087	10/29/14 20:16	LTB	TAL NSH

Client Sample ID: WS-MW-2R — Lab Sample ID: 490-64370-2

Date Collected: 10/20/14 16:05 — **Matrix: Ground Water**
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			201274	10/27/14 13:28	ADN	TAL NSH
Dissolved	Analysis	6010C		1	201714	10/29/14 01:43	LTB	TAL NSH
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		1	202087	10/29/14 20:19	LTB	TAL NSH

Client Sample ID: WS-MW-06 — Lab Sample ID: 490-64370-3

Date Collected: 10/20/14 17:55 — **Matrix: Ground Water**
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			201274	10/27/14 13:28	ADN	TAL NSH
Dissolved	Analysis	6010C		1	201714	10/29/14 01:47	LTB	TAL NSH
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		1	202087	10/29/14 19:30	LTB	TAL NSH

Client Sample ID: WS-QAQC-DUP-01 — Lab Sample ID: 490-64370-4

Date Collected: 10/20/14 00:01 — **Matrix: Ground Water**
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			201584	10/28/14 14:58	ADN	TAL NSH
Dissolved	Analysis	6010C		1	202087	10/29/14 17:26	LTB	TAL NSH
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		1	202087	10/29/14 19:40	LTB	TAL NSH

Client Sample ID: WS-MW-09 — Lab Sample ID: 490-64370-5

Date Collected: 10/21/14 09:30 — **Matrix: Ground Water**
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			201584	10/28/14 14:58	ADN	TAL NSH
Dissolved	Analysis	6010C		1	202087	10/29/14 17:49	LTB	TAL NSH
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Client Sample ID: WS-MW-09

Lab Sample ID: 490-64370-5

Date Collected: 10/21/14 09:30
Matrix: Ground Water
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	6010C		1	202087	10/29/14 19:44	LTB	TAL NSH

Client Sample ID: WS-MW-05

Lab Sample ID: 490-64370-6

Date Collected: 10/21/14 11:05
Matrix: Ground Water
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			201584	10/28/14 14:58	ADN	TAL NSH
Dissolved	Analysis	6010C		1	202087	10/29/14 17:52	LTB	TAL NSH
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		1	202087	10/29/14 19:47	LTB	TAL NSH

Client Sample ID: WS-MW-08

Lab Sample ID: 490-64370-7

Date Collected: 10/21/14 12:50
Matrix: Ground Water
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			201584	10/28/14 14:58	ADN	TAL NSH
Dissolved	Analysis	6010C		1	202087	10/29/14 17:56	LTB	TAL NSH
Dissolved	Prep	3005A			201584	10/28/14 14:58	ADN	TAL NSH
Dissolved	Analysis	6010C		10	202290	10/30/14 15:22	LTB	TAL NSH
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		1	202087	10/29/14 19:51	LTB	TAL NSH
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		10	202290	10/30/14 15:30	LTB	TAL NSH
Dissolved	Prep	3005A			204699	11/09/14 12:16	ADN	TAL NSH
Dissolved	Analysis	6020		1	205362	11/11/14 23:27	JBD	TAL NSH
Total/NA	Prep	3010A			204700	11/09/14 12:18	ADN	TAL NSH
Total/NA	Analysis	6020		1	205362	11/11/14 19:17	JBD	TAL NSH

Client Sample ID: WS-QAQC-EB-01

Lab Sample ID: 490-64370-8

Date Collected: 10/21/14 11:30
Matrix: Ground Water
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		1	202087	10/29/14 20:05	LTB	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL NSH
6020	Metals (ICP/MS)	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64370-1

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-15
Arizona	State Program	9	AZ0473	05-05-15
Arkansas DEQ	State Program	6	88-0737	04-25-15
California	NELAP	9	1168CA	10-31-14 *
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Illinois	NELAP	5	200010	12-09-14
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	01-31-15
Kentucky (UST)	State Program	4	19	06-30-15
Kentucky (WW)	State Program	4	90038	12-31-14
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-15
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-14
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-15
New Jersey	NELAP	2	TN965	06-30-15
New York	NELAP	2	11342	03-31-15
North Carolina (WW/SW)	State Program	4	387	12-31-14
North Dakota	State Program	8	R-146	06-30-14 *
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-15
Oregon	NELAP	10	TN200001	04-29-15
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-14
South Carolina	State Program	4	84009 (001)	02-28-15
South Carolina (DW)	State Program	4	84009 (002)	02-23-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-15
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-15
Wisconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15

* Certification renewal pending - certification considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-64370 Chain of Custody

Cooler Received/Opened On___10/22/2014 @ _0830____

1. Tracking #___0331_____(last 4 digits, FedEx)

Courier: ____Fed Ex_____ IR Gun ID_____17960358_____

2. Temperature of rep. sample or temp blank when opened: 2.1 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

   If yes, how many and where: 2 front + back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) EZA

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

   Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

   b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) mdm

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

   b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) mdm

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) mdm

I certify that I attached a label with the unique LIMS number to each container (intial) mdm

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...#_____

BIS = Broken in shipment

Loc: 490
64370

11/12/2014

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton
Nashville, TN 37204

Phone: 615-726-0177
Toll Free: 800-765-0980
Fax: 615-726-3404

ExxonMobil

Consultant Name: ARCADIS Cary - Exxon (10141)
Address: 801 Corporate Center Dr, Suite 300
City/State/Zip: Raleigh, NC 27607
ExxonMobil Project Mgr:
Consultant Project Mgr: Matt Pelton
Consultant Telephone Number: 919-469-1952 Fax No.: 919-469-5676
Sampler Name: (Print) Brian Lavgren
Sampler Signature: [signature]

TA Account #: 49001238 PO: B0085732.1401
Invoice To: Arcadis
Report To: Matt Pelton
Project Name: VCC Winston Salem
Retail # (MRN #):
Major Project (AFE#):
Site Address: 3000 N. Liberty Street
City, State, Zip: Winston Salem, NC
Regulatory District (CA)

Sample ID or Field ID	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass (Yellow Label)	HNO_3 (Red Label)	None (Black Label)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify):	Analyze For: 6010 Dissolved As, Pb	6010 Total As, Pb	6010 TAL Metals	6010 TCLP Metals	pH														RUSH TAT (Pre-Schedule)*	TAT request (in Bus. Days)	Fax Results (yes or no)	Due Date of Report
WS-MW-07	10-20-14	1430	2	X		X							2		X						1	1																1				
WS-MW-2R	10-20-14	1605	2	X		X							2		X						1	1																2				
WS-MW-06	10-20-14	1755	2	X		X							2		X						1	1																3				
WS-MW-06MS	10-20-14	1755	2	X		X							2		X						1	1																				
WS-MW-06MSD	10-20-14	1755	2	X		X							2		X						1	1																				
WS-QAQC-DUP-01	10-20-14	NIR	2	X		X							2		X						1	1																4				
WS-MW-09	10-21-14	0930	2	X		X							2		X						1	1																5				
WS-MW-05	10-21-14	1105	2	X		X							2		X						1	1																6				
WS-MW-08	10-21-14	1250	2	X		X							2		X						1	1																7				
WS-QAQC-EB-01	10-21-14	1130	1	X									1		X							1																8				

Comments/Special Instructions:

Laboratory Comments:
Temperature Upon Receipt: 2.1c
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
QC Deliverables (please circle one)
Level 2 Level 3 Level 4 Other

Relinquished by:	Date	Time	Received by:	Date	Time
[signature] Brian Lavgren	10-21-14	1800	FedEx	10-21-14	1800
Relinquished by:	Date	Time	Received by TestAmerica:	Date	Time
			[signature] TAN	10-22-14	0830

* It will be the responsibility of ExxonMobil or its consultant to notify the TestAmerica Project Manager by phone or fax that a rush sample will be submitted.
TA Project Manager: Date:

Wagner, Heather

From: Roddy, Jackie [Jacqueline.Roddy@arcadis-us.com]
Sent: Friday, November 07, 2014 12:48 PM
To: Wagner, Heather
Subject: RE: Job ID 490-64370-1

Yes, both please. Thank you.

Jacqueline Roddy, P.E. (NC) | Staff Environmental Engineer | Jacqueline.Roddy@arcadis-us.com
ARCADIS U.S., Inc. | 801 Corporate Center Drive, Suite 300 | Raleigh, North Carolina 27607-5073
T: 919 415 2288
www.arcadis-us.com

ARCADIS, Imagine the result

From: Wagner, Heather [mailto:Heather.Wagner@testamericainc.com]
Sent: Friday, November 07, 2014 1:46 PM
To: Roddy, Jackie
Cc: Hagemeister, Anna
Subject: RE: Job ID 490-64370-1

Do you need Total and Dissolved?

HEATHER WAGNER
TestAmerica-Nashville
Tel 615.301.5763

From: Roddy, Jackie [mailto:Jacqueline.Roddy@arcadis-us.com]
Sent: Friday, November 07, 2014 12:38 PM
To: Wagner, Heather
Cc: Hagemeister, Anna
Subject: Job ID 490-64370-1

For this job, could you please analyze WS-MW-08 for arsenic using the 6020 method with a 5-day turnaround?

Jacqueline Roddy, P.E. (NC) | Staff Environmental Engineer | Jacqueline.Roddy@arcadis-us.com
ARCADIS U.S., Inc. | 801 Corporate Center Drive, Suite 300 | Raleigh, North Carolina 27607-5073
T: 919 415 2288
www.arcadis-us.com

ARCADIS, Imagine the result

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Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 490-64370-1

Login Number: 64370
List Number: 1
Creator: McBride, Mike

List Source: TestAmerica Nashville

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.	N/A	
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	2.1
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.	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.	N/A	
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.	N/A	

ATTACHMENT 4

IDW Laboratory Analytical Report – October 2014

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-64365-1
Client Project/Site: VCC Winston Salem

For:
ARCADIS U.S., Inc.
801 Corporate Center Drive
Suite 300
Raleigh, North Carolina 27607-5073

Attn: Matt Pelton

Authorized for release by:
10/31/2014 12:27:49 PM

Heather Wagner, Project Manager I
(615)301-5763
heather.wagner@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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
Sample Summary 3
Case Narrative 4
Definitions 5
Client Sample Results 6
QC Sample Results 12
QC Association 18
Chronicle 21
Method Summary 23
Certification Summary 24
Chain of Custody 25
Receipt Checklists 27

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-64365-1	WS-IDW-01	Soil	10/21/14 14:45	10/22/14 08:30
490-64365-2	WS-IDW-02	Soil	10/21/14 15:00	10/22/14 08:30
490-64365-3	WS-IDW-03	Soil	10/21/14 15:15	10/22/14 08:30
490-64365-4	WS-IDW-04	Soil	10/21/14 15:30	10/22/14 08:30
490-64365-5	WS-IDW-05	Wastewater	10/21/14 16:00	10/22/14 08:30
490-64365-6	WS-IDW-06	Wastewater	10/21/14 16:15	10/22/14 08:30

Job ID: 490-64365-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-64365-1

Comments
No additional comments.

Receipt
The samples were received on 10/22/2014 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1º C.

Metals
Method(s) 6010C: The TCLP leachate blank for batch 201742 contained a target analyte above the reporting limit (RL). None of the samples associated with this leachate blank contained this target analyte; therefore, re-extraction of the samples was not performed.

Method(s) 6010C: The following sample(s) was diluted due to the abundance of analytes Ca: WS-IDW-05 (490-64365-5). Elevated reporting limits (RLs) are provided.

Method(s) 6010C: The following sample(s) was diluted due to the nature of the sample matrix: WS-IDW-06 (490-64365-6). 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.

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

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
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.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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)

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Client Sample ID: WS-IDW-01

Lab Sample ID: 490-64365-1

Date Collected: 10/21/14 14:45

Matrix: Soil

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0720	mg/L		10/29/14 09:08	10/29/14 22:43	1
Barium	**0.425**	**J**	10.0	0.0500	mg/L		10/29/14 09:08	10/29/14 22:43	1
Cadmium	ND		0.100	0.00500	mg/L		10/29/14 09:08	10/29/14 22:43	1
Chromium	ND		0.500	0.0300	mg/L		10/29/14 09:08	10/29/14 22:43	1
Silver	ND		0.500	0.0250	mg/L		10/29/14 09:08	10/29/14 22:43	1
Lead	**0.134**	**J**	0.500	0.0200	mg/L		10/29/14 09:08	10/29/14 22:43	1
Selenium	**0.0710**	**J B**	0.100	0.0500	mg/L		10/29/14 09:08	10/29/14 22:43	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200	0.00150	mg/L		10/29/14 06:44	10/30/14 16:40	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**87**		0.10	0.10	%			10/22/14 16:05	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.97**		0.100	0.100	SU			10/23/14 16:36	1
Temperature	**21.1**		0.100	0.100	Degrees C			10/23/14 16:36	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Client Sample ID: WS-IDW-02

Lab Sample ID: 490-64365-2

Date Collected: 10/21/14 15:00

Matrix: Soil

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0720	mg/L		10/29/14 09:08	10/29/14 22:47	1
Barium	**0.433**	**J**	10.0	0.0500	mg/L		10/29/14 09:08	10/29/14 22:47	1
Cadmium	ND		0.100	0.00500	mg/L		10/29/14 09:08	10/29/14 22:47	1
Chromium	ND		0.500	0.0300	mg/L		10/29/14 09:08	10/29/14 22:47	1
Silver	ND		0.500	0.0250	mg/L		10/29/14 09:08	10/29/14 22:47	1
Lead	**0.268**	**J**	0.500	0.0200	mg/L		10/29/14 09:08	10/29/14 22:47	1
Selenium	**0.0540**	**J B**	0.100	0.0500	mg/L		10/29/14 09:08	10/29/14 22:47	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200	0.00150	mg/L		10/29/14 06:44	10/30/14 16:42	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**86**		0.10	0.10	%			10/22/14 16:05	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**5.20**		0.100	0.100	SU			10/23/14 16:36	1
Temperature	**21.1**		0.100	0.100	Degrees C			10/23/14 16:36	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Client Sample ID: WS-IDW-03

Lab Sample ID: 490-64365-3

Date Collected: 10/21/14 15:15

Matrix: Soil

Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0720	mg/L		10/29/14 09:08	10/29/14 22:50	1
Barium	**0.379**	**J**	10.0	0.0500	mg/L		10/29/14 09:08	10/29/14 22:50	1
Cadmium	ND		0.100	0.00500	mg/L		10/29/14 09:08	10/29/14 22:50	1
Chromium	ND		0.500	0.0300	mg/L		10/29/14 09:08	10/29/14 22:50	1
Silver	ND		0.500	0.0250	mg/L		10/29/14 09:08	10/29/14 22:50	1
Lead	**0.0370**	**J**	0.500	0.0200	mg/L		10/29/14 09:08	10/29/14 22:50	1
Selenium	ND		0.100	0.0500	mg/L		10/29/14 09:08	10/29/14 22:50	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200	0.00150	mg/L		10/29/14 06:44	10/30/14 16:44	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82**		0.10	0.10	%			10/22/14 16:05	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**4.92**		0.100	0.100	SU			10/23/14 16:36	1
Temperature	**21.1**		0.100	0.100	Degrees C			10/23/14 16:36	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Client Sample ID: WS-IDW-04

Lab Sample ID: 490-64365-4

Date Collected: 10/21/14 15:30
Matrix: Soil
Date Received: 10/22/14 08:30

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0720	mg/L		10/29/14 09:08	10/29/14 22:53	1
Barium	**0.267**	**J**	10.0	0.0500	mg/L		10/29/14 09:08	10/29/14 22:53	1
Cadmium	ND		0.100	0.00500	mg/L		10/29/14 09:08	10/29/14 22:53	1
Chromium	ND		0.500	0.0300	mg/L		10/29/14 09:08	10/29/14 22:53	1
Silver	ND		0.500	0.0250	mg/L		10/29/14 09:08	10/29/14 22:53	1
Lead	**0.0490**	**J**	0.500	0.0200	mg/L		10/29/14 09:08	10/29/14 22:53	1
Selenium	ND		0.100	0.0500	mg/L		10/29/14 09:08	10/29/14 22:53	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200	0.00150	mg/L		10/29/14 06:44	10/30/14 16:46	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**84**		0.10	0.10	%			10/22/14 16:05	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**5.94**		0.100	0.100	SU			10/23/14 16:36	1
Temperature	**21.1**		0.100	0.100	Degrees C			10/23/14 16:36	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Client Sample ID: WS-IDW-05

Date Collected: 10/21/14 16:00
Date Received: 10/22/14 08:30

Lab Sample ID: 490-64365-5

Matrix: Wastewater

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	200		0.500	0.250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Antimony	ND		0.0500	0.0250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Arsenic	0.106		0.0500	0.0360	mg/L		10/28/14 07:42	10/29/14 20:09	5
Barium	1.32		0.0500	0.0250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Beryllium	0.0155	J	0.0200	0.0100	mg/L		10/28/14 07:42	10/29/14 20:09	5
Cadmium	0.00400	J	0.00500	0.00250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Calcium	650		5.00	2.50	mg/L		10/28/14 07:42	10/29/14 20:09	5
Chromium	0.295		0.0250	0.0150	mg/L		10/28/14 07:42	10/29/14 20:09	5
Cobalt	0.106		0.0500	0.0250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Copper	0.562		0.0500	0.0250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Iron	243		0.500	0.250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Lead	2.83		0.0250	0.0100	mg/L		10/28/14 07:42	10/29/14 20:09	5
Magnesium	84.1		5.00	2.50	mg/L		10/28/14 07:42	10/29/14 20:09	5
Manganese	13.5		0.0750	0.0250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Nickel	0.119		0.0500	0.0150	mg/L		10/28/14 07:42	10/29/14 20:09	5
Potassium	42.3		5.00	2.50	mg/L		10/28/14 07:42	10/29/14 20:09	5
Selenium	ND		0.0500	0.0250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Silver	ND		0.0250	0.0125	mg/L		10/28/14 07:42	10/29/14 20:09	5
Sodium	23.8		5.00	2.50	mg/L		10/28/14 07:42	10/29/14 20:09	5
Thallium	ND		0.0500	0.0250	mg/L		10/28/14 07:42	10/29/14 20:09	5
Vanadium	0.120		0.100	0.0500	mg/L		10/28/14 07:42	10/29/14 20:09	5
Zinc	2.54		0.250	0.150	mg/L		10/28/14 07:42	10/29/14 20:09	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000510		0.000200	0.000150	mg/L		10/30/14 07:15	10/30/14 15:50	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	11.6	HF	0.100	0.100	SU			10/23/14 16:44	1
Temperature	21.1	HF	0.100	0.100	Degrees C			10/23/14 16:44	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Client Sample ID: WS-IDW-06

Lab Sample ID: 490-64365-6

Date Collected: 10/21/14 16:15
Date Received: 10/22/14 08:30

Matrix: Wastewater

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**81.5**		1.00	0.500	mg/L		10/28/14 07:42	10/30/14 15:40	10
Antimony	ND		0.100	0.0500	mg/L		10/28/14 07:42	10/30/14 15:40	10
Arsenic	ND		0.100	0.0720	mg/L		10/28/14 07:42	10/30/14 15:40	10
Barium	**0.771**		0.100	0.0500	mg/L		10/28/14 07:42	10/30/14 15:40	10
Beryllium	ND		0.0400	0.0200	mg/L		10/28/14 07:42	10/30/14 15:40	10
Cadmium	**0.00700**	**J**	0.0100	0.00500	mg/L		10/28/14 07:42	10/30/14 15:40	10
Calcium	**30.6**		10.0	5.00	mg/L		10/28/14 07:42	10/30/14 15:40	10
Chromium	**0.0660**		0.0500	0.0300	mg/L		10/28/14 07:42	10/30/14 15:40	10
Cobalt	**0.0408**		0.0100	0.00500	mg/L		10/28/14 07:42	10/29/14 20:12	1
Copper	**0.365**		0.100	0.0500	mg/L		10/28/14 07:42	10/30/14 15:40	10
Iron	**90.9**		1.00	0.500	mg/L		10/28/14 07:42	10/30/14 15:40	10
Lead	**1.16**		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 20:12	1
Magnesium	**52.1**		10.0	5.00	mg/L		10/28/14 07:42	10/30/14 15:40	10
Manganese	**9.37**		0.150	0.0500	mg/L		10/28/14 07:42	10/30/14 15:40	10
Nickel	**0.0286**		0.0100	0.00300	mg/L		10/28/14 07:42	10/29/14 20:12	1
Potassium	**41.1**		10.0	5.00	mg/L		10/28/14 07:42	10/30/14 15:40	10
Selenium	ND		0.100	0.0500	mg/L		10/28/14 07:42	10/30/14 15:40	10
Silver	ND		0.0500	0.0250	mg/L		10/28/14 07:42	10/30/14 15:40	10
Sodium	**32.4**		10.0	5.00	mg/L		10/28/14 07:42	10/30/14 15:40	10
Thallium	**0.00660**	**J**	0.0100	0.00500	mg/L		10/28/14 07:42	10/29/14 20:12	1
Vanadium	ND		0.200	0.100	mg/L		10/28/14 07:42	10/30/14 15:40	10
Zinc	**2.91**		0.500	0.300	mg/L		10/28/14 07:42	10/30/14 15:40	10

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000183**	**J**	0.000200	0.000150	mg/L		10/30/14 07:15	10/30/14 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.02**	**HF**	0.100	0.100	SU			10/23/14 16:44	1
Temperature	**21.1**	**HF**	0.100	0.100	Degrees C			10/23/14 16:44	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 490-201364/1-A
Matrix: Water
Analysis Batch: 202087

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 201364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.100	0.0500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Antimony	ND		0.0100	0.00500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Arsenic	ND		0.0100	0.00720	mg/L		10/28/14 07:42	10/29/14 19:23	1
Barium	ND		0.0100	0.00500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Beryllium	ND		0.00400	0.00200	mg/L		10/28/14 07:42	10/29/14 19:23	1
Cadmium	ND		0.00100	0.000500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Calcium	ND		1.00	0.500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Chromium	ND		0.00500	0.00300	mg/L		10/28/14 07:42	10/29/14 19:23	1
Cobalt	ND		0.0100	0.00500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Copper	ND		0.0100	0.00500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Iron	ND		0.100	0.0500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Lead	ND		0.00500	0.00200	mg/L		10/28/14 07:42	10/29/14 19:23	1
Magnesium	ND		1.00	0.500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Manganese	ND		0.0150	0.00500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Nickel	ND		0.0100	0.00300	mg/L		10/28/14 07:42	10/29/14 19:23	1
Potassium	ND		1.00	0.500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Selenium	ND		0.0100	0.00500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Silver	ND		0.00500	0.00250	mg/L		10/28/14 07:42	10/29/14 19:23	1
Sodium	ND		1.00	0.500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Thallium	ND		0.0100	0.00500	mg/L		10/28/14 07:42	10/29/14 19:23	1
Vanadium	ND		0.0200	0.0100	mg/L		10/28/14 07:42	10/29/14 19:23	1
Zinc	ND		0.0500	0.0300	mg/L		10/28/14 07:42	10/29/14 19:23	1

Lab Sample ID: LCS 490-201364/2-A
Matrix: Water
Analysis Batch: 202087

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 201364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2.00	2.116		mg/L		106	80 - 120
Antimony	0.100	0.1008		mg/L		101	80 - 120
Arsenic	0.0500	0.05540		mg/L		111	80 - 120
Barium	2.00	2.078		mg/L		104	80 - 120
Beryllium	0.0500	0.05180		mg/L		104	80 - 120
Cadmium	0.0500	0.05230		mg/L		105	80 - 120
Calcium	5.00	5.137		mg/L		103	80 - 120
Chromium	0.200	0.2046		mg/L		102	80 - 120
Cobalt	0.500	0.5237		mg/L		105	80 - 120
Copper	0.250	0.2583		mg/L		103	80 - 120
Iron	1.00	1.053		mg/L		105	80 - 120
Lead	0.0500	0.04820		mg/L		96	80 - 120
Magnesium	5.00	5.573		mg/L		111	80 - 120
Manganese	0.500	0.4974		mg/L		99	80 - 120
Nickel	0.500	0.5018		mg/L		100	80 - 120
Potassium	5.00	5.063		mg/L		101	80 - 120
Selenium	0.0500	0.05270		mg/L		105	80 - 120
Silver	0.0500	0.05130		mg/L		103	80 - 120
Sodium	5.00	5.420		mg/L		108	80 - 120
Thallium	0.0500	0.04630		mg/L		93	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 490-201364/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 202087 — **Prep Batch: 201364**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vanadium	0.500	0.5306		mg/L		106	80 - 120
Zinc	0.500	0.4935		mg/L		99	80 - 120

Lab Sample ID: 490-64370-A-3-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 202087 — **Prep Batch: 201364**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.576		2.00	2.821		mg/L		112	75 - 125
Antimony	ND		0.100	0.08960		mg/L		90	75 - 125
Arsenic	ND		0.0500	0.05250		mg/L		105	75 - 125
Barium	0.0452		2.00	1.883		mg/L		92	75 - 125
Beryllium	ND		0.0500	0.04800		mg/L		96	75 - 125
Cadmium	0.0241		0.0500	0.07170		mg/L		95	75 - 125
Calcium	11.6		5.00	16.65		mg/L		102	75 - 125
Chromium	ND		0.200	0.1823		mg/L		91	75 - 125
Cobalt	0.0383		0.500	0.5588		mg/L		104	75 - 125
Copper	0.400		0.250	0.6345		mg/L		94	75 - 125
Iron	0.709		1.00	1.349	F1	mg/L		64	75 - 125
Lead	0.0111		0.0500	0.05980		mg/L		97	75 - 125
Magnesium	5.99		5.00	11.01		mg/L		100	75 - 125
Manganese	0.816		0.500	1.274		mg/L		92	75 - 125
Nickel	0.00780	J	0.500	0.5060		mg/L		100	75 - 125
Potassium	4.78		5.00	9.394		mg/L		92	75 - 125
Selenium	ND		0.0500	0.05040		mg/L		101	75 - 125
Silver	ND		0.0500	0.04600		mg/L		92	75 - 125
Sodium	17.4		5.00	22.55		mg/L		103	75 - 125
Thallium	ND		0.0500	0.05050		mg/L		101	75 - 125
Vanadium	ND		0.500	0.4810		mg/L		96	75 - 125
Zinc	6.61		0.500	7.043	4	mg/L		87	75 - 125

Lab Sample ID: 490-64370-A-3-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 202087 — **Prep Batch: 201364**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	0.576		2.00	2.881		mg/L		115	75 - 125	2	20
Antimony	ND		0.100	0.08990		mg/L		90	75 - 125	0	20
Arsenic	ND		0.0500	0.05410		mg/L		108	75 - 125	3	20
Barium	0.0452		2.00	1.923		mg/L		94	75 - 125	2	20
Beryllium	ND		0.0500	0.04880		mg/L		98	75 - 125	2	20
Cadmium	0.0241		0.0500	0.07290		mg/L		98	75 - 125	2	20
Calcium	11.6		5.00	16.88		mg/L		107	75 - 125	1	20
Chromium	ND		0.200	0.1855		mg/L		93	75 - 125	2	20
Cobalt	0.0383		0.500	0.5719		mg/L		107	75 - 125	2	20
Copper	0.400		0.250	0.6421		mg/L		97	75 - 125	1	20
Iron	0.709		1.00	1.393	F1	mg/L		68	75 - 125	3	20
Lead	0.0111		0.0500	0.06180		mg/L		101	75 - 125	3	20
Magnesium	5.99		5.00	11.18		mg/L		104	75 - 125	2	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 490-64370-A-3-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 202087 — **Prep Batch: 201364**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	0.816		0.500	1.297		mg/L		96	75 - 125	2	20
Nickel	0.00780	J	0.500	0.5175		mg/L		102	75 - 125	2	20
Potassium	4.78		5.00	9.518		mg/L		95	75 - 125	1	20
Selenium	ND		0.0500	0.05300		mg/L		106	75 - 125	5	20
Silver	ND		0.0500	0.04590		mg/L		92	75 - 125	0	20
Sodium	17.4		5.00	22.69		mg/L		106	75 - 125	1	20
Thallium	ND		0.0500	0.04840		mg/L		97	75 - 125	4	20
Vanadium	ND		0.500	0.4854		mg/L		97	75 - 125	1	20
Zinc	6.61		0.500	7.154	4	mg/L		110	75 - 125	2	20

Lab Sample ID: MB 490-201742/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 202029 — **Prep Batch: 201742**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0720	mg/L		10/29/14 09:08	10/29/14 22:06	1
Barium	ND		10.0	0.0500	mg/L		10/29/14 09:08	10/29/14 22:06	1
Cadmium	ND		0.100	0.00500	mg/L		10/29/14 09:08	10/29/14 22:06	1
Chromium	ND		0.500	0.0300	mg/L		10/29/14 09:08	10/29/14 22:06	1
Lead	ND		0.500	0.0200	mg/L		10/29/14 09:08	10/29/14 22:06	1
Selenium	0.06300	J	0.100	0.0500	mg/L		10/29/14 09:08	10/29/14 22:06	1
Silver	ND		0.500	0.0250	mg/L		10/29/14 09:08	10/29/14 22:06	1

Lab Sample ID: LCS 490-201742/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 202029 — **Prep Batch: 201742**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.00	2.164		mg/L		108	80 - 120
Barium	20.0	21.60		mg/L		108	80 - 120
Cadmium	2.00	2.130		mg/L		107	80 - 120
Chromium	10.0	10.63		mg/L		106	80 - 120
Lead	10.0	10.73		mg/L		107	80 - 120
Selenium	2.00	2.154		mg/L		108	80 - 120
Silver	2.00	1.991		mg/L		100	80 - 120

Lab Sample ID: LCSD 490-201742/4-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 202029 — **Prep Batch: 201742**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	2.00	2.205		mg/L		110	80 - 120	2	20
Barium	20.0	22.40		mg/L		112	80 - 120	4	20
Cadmium	2.00	2.205		mg/L		110	80 - 120	3	20
Chromium	10.0	10.98		mg/L		110	80 - 120	3	20
Lead	10.0	11.04		mg/L		110	80 - 120	3	20
Selenium	2.00	2.250		mg/L		113	80 - 120	4	20
Silver	2.00	2.054		mg/L		103	80 - 120	3	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LB 490-200421/1-C — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 202029 — **Prep Batch: 201742**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0720	mg/L		10/29/14 09:08	10/29/14 22:09	1
Barium	ND		10.0	0.0500	mg/L		10/29/14 09:08	10/29/14 22:09	1
Cadmium	ND		0.100	0.00500	mg/L		10/29/14 09:08	10/29/14 22:09	1
Chromium	ND		0.500	0.0300	mg/L		10/29/14 09:08	10/29/14 22:09	1
Lead	ND		0.500	0.0200	mg/L		10/29/14 09:08	10/29/14 22:09	1
Selenium	0.06300	J	0.100	0.0500	mg/L		10/29/14 09:08	10/29/14 22:09	1
Silver	ND		0.500	0.0250	mg/L		10/29/14 09:08	10/29/14 22:09	1

Lab Sample ID: 490-64356-A-1-O MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 202029 — **Prep Batch: 201742**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		2.00	1.152	F1	mg/L		58	75 - 125
Barium	0.565	J	20.0	12.60	F1	mg/L		60	75 - 125
Cadmium	ND		2.00	1.153	F1	mg/L		58	75 - 125
Chromium	ND		10.0	5.753	F1	mg/L		58	75 - 125
Lead	ND		10.0	5.866	F1	mg/L		59	75 - 125
Selenium	0.0770	J B	2.00	1.186	F1	mg/L		55	75 - 125
Silver	ND		2.00	1.131	F1	mg/L		57	75 - 125

Lab Sample ID: 490-64356-A-1-P MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 202029 — **Prep Batch: 201742**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		2.00	1.150	F1	mg/L		58	75 - 125	0	20
Barium	0.565	J	20.0	12.19	F1	mg/L		58	75 - 125	3	20
Cadmium	ND		2.00	1.107	F1	mg/L		55	75 - 125	4	20
Chromium	ND		10.0	5.489	F1	mg/L		55	75 - 125	5	20
Lead	ND		10.0	5.716	F1	mg/L		57	75 - 125	3	20
Selenium	0.0770	J B	2.00	1.196	F1	mg/L		56	75 - 125	1	20
Silver	ND		2.00	1.111	F1	mg/L		56	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 490-201686/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 202370 — **Prep Batch: 201686**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200	0.00150	mg/L		10/29/14 06:44	10/30/14 15:55	1

Lab Sample ID: LCS 490-201686/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 202370 — **Prep Batch: 201686**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0200	0.01800		mg/L		90	80 - 120

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 490-201686/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 202370 — **Prep Batch: 201686**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0200	0.01882		mg/L		94	80 - 120	4	20

Lab Sample ID: MB 490-202014/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 202370 — **Prep Batch: 202014**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000150	mg/L		10/30/14 07:15	10/30/14 14:56	1

Lab Sample ID: LCS 490-202014/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 202370 — **Prep Batch: 202014**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00100	0.001010		mg/L		101	80 - 120

Lab Sample ID: LCSD 490-202014/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 202370 — **Prep Batch: 202014**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00100	0.0009749		mg/L		97	80 - 120	4	20

Lab Sample ID: 490-64378-G-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 202370 — **Prep Batch: 202014**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00100	0.001038		mg/L		104	75 - 125

Lab Sample ID: 490-64378-G-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 202370 — **Prep Batch: 202014**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.0009240		mg/L		92	75 - 125	12	20

Lab Sample ID: LB 490-200421/1-B — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 202370 — **Prep Batch: 201686**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200	0.00150	mg/L		10/29/14 06:44	10/30/14 16:37	1

Lab Sample ID: LB 490-201031/1-D — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 202370 — **Prep Batch: 201686**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00200	0.00150	mg/L		10/29/14 06:44	10/30/14 16:01	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Lab Sample ID: 490-64584-A-2-L MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 202370 — **Prep Batch: 201686**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.0200	0.02069		mg/L		103	75 - 125		

Lab Sample ID: 490-64584-A-2-M MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 202370 — **Prep Batch: 201686**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0200	0.01831		mg/L		92	75 - 125	12	20

Method: 9040C - pH

Lab Sample ID: LCS 490-200486/1 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 200486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.040		SU		101	95 - 105		

Lab Sample ID: 490-64332-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 200486

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.50			8.510		SU				0.1	20
Temperature	21.1			21.10		Degrees C				0	20

Method: 9045D - pH

Lab Sample ID: LCS 490-200483/8 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 200483

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.050		SU		101	95 - 105		

Lab Sample ID: 490-64365-1 DU — **Client Sample ID: WS-IDW-01**
Matrix: Soil — **Prep Type: Soluble**
Analysis Batch: 200483

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	6.97			6.980		SU				0.1	20
Temperature	21.1			21.10		Degrees C				0	20

Method: Moisture - Percent Moisture

Lab Sample ID: 490-64365-1 DU — **Client Sample ID: WS-IDW-01**
Matrix: Soil — **Prep Type: Total/NA**
Analysis Batch: 200114

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	87			86		%				1	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Metals

Leach Batch: 200421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64356-A-1-O MS	Matrix Spike	TCLP	Solid	1311	
490-64356-A-1-P MSD	Matrix Spike Duplicate	TCLP	Solid	1311	
490-64365-1	WS-IDW-01	TCLP	Soil	1311	
490-64365-2	WS-IDW-02	TCLP	Soil	1311	
490-64365-3	WS-IDW-03	TCLP	Soil	1311	
490-64365-4	WS-IDW-04	TCLP	Soil	1311	
LB 490-200421/1-B	Method Blank	TCLP	Solid	1311	
LB 490-200421/1-C	Method Blank	TCLP	Solid	1311	

Leach Batch: 201031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64584-A-2-L MS	Matrix Spike	TCLP	Solid	1311	
490-64584-A-2-M MSD	Matrix Spike Duplicate	TCLP	Solid	1311	
LB 490-201031/1-D	Method Blank	TCLP	Solid	1311	

Prep Batch: 201364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64365-5	WS-IDW-05	Total/NA	Wastewater	3010A	
490-64365-6	WS-IDW-06	Total/NA	Wastewater	3010A	
490-64370-A-3-B MS	Matrix Spike	Total/NA	Water	3010A	
490-64370-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	3010A	
LCS 490-201364/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 490-201364/1-A	Method Blank	Total/NA	Water	3010A	

Prep Batch: 201686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64365-1	WS-IDW-01	TCLP	Soil	7470A	200421
490-64365-2	WS-IDW-02	TCLP	Soil	7470A	200421
490-64365-3	WS-IDW-03	TCLP	Soil	7470A	200421
490-64365-4	WS-IDW-04	TCLP	Soil	7470A	200421
490-64584-A-2-L MS	Matrix Spike	TCLP	Solid	7470A	201031
490-64584-A-2-M MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	201031
LB 490-200421/1-B	Method Blank	TCLP	Solid	7470A	200421
LB 490-201031/1-D	Method Blank	TCLP	Solid	7470A	201031
LCS 490-201686/2-A	Lab Control Sample	Total/NA	Solid	7470A	
LCSD 490-201686/3-A	Lab Control Sample Dup	Total/NA	Solid	7470A	
MB 490-201686/1-A	Method Blank	Total/NA	Solid	7470A	

Prep Batch: 201742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64356-A-1-O MS	Matrix Spike	TCLP	Solid	3010A	200421
490-64356-A-1-P MSD	Matrix Spike Duplicate	TCLP	Solid	3010A	200421
490-64365-1	WS-IDW-01	TCLP	Soil	3010A	200421
490-64365-2	WS-IDW-02	TCLP	Soil	3010A	200421
490-64365-3	WS-IDW-03	TCLP	Soil	3010A	200421
490-64365-4	WS-IDW-04	TCLP	Soil	3010A	200421
LB 490-200421/1-C	Method Blank	TCLP	Solid	3010A	200421
LCS 490-201742/3-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 490-201742/4-A	Lab Control Sample Dup	Total/NA	Solid	3010A	
MB 490-201742/1-A	Method Blank	Total/NA	Solid	3010A	

Metals (Continued)

Prep Batch: 202014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64365-5	WS-IDW-05	Total/NA	Wastewater	7470A	
490-64365-6	WS-IDW-06	Total/NA	Wastewater	7470A	
490-64378-G-1-E MS	Matrix Spike	Dissolved	Water	7470A	
490-64378-G-1-F MSD	Matrix Spike Duplicate	Dissolved	Water	7470A	
LCS 490-202014/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 490-202014/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
MB 490-202014/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 202029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64356-A-1-O MS	Matrix Spike	TCLP	Solid	6010C	201742
490-64356-A-1-P MSD	Matrix Spike Duplicate	TCLP	Solid	6010C	201742
490-64365-1	WS-IDW-01	TCLP	Soil	6010C	201742
490-64365-2	WS-IDW-02	TCLP	Soil	6010C	201742
490-64365-3	WS-IDW-03	TCLP	Soil	6010C	201742
490-64365-4	WS-IDW-04	TCLP	Soil	6010C	201742
LB 490-200421/1-C	Method Blank	TCLP	Solid	6010C	201742
LCS 490-201742/3-A	Lab Control Sample	Total/NA	Solid	6010C	201742
LCSD 490-201742/4-A	Lab Control Sample Dup	Total/NA	Solid	6010C	201742
MB 490-201742/1-A	Method Blank	Total/NA	Solid	6010C	201742

Analysis Batch: 202087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64365-5	WS-IDW-05	Total/NA	Wastewater	6010C	201364
490-64365-6	WS-IDW-06	Total/NA	Wastewater	6010C	201364
490-64370-A-3-B MS	Matrix Spike	Total/NA	Water	6010C	201364
490-64370-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	6010C	201364
LCS 490-201364/2-A	Lab Control Sample	Total/NA	Water	6010C	201364
MB 490-201364/1-A	Method Blank	Total/NA	Water	6010C	201364

Analysis Batch: 202290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64365-6	WS-IDW-06	Total/NA	Wastewater	6010C	201364

Analysis Batch: 202370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64365-1	WS-IDW-01	TCLP	Soil	7470A	201686
490-64365-2	WS-IDW-02	TCLP	Soil	7470A	201686
490-64365-3	WS-IDW-03	TCLP	Soil	7470A	201686
490-64365-4	WS-IDW-04	TCLP	Soil	7470A	201686
490-64365-5	WS-IDW-05	Total/NA	Wastewater	7470A	202014
490-64365-6	WS-IDW-06	Total/NA	Wastewater	7470A	202014
490-64378-G-1-E MS	Matrix Spike	Dissolved	Water	7470A	202014
490-64378-G-1-F MSD	Matrix Spike Duplicate	Dissolved	Water	7470A	202014
490-64584-A-2-L MS	Matrix Spike	TCLP	Solid	7470A	201686
490-64584-A-2-M MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	201686
LB 490-200421/1-B	Method Blank	TCLP	Solid	7470A	201686
LB 490-201031/1-D	Method Blank	TCLP	Solid	7470A	201686
LCS 490-201686/2-A	Lab Control Sample	Total/NA	Solid	7470A	201686
LCS 490-202014/2-A	Lab Control Sample	Total/NA	Water	7470A	202014
LCSD 490-201686/3-A	Lab Control Sample Dup	Total/NA	Solid	7470A	201686

Metals (Continued)

Analysis Batch: 202370 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 490-202014/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	202014
MB 490-201686/1-A	Method Blank	Total/NA	Solid	7470A	201686
MB 490-202014/1-A	Method Blank	Total/NA	Water	7470A	202014

General Chemistry

Analysis Batch: 200114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64365-1	WS-IDW-01	Total/NA	Soil	Moisture	
490-64365-1 DU	WS-IDW-01	Total/NA	Soil	Moisture	
490-64365-1 MS	WS-IDW-01	Total/NA	Soil	Moisture	
490-64365-1 MSD	WS-IDW-01	Total/NA	Soil	Moisture	
490-64365-2	WS-IDW-02	Total/NA	Soil	Moisture	
490-64365-3	WS-IDW-03	Total/NA	Soil	Moisture	
490-64365-4	WS-IDW-04	Total/NA	Soil	Moisture	

Leach Batch: 200348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64365-1	WS-IDW-01	Soluble	Soil	DI Leach	
490-64365-1 DU	WS-IDW-01	Soluble	Soil	DI Leach	
490-64365-2	WS-IDW-02	Soluble	Soil	DI Leach	
490-64365-3	WS-IDW-03	Soluble	Soil	DI Leach	
490-64365-4	WS-IDW-04	Soluble	Soil	DI Leach	

Analysis Batch: 200483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64365-1	WS-IDW-01	Soluble	Soil	9045D	200348
490-64365-1 DU	WS-IDW-01	Soluble	Soil	9045D	200348
490-64365-2	WS-IDW-02	Soluble	Soil	9045D	200348
490-64365-3	WS-IDW-03	Soluble	Soil	9045D	200348
490-64365-4	WS-IDW-04	Soluble	Soil	9045D	200348
LCS 490-200483/8	Lab Control Sample	Total/NA	Solid	9045D	

Analysis Batch: 200486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-64332-A-1 DU	Duplicate	Total/NA	Water	9040C	
490-64365-5	WS-IDW-05	Total/NA	Wastewater	9040C	
490-64365-6	WS-IDW-06	Total/NA	Wastewater	9040C	
LCS 490-200486/1	Lab Control Sample	Total/NA	Water	9040C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Client Sample ID: WS-IDW-01 — Lab Sample ID: 490-64365-1

Date Collected: 10/21/14 14:45 — **Matrix: Soil**
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			200421	10/23/14 14:47	SJM	TAL NSH
TCLP	Prep	3010A			201742	10/29/14 09:08	TDP	TAL NSH
TCLP	Analysis	6010C		1	202029	10/29/14 22:43	LTB	TAL NSH
TCLP	Leach	1311			200421	10/23/14 14:47	SJM	TAL NSH
TCLP	Prep	7470A			201686	10/29/14 06:44	AAS	TAL NSH
TCLP	Analysis	7470A		1	202370	10/30/14 16:40	AAS	TAL NSH
Soluble	Leach	DI Leach			200348	10/23/14 11:27	SJM	TAL NSH
Soluble	Analysis	9045D		1	200483	10/23/14 16:36	SJM	TAL NSH
Total/NA	Analysis	Moisture		1	200114	10/22/14 16:05	RRS	TAL NSH

Client Sample ID: WS-IDW-02 — Lab Sample ID: 490-64365-2

Date Collected: 10/21/14 15:00 — **Matrix: Soil**
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			200421	10/23/14 14:47	SJM	TAL NSH
TCLP	Prep	3010A			201742	10/29/14 09:08	TDP	TAL NSH
TCLP	Analysis	6010C		1	202029	10/29/14 22:47	LTB	TAL NSH
TCLP	Leach	1311			200421	10/23/14 14:47	SJM	TAL NSH
TCLP	Prep	7470A			201686	10/29/14 06:44	AAS	TAL NSH
TCLP	Analysis	7470A		1	202370	10/30/14 16:42	AAS	TAL NSH
Soluble	Leach	DI Leach			200348	10/23/14 11:27	SJM	TAL NSH
Soluble	Analysis	9045D		1	200483	10/23/14 16:36	SJM	TAL NSH
Total/NA	Analysis	Moisture		1	200114	10/22/14 16:05	RRS	TAL NSH

Client Sample ID: WS-IDW-03 — Lab Sample ID: 490-64365-3

Date Collected: 10/21/14 15:15 — **Matrix: Soil**
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			200421	10/23/14 14:47	SJM	TAL NSH
TCLP	Prep	3010A			201742	10/29/14 09:08	TDP	TAL NSH
TCLP	Analysis	6010C		1	202029	10/29/14 22:50	LTB	TAL NSH
TCLP	Leach	1311			200421	10/23/14 14:47	SJM	TAL NSH
TCLP	Prep	7470A			201686	10/29/14 06:44	AAS	TAL NSH
TCLP	Analysis	7470A		1	202370	10/30/14 16:44	AAS	TAL NSH
Soluble	Leach	DI Leach			200348	10/23/14 11:27	SJM	TAL NSH
Soluble	Analysis	9045D		1	200483	10/23/14 16:36	SJM	TAL NSH
Total/NA	Analysis	Moisture		1	200114	10/22/14 16:05	RRS	TAL NSH

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Client Sample ID: WS-IDW-04

Lab Sample ID: 490-64365-4

Date Collected: 10/21/14 15:30
Matrix: Soil
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			200421	10/23/14 14:47	SJM	TAL NSH
TCLP	Prep	3010A			201742	10/29/14 09:08	TDP	TAL NSH
TCLP	Analysis	6010C		1	202029	10/29/14 22:53	LTB	TAL NSH
TCLP	Leach	1311			200421	10/23/14 14:47	SJM	TAL NSH
TCLP	Prep	7470A			201686	10/29/14 06:44	AAS	TAL NSH
TCLP	Analysis	7470A		1	202370	10/30/14 16:46	AAS	TAL NSH
Soluble	Leach	DI Leach			200348	10/23/14 11:27	SJM	TAL NSH
Soluble	Analysis	9045D		1	200483	10/23/14 16:36	SJM	TAL NSH
Total/NA	Analysis	Moisture		1	200114	10/22/14 16:05	RRS	TAL NSH

Client Sample ID: WS-IDW-05

Lab Sample ID: 490-64365-5

Date Collected: 10/21/14 16:00
Matrix: Wastewater
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		5	202087	10/29/14 20:09	LTB	TAL NSH
Total/NA	Prep	7470A			202014	10/30/14 07:15	AAS	TAL NSH
Total/NA	Analysis	7470A		1	202370	10/30/14 15:50	AAS	TAL NSH
Total/NA	Analysis	9040C		1	200486	10/23/14 16:44	SJM	TAL NSH

Client Sample ID: WS-IDW-06

Lab Sample ID: 490-64365-6

Date Collected: 10/21/14 16:15
Matrix: Wastewater
Date Received: 10/22/14 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		1	202087	10/29/14 20:12	LTB	TAL NSH
Total/NA	Prep	3010A			201364	10/28/14 07:42	ADN	TAL NSH
Total/NA	Analysis	6010C		10	202290	10/30/14 15:40	LTB	TAL NSH
Total/NA	Prep	7470A			202014	10/30/14 07:15	AAS	TAL NSH
Total/NA	Analysis	7470A		1	202370	10/30/14 15:52	AAS	TAL NSH
Total/NA	Analysis	9040C		1	200486	10/23/14 16:44	SJM	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL NSH
7470A	Mercury (CVAA)	SW846	TAL NSH
9040C	pH	SW846	TAL NSH
9045D	pH	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: VCC Winston Salem

TestAmerica Job ID: 490-64365-1

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-15
Arizona	State Program	9	AZ0473	05-05-15
Arkansas DEQ	State Program	6	88-0737	04-25-15
California	NELAP	9	1168CA	10-31-14 *
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Illinois	NELAP	5	200010	12-09-14
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	01-31-15
Kentucky (UST)	State Program	4	19	06-30-15
Kentucky (WW)	State Program	4	90038	12-31-14
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-15
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-14
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-15
New Jersey	NELAP	2	TN965	06-30-15
New York	NELAP	2	11342	03-31-15
North Carolina (WW/SW)	State Program	4	387	12-31-14
North Dakota	State Program	8	R-146	06-30-14 *
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-15
Oregon	NELAP	10	TN200001	04-29-15
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-14
South Carolina	State Program	4	84009 (001)	02-28-15
South Carolina (DW)	State Program	4	84009 (002)	02-23-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-15
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-15
Wisconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15

* Certification renewal pending - certification considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-64365 Chain of Custody

Cooler Received/Opened On 10/22/2014 @ 0830

1. Tracking # 0331 (last 4 digits, FedEx)

Courier: Fed Ex IR Gun ID 17960358

2. Temperature of rep. sample or temp blank when opened: 2.1 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 2 front + back

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) EZA

7. Were custody seals on containers: YES NO and intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #

I certify that I unloaded the cooler and answered questions 7-14 (intial) MDM

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) MDM

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) MDM

I certify that I attached a label with the unique LIMS number to each container (intial) MDM

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO...#

BIS = Broken in shipment

Loc: 490
64365

10/31/2014

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton
Nashville, TN 37204
Phone: 615-726-0177
Toll Free: 800-765-0980
Fax: 615-726-3404

ExxonMobil

Consultant Name: ARCADIS Cary - Exxon (10141)
Address: 801 Corporate Center Dr, Suite 300
City/State/Zip: Raleigh, NC 27607
ExxonMobil Project Mgr:
Consultant Project Mgr: Matt Pelton
Consultant Telephone Number: 919-469-1952 Fax No.: 919-469-5676
Sampler Name: (Print) Brian Lovgren
Sampler Signature:

TA Account #: 49001238 PO: B0085732.1401
Invoice To: Arcadis
Report To: Matt Pelton
Project Name: VCC Winston Salem
Retail # (MRN #):
Major Project (AFE#):
Site Address 3000 N. Liberty Street
City, State, Zip Winston Salem NC
Regulatory District (CA)

Sample ID or Field ID	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass (Yellow Label)	HNO_3 (Red Label)	None (Black Label)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify):	Analyze For: 6010 Dissolved As, Pb	6010 Total As, Pb	6010 TAL Metals	6010 TCLP Metals	pH	RUSH TAT (Pre-Schedule) *	TAT request (in Bus. Days)	Fax Results (yes or no)	Due Date of Report
WS-IDW-01	10-21-14	1445	2		X									2					X					2	X				
WS-IDW-02	10-21-14	1500	2		X									2					X					2	X				
WS-IDW-03	10-21-14	1515	2		X									2					X					2	X				
WS-IDW-04	10-21-14	1530	2		X									2					X					2	X				
WS-IDW-05	10-21-14	1600	2		X								1	1		X							1		1				
WS-IDW-06	10-21-14	1615	2		X								1	1		X							1		1				

Comments/Special Instructions:

Laboratory Comments:
Temperature Upon Receipt: 2.1c
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N
QC Deliverables (please circle one)
Level 2 Level 3 Level 4 Other
* It will be the responsibility of ExxonMobil or its consultant to notify the TestAmerica Project Manager by phone or fax that a rush sample will be submitted.
TA Project Manager: Date:

Relinquished by:	Date	Time	Received by:	Date	Time
Brian Lovgren	10-21-14	1800	FedEx	10-21-14	1800
Relinquished by:	Date	Time	Received by TestAmerica:	Date	Time
			TAN	10-22-14	0830

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 490-64365-1

Login Number: 64365
List Number: 1
Creator: McBride, Mike

List Source: TestAmerica Nashville

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.	N/A	
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	2.1
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.	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.	N/A	
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.	N/A	

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