ANALYTICAL REPORT

Job Number: 280-116303-2

Job Description: Leidos RFP# 001088 - Ravenna AAP-66

For:
Leidos, Inc.
Picatinny Arsenal
356 Ninth Avenue
Suite 106
Dover, NJ 07801

Attention: Rita Schmon-Stasik

Approved for release.
Donna R Rydberg
Senior Project Manager
11/14/2018 5:34 PM

Donna R Rydberg, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0192
donna.rydberg@testamericainc.com
11/14/2018

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Table of Contents

Glossary

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

CASE NARRATIVE

Client: Leidos, Inc.

Project: Leidos RFP# 001088 - Ravenna AAP-66

Report Number: 280-116303-2

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

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

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

RECEIPT

The samples were received on 10/30/2018 at 8:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.4º C, 1.7º C, 2.1º C, 2.5º C and 3.9º C.

This report only contains the results for the Hexavalent Chromium samples performed at the TestAmerica North Canton Laboratory. All other data will be found under SDG 280-116303-1.

HEXAVALENT CHROMIUM

Samples LL12mw-247-181001-GW (280-116303-10) and LL12mw-247-181002-GW (280-116303-11) were analyzed for hexavalent chromium in accordance with EPA SW-846 Method 7196A. The samples were analyzed on 10/30/2018.

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

Detection Summary

Client: Leidos, Inc. TestAmerica Job ID: 280-116303-2
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Client Sample ID: LL12mw-247-181001-GW Lab Sample ID: 280-116303-10

No Detections.

Client Sample ID: LL12mw-247-181002-GW Lab Sample ID: 280-116303-11

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: LL12mw-247-181001-GW — Lab Sample ID: 280-116303-10

Date Collected: 10/29/18 11:05 **Matrix: Water**
Date Received: 10/30/18 08:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.020	0.0030	mg/L			10/30/18 09:26	1

Client Sample ID: LL12mw-247-181002-GW — Lab Sample ID: 280-116303-11

Date Collected: 10/29/18 11:05 **Matrix: Water**
Date Received: 10/30/18 08:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.020	0.0030	mg/L			10/30/18 09:29	1

Default Detection Limits

Client: Leidos, Inc. TestAmerica Job ID: 280-116303-2
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

General Chemistry

Analyte	RL	MDL	Units	Method
Hexavalent chromium	0.020	0.0030	mg/L	7196A

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 240-352669/3
Matrix: Water
Analysis Batch: 352669

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexavalent chromium	ND		0.020	0.0030	mg/L			10/30/18 09:24	1

Lab Sample ID: LCS 240-352669/4
Matrix: Water
Analysis Batch: 352669

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium			0.250	0.226		mg/L		90	80 - 123		

Lab Sample ID: 280-116303-10 MS
Matrix: Water
Analysis Batch: 352669

Client Sample ID: LL12mw-247-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hexavalent chromium	ND		0.250	0.250		mg/L		100	31 - 151		

Lab Sample ID: 280-116303-10 MSD
Matrix: Water
Analysis Batch: 352669

Client Sample ID: LL12mw-247-181001-GW
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexavalent chromium	ND		0.250	0.230		mg/L		92	31 - 151	8	20

QC Association Summary

Client: Leidos, Inc.
TestAmerica Job ID: 280-116303-2
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

General Chemistry

Analysis Batch: 352669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-116303-10	LL12mw-247-181001-GW	Total/NA	Water	7196A	
280-116303-11	LL12mw-247-181002-GW	Total/NA	Water	7196A	
MB 240-352669/3	Method Blank	Total/NA	Water	7196A	
LCS 240-352669/4	Lab Control Sample	Total/NA	Water	7196A	
280-116303-10 MS	LL12mw-247-181001-GW	Total/NA	Water	7196A	
280-116303-10 MSD	LL12mw-247-181001-GW	Total/NA	Water	7196A	

Lab Chronicle

Client: Leidos, Inc.
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

TestAmerica Job ID: 280-116303-2

Client Sample ID: LL12mw-247-181001-GW
Date Collected: 10/29/18 11:05
Date Received: 10/30/18 08:45

Lab Sample ID: 280-116303-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1	50 mL	50 mL	352669	10/30/18 09:26	ACR	TAL CAN

Client Sample ID: LL12mw-247-181002-GW
Date Collected: 10/29/18 11:05
Date Received: 10/30/18 08:45

Lab Sample ID: 280-116303-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1	50 mL	50 mL	352669	10/30/18 09:29	ACR	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: Leidos, Inc. TestAmerica Job ID: 280-116303-2
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Laboratory: TestAmerica Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-19

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
Kentucky (WW)	State Program	4	98016	12-31-18 *
Minnesota	NELAP	5	039-999-348	12-31-18 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-17-9	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-19
West Virginia DEP	State Program	3	210	12-31-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Leidos, Inc. TestAmerica Job ID: 280-116303-2
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Method	Method Description	Protocol	Laboratory
7196A	Chromium, Hexavalent	SW846	TAL CAN

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Leidos, Inc.
TestAmerica Job ID: 280-116303-2
Project/Site: Leidos RFP# 001088 - Ravenna AAP-66

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-116303-10	LL12mw-247-181001-GW	Water	10/29/18 11:05	10/30/18 08:45
280-116303-11	LL12mw-247-181002-GW	Water	10/29/18 11:05	10/30/18 08:45

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WCCHROME50PM2_00023	03/11/19	09/11/18	DIWATER, Lot 052014	1000 mL	WCKDICHROME62_00003	0.1414 g	Hexavalent chromium	49.9764 mg/L
.WCKDICHROME62_00003	06/06/19		Fisher, Lot 140919		(Purchased Reagent)		Hexavalent chromium	0.35344 g/g
WCCHROME50PPM_00025	03/11/19	09/11/18	DIWATER, Lot 052014	1000 mL	WCKDICHROME62_00004	0.1414 g	Hexavalent chromium	49.9764 mg/L
.WCKDICHROME62_00004	09/07/21		Fisher, Lot 126893		(Purchased Reagent)		Hexavalent chromium	0.35344 g/g

Reagent

WCKDICHROME62_00003

Fisher Scientific

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0064970

This is to certify that units of the above mentioned lot number were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**P188**	**Quality Test / Release Date 2/25/2014**	
Lot Number	**140919**		
Description	**POTASSIUM DICHROMATE, A.C.S.**		
Country of Origin	**United States**	*** Suggested Retest Date**	**Feb-2019**
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	FINE ORANGE-RED CRYSTALS
ASSAY	%	>= 99	99.9
CALCIUM	%	<= 0.003	0.0010
CHLORIDE	%	<= 0.001	<0.0010
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.005	0.002
IRON (Fe)	%	<= 0.001	0.0010
LOSS ON DRYING @ 105 C	%	<= 0.05	0.02
SODIUM (Na)	%	<= 0.02	0.001
SULFATE (SO4)	%	<= 0.005	0.002

Edgar E. Hess

Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Reagent

WCKDICHROME62_00004

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by DNV Certificate number CERT-08052-2006-AQ-HOU-ANAB

This is to certify that units of the above mentioned lot number were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**P188**	**Mfg. Date**	**11/16/2012**
Lot Number	**126893**		
Description	**POTASSIUM DICHROMATE, A.C.S.**		
Country of Origin	**United States**	**Recommended Retest Date**	**Nov-2017**
Chemical Origin	**Inorganic-non animal**		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	Fine, orange-red powder
ASSAY	%	>= 99	99.8
CALCIUM	%	<= 0.003	<0.0010
CHLORIDE	%	<= 0.001	<0.0010
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.005	0.004
IRON (Fe)	%	<= 0.001	0.0010
LOSS ON DRYING @ 105 C	%	<= 0.05	0.03
SODIUM (Na)	%	<= 0.02	0.005
SULFATE (SO4)	%	<= 0.005	0.003

Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 280-116303-2

SDG No.:

Project: Leidos RFP# 001088 - Ravenna AAP-66

Client Sample ID	Lab Sample ID
LL12mw-247-181001-GW	280-116303-10
LL12mw-247-181002-GW	280-116303-11

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: LL12mw-247-181001-GW
Lab Sample ID: 280-116303-10
Lab Name: TestAmerica Canton
Job No.: 280-116303-2
SDG ID.:
Matrix: Water
Date Sampled: 10/29/2018 11:05
Reporting Basis: WET
Date Received: 10/30/2018 08:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18540-29-9	Hexavalent chromium	ND	0.020	0.0030	mg/L			1	7196A

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: LL12mw-247-181002-GW
Lab Sample ID: 280-116303-11
Lab Name: TestAmerica Canton
Job No.: 280-116303-2
SDG ID.:
Matrix: Water
Date Sampled: 10/29/2018 11:05
Reporting Basis: WET
Date Received: 10/30/2018 08:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18540-29-9	Hexavalent chromium	ND	0.020	0.0030	mg/L			1	7196A

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Analyst: MMM Batch Start Date: 10/11/2018

Reporting Units: mg/L Analytical Batch No.: 349697

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	17:26	Hexavalent chromium	0.269	0.250	108	90-110		WCCHROME50PM2_00023
8	ICB	17:27	Hexavalent chromium	ND					

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

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Analyst: ACR Batch Start Date: 10/30/2018

Reporting Units: mg/L Analytical Batch No.: 352669

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	09:22	Hexavalent chromium	0.242	0.250	97	90-110		WCCHROME50PPM_00025
2	CCB	09:23	Hexavalent chromium	ND					
9	CCV	09:30	Hexavalent chromium	0.242	0.250	97	90-110		WCCHROME50PPM_00025
10	CCB	09:31	Hexavalent chromium	ND					
21	CCB	17:15	Hexavalent chromium	ND					
20	CCV	17:15	Hexavalent chromium	0.250	0.250	100	90-110		WCCHROME50PPM_00025

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

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 352669 Date: 10/30/2018 09:24							
7196A	MB 240-352669/3	Hexavalent chromium	ND		mg/L	0.020	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 352669 Date: 10/30/2018 09:27											
7196A	280-116303-10	Hexavalent chromium	ND		mg/L						
7196A	280-116303-10 MS	Hexavalent chromium	0.250		mg/L	0.250	100	31-151			

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

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 352669 Date: 10/30/2018 09:28											
7196A	280-116303-10 MSD	Hexavalent chromium	0.230		mg/L	0.250	92	31-151	8	20	

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

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 352669	Date: 10/30/2018 09:25										
						LCS Source: WCCHROME50PM2_00023					
7196A	LCS 240-352669/4	Hexavalent chromium	0.226		mg/L	0.250	90	80-123			

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

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 280-116303-2

SDG Number:

Matrix: Water Instrument ID: OSCAR

Method: 7196A MDL Date: 04/25/2017 11:21

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Hexavalent chromium		0.02	0.003

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job Number: 280-116303-2

SDG Number:

Matrix: Water Instrument ID: OSCAR

Method: 7196A XMDL Date: 04/25/2017 11:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Hexavalent chromium		0.02	0.003

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Instrument ID: OSCAR Analysis Method: 7196A

Start Date: 10/11/2018 17:20 End Date: 10/11/2018 17:34

Lab Sample Id	D/F	Type	Time	Analytes																								
				Cr6																								
IC 240-349697/1	1		17:20	X																								
IC 240-349697/2	1		17:21	X																								
IC 240-349697/3	1		17:22	X																								
IC 240-349697/4	1		17:23	X																								
IC 240-349697/5	1		17:24	X																								
IC 240-349697/6	1		17:25	X																								
ICV 240-349697/7	1		17:26	X																								
ICB 240-349697/8	1		17:27	X																								
ZZZZZZ			17:28																									
ZZZZZZ			17:29																									
ZZZZZZ			17:30																									
ZZZZZZ			17:31																									
ZZZZZZ			17:32																									
CCV 240-349697/14			17:33																									
CCB 240-349697/15			17:34																									

Prep Types:
=

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Instrument ID: OSCAR Analysis Method: 7196A

Start Date: 10/30/2018 09:22 End Date: 10/30/2018 17:15

Lab Sample Id	D/F	Type	Time	Analytes																								
				Cr6																								
CCV 240-352669/1	1		09:22	X																								
CCB 240-352669/2	1		09:23	X																								
MB 240-352669/3	1	T	09:24	X																								
LCS 240-352669/4	1	T	09:25	X																								
280-116303-10	1	T	09:26	X																								
280-116303-10 MS	1	T	09:27	X																								
280-116303-10 MSD	1	T	09:28	X																								
280-116303-11	1	T	09:29	X																								
CCV 240-352669/9	1		09:30	X																								
CCB 240-352669/10	1		09:31	X																								
ZZZZZZ			10:46																									
ZZZZZZ			10:47																									
ZZZZZZ			10:48																									
CCV 240-352669/14			10:49																									
CCB 240-352669/15			10:50																									
ZZZZZZ			14:50																									
CCV 240-352669/17			14:51																									
CCB 240-352669/18			14:52																									
CCB 240-352669/21	1		17:15	X																								
ZZZZZZ			17:15																									
ZZZZZZ			17:15																									
ZZZZZZ			17:15																									
ZZZZZZ			17:15																									
CCV 240-352669/20	1		17:15	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Batch Number: 349697 Batch Start Date: 10/11/18 17:20 Batch Analyst: Moser, Morgan

Batch Method: 7196A Batch End Date: 10/11/18 17:35

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	UnCorResp	WCCHROME50PM2 00023	WCCHROME50PPM 00025	
IC 240-349697/1		7196A		50 mL	50 mL	0 Absorbance			
IC 240-349697/2		7196A		50 mL	50 mL	0.004 Absorbance		0.005 mL	
IC 240-349697/3		7196A		50 mL	50 mL	0.008 Absorbance		0.01 mL	
IC 240-349697/4		7196A		50 mL	50 mL	0.084 Absorbance		0.1 mL	
IC 240-349697/5		7196A		50 mL	50 mL	0.191 Absorbance		0.25 mL	
IC 240-349697/6		7196A		50 mL	50 mL	0.369 Absorbance		0.5 mL	
ICV 240-349697/7		7196A		50 mL	50 mL	0.202 Absorbance	0.25 mL		
ICB 240-349697/8		7196A		50 mL	50 mL	0 Absorbance			

Batch Notes	
Acid Used for pH Adjustment ID	3715210
Spectrophotometer Cell Path Length	1 cm
Color Reagent ID	3830583
Phosphoric Acid ID	3521890
Pipette/Syringe/Dispenser ID	E5

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 280-116303-2

SDG No.:

Batch Number: 352669 Batch Start Date: 10/30/18 09:22 Batch Analyst: Raymond, Anthony C

Batch Method: 7196A Batch End Date: 10/30/18 17:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ColorBlk	UnCorResp	WCCHROME50PM2 00023	WCCHROME50PPM 00025
CCV 240-352669/1		7196A		50 mL	50 mL		0.182 Absorbance		0.25 mL
CCB 240-352669/2		7196A		50 mL	50 mL		0 Absorbance		
MB 240-352669/3		7196A		50 mL	50 mL		0 Absorbance		
LCS 240-352669/4		7196A		50 mL	50 mL		0.170 Absorbance	0.25 mL	
280-116303-A-10	LL12mw-247-181001-GW	7196A	T	50 mL	50 mL	0.002 Absorbance	0 Absorbance		
280-116303-A-10 MS	LL12mw-247-181001-GW	7196A	T	50 mL	50 mL	0.002 Absorbance	0.190 Absorbance	0.25 mL	
280-116303-A-10 MSD	LL12mw-247-181001-GW	7196A	T	50 mL	50 mL	0.002 Absorbance	0.175 Absorbance	0.25 mL	
280-116303-A-11	LL12mw-247-181002-GW	7196A	T	50 mL	50 mL	0.001 Absorbance	0 Absorbance		
CCV 240-352669/9		7196A		50 mL	50 mL		0.182 Absorbance		0.25 mL
CCB 240-352669/10		7196A		50 mL	50 mL		0 Absorbance		
CCV 240-352669/20		7196A		50 mL	50 mL		0.188 Absorbance		0.25 mL
CCB 240-352669/21		7196A		50 mL	50 mL		0 Absorbance		

Batch Notes	
Acid Used for pH Adjustment ID	3715210
Spectrophotometer Cell Path Length	1 cm
Color Reagent ID	3863006
Pipette/Syringe/Dispenser ID	E1

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Calibration

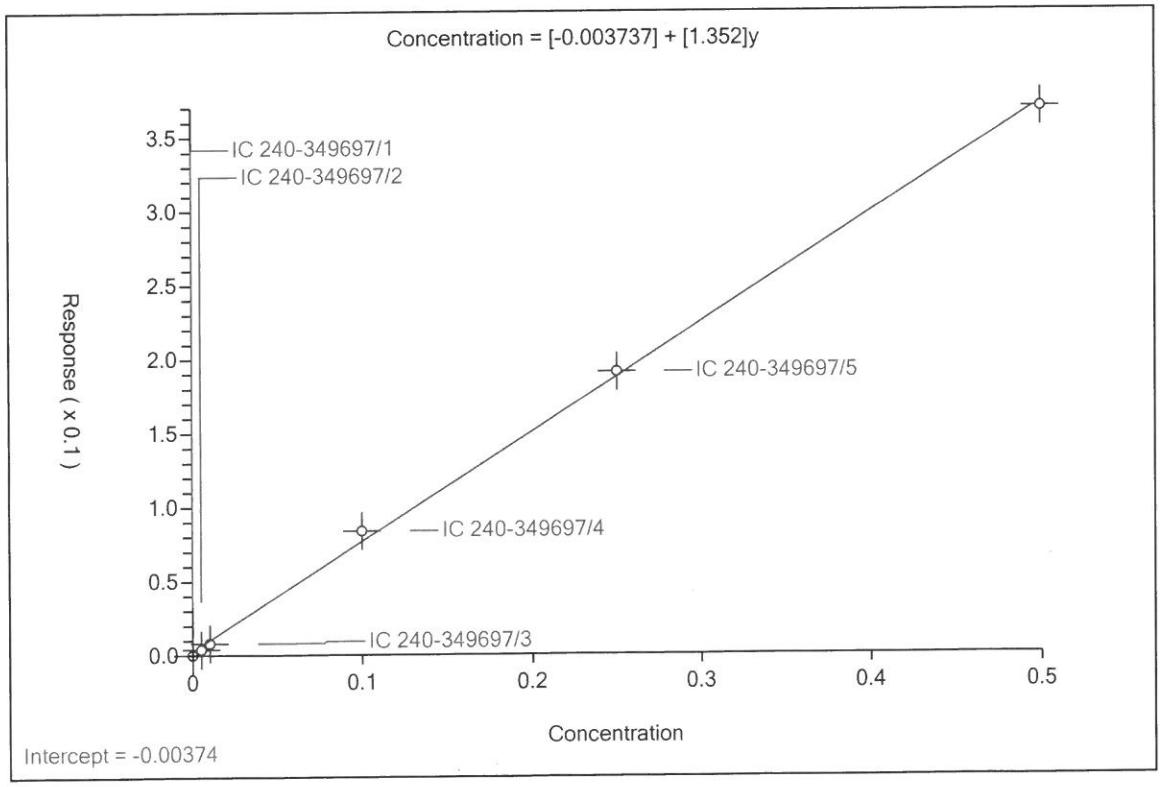
Calib 349697-0 / Cr (VI)

Curve Type:	Linear
Weighting:	None
Origin:	None
Dependency:	Concentration
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

Curve Coefficients	
Intercept:	-0.003737
Slope:	1.352

Error Coefficients	
Standard Error:	0.00659
Relative Standard Error:	42.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999 (0.999)

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 240-349697/1	0.0	0.0			NaN	Y
2	IC 240-349697/2	0.004998	0.004			0.800378	Y
3	IC 240-349697/3	0.009995	0.008			0.800378	Y
4	IC 240-349697/4	0.099953	0.084			0.840397	Y
5	IC 240-349697/5	0.249882	0.191			0.764361	Y
6	IC 240-349697/6	0.499764	0.369			0.738349	Y



Subcontract Data

Shipping and Receiving Documents

Leidos Proprietary

Chain of Custody Record

leidos

COC No.: RVAAP-027-TA

Page 1 of 1 Date: 10/29/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name) Roman Zosi

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	Requested Parameters: VOCs (1)(B)	SVOCs (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	FWGmw-019-181001-GW	GW	NA	10/29/18	0950	W	3					2		1							6	
	FWGmw-019-18100Z-GW	GW		10/29/18	0950	W								1							1	
	FWGmw-019-181001-GWMSD	GW		10/29/18	0950	W						4									4	Extra Volume for MS/MSD, only parameters indicated
	FWGTB-[illegible]-TB	TB		10/29/18	0950		2														2	Trip Blank

280-116303 Chain of Custody

Relinquished by	Date	Received by	Date	Notes: Total Number of Containers: 21
Signature	10/29/18	Signature	10/29/18	A. Cool, 4C; B. NaOH/Zn Acetate, pH>9, Cool 4C; C. HNO3, pH<2, Cool, 4C; D. NaOH, pH>12, Cool 4C
Printed Name: Heather Adams	Time: 1000	Printed Name: Rick Robison	Time	1. SW 8260; 2. SW 8270; 3. SW 8270SIM; 4. SW 8082; 5. SW 8081; 6. SW 9330; 7. SW 6010; 8. SW 9012; 9. SW 9034; 10. SW 9050/SM2320; 11. SW 6860; 12. EPA 353.2; 13. SW 7196
Company: Leidos		Company		Notes:
Relinquished by	Date 10/29/18	Received by	Date	Shipment Method: FedEx Courier
Signature		Signature: Amanda Paul		
Printed Name: Robison	Time: 1705	Printed Name: TA PEN	Time	Temperature Blank
Company		Company		Lab: Leidos, 8866 Commons Drive, Twinsburg, OH 44087, (330) 405-5802

White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Leidos

1.0, 1.8, 1.4, 0.7 +0.7 IR#9 transferred by JD

leidos

Chain of Custody Record

Page 1 of 1

COC No.: RVAAP-030-TA
Date: 10/29/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name) Jackie Mitchell

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (2)(A)	LL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	FWGmw-022-181001-GW	GW	N/A	10/29/18	1000	W	3					2		1							6	Trip Blanks with samples included on COC RVAAP-027-TA FWGTB-184003-TB

10/29/18

Relinquished by	Date	Received by	Date
Signature: [signature]	10/29/18	Test America; Signature: RC [signature]	10/29/18
Printed Name: Heather Adams	Time: 1000	Printed Name: RKR Robison	Time: 1600
Company: Leidos		Company:	
Relinquished by: TA 240; Signature: RC [signature]	Date: 10/29/18	Received by: [signature]; Signature: Amanda Paul	Date:
Printed Name: Robison	Time: 1706	Printed Name: TA DEN	Time:
Company: Leidos		Company:	

Total Number of Containers: 6

Notes:
A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 6860
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

Temperature Blank

Lab:

Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Leidos Proprietary

Chain of Custody Record

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COC No.: RVAAP-033-TA

Page 1 of 1 Date: 10/29/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)
Jackie Mitchell Jackie Mitchell

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	Requested Parameters: VOCs (1)(B)	SVOC (phthalate/nitroaro) (2)(A)	SVOCs (Phthalates) (3)(A)	Explosives (5)(A)	Pesticides (6)(A)	PCBs (4)(A)	TAL Metals (7)(C)	Cyanide (8)(D)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	LL10mw-003-181001-GW	GW	N/A	10/29/18	1211	W	3	2					1								6	
	LL10mw-003-181002-GW					W	3		2				1								6	
	LL10mw-003-181001-GWMSD					W		4													4	Extra Volume for MS/MSD, only parameters indicated
	FWGTB-10[illegible]-TB	↓	↓	↓	↓	W	2														2	
																					18	

Relinquished by
Signature
Heather Adams
Printed Name
Leidos
Company
Date 10/29/18
Time 1400

Received by
Signature
Printed Name
Company
Date 10/29/18
Time 1600

Relinquished by
Signature
R Robson
Printed Name
Company
Date 10/29/18
Time 1706

Received by
Signature
Amanda Paul
Printed Name
TA Dev
Company
Date
Time

Notes: Total Number of Containers: 18
A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 8880
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

Temperature Blank

Lab:
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-034-TA

Page 1 of 1 Date: 10/29/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)
Jackie Mitchell Jackie Mitchell

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOC (phthalates/dioxins) (2)(A)	LL PAHs (3)(A)	Explosives (5)(A)	Pesticides (6)(A)	PCBs (7)(A)	TAL Metals (9)(C)	Cyanide (8)(C)	Alkalinity/Sulfate/Nitrate/Nitrite (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	LL10mw-005-181001-GW	GW	N/A	10/29/18	1445	W	3	2					1								6	USE TRIP BLANK FWGTB-181008-TB ASSOCIATED WITH THIS SAMPLE

Requested Parameters

Relinquished by: Heather Adams — Date: 10/29/18 — Time: 1600 — Company: Leidos
Received by: Test America — Signature — Printed Name: R K Robson — Company — Date: 10/29/18 — Time: 1600

Relinquished by: Jackie Mitchell — Signature — Printed Name: Robison — Company: Leidos — Date: 10/29/18 — Time: 1736
Received by — Signature: Amanda Paul — Printed Name: TA Dein — Company — Date — Time

Notes: Total Number of Containers: 6
A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8021
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056/SM2320
11. SW 6850
12. EPA 353.2
13. SW 7199

Notes:

Shipment Method: Courier

Temperature Blank

Lab
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos — White: Laboratory — Pink: Project Manager — Yellow: Project QAO — Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-037-TA

Page 1 of 1 Date: 10/29/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name)

RL Ryan Laurich

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Requested Parameters

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (2)(A)	TAL PAHs (3)(A)	Explosives (6)(A)	Pesticides (5)(A)	PCBs (4)(A)	Arsenic (7)(C)	Cyanide (8)(D)	Nitrate (10)(A)	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)	Temperature Blank	Total Number of Containers
	LL12mw-185-181001-GW	GW	NA	10/29/18	0950	W							1	1	1						3

OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS

Relinquished by	Date	Received by	Date	Time
Signature	10/29/18	Signature	10/29/18	
Printed Name: NEAL ADAMS	Time: 1600	Printed Name: RICK ROBISON	Time	
Company: Leidos		Company		
Relinquished by: TAi 240	Date: 10/29/18	Received by	Date	
Signature	Time: 1745	Signature: Amanda Paul	Time	
Printed Name: R. ROBISON		Printed Name: TA DAN		
Company		Company		

Notes: Total Number of Containers: 3

A. Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056
11. SW 6850
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

Temperature Blank

Lab:

Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

Leidos White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Chain of Custody Record

leidos

COC No.: RVAAP-041-TA

Page 1 of 1 Date: 10/29/18

Name Leidos
Address: 8866 Commons Blvd. Suite 201, Twinsburg, OH 44087
Phone Number: (330) 405-5802
Project Manager: Jed Thomas
Project: RVAAP FWGW Sampling Event
Job/P.O. No.: P010216426
Sampler (Signature) (Printed Name) Gabrielle Grumofsky

Laboratory Name: Test America -Canton
Address: 4101 Shuffel St NW
North Canton, OH 44720
Phone: (330) 497-9396
Fax:
Contact:

Requested Parameters

Laboratory No.	Sample ID	Site Type	Depth	Date	Time	Matrix	VOCs (1)(B)	SVOCs (Phthalates) (2)(A) *	LL PAHs (3)(A)	Explosives (5)(A) *	Pesticides (5)(A)	PCBs (6)(A)	TAL Metals (7)(C) *	Cyanide (8)(D) *	Nitrate (10)(A) *	Sulfide (9)(E)	Perchlorate (11)(A)	Nitrocellulose (12)(A)	Hexavalent Chromium (13)(A)(1) *	Temperature Blank	Total Number of Containers	OBSERVATIONS, COMMENTS SPECIAL INSTRUCTIONS
	LL12mw-247-181001-GW	GW	24	10/29/18	1105	W		2		2			1	1	1				1		8	CRG field filtered
	LL12mw-247-181002-GW	GW	↓	↓	1105	W				2				1					1		4	CRG field filtered
	LL12mw-247-181001-GWMSD	GW	↓	↓	1105	W				4									1		5	Extra Volume for MS/MSD, only parameters indicated CRG field filtered

Relinquished by: Signature / Printed Name: Heather Adams / Company: Leidos — Date: 10/29/18 — Time: 1600

Received by: Signature / Printed Name: Rick Robson / Company: TestAmerica — Date: 10/29/18 — Time: 1600

Relinquished by: Signature / Printed Name: Rick Robson / Company: Leidos — Date: 10/29/18 — Time: 1700

Received by: Signature / Printed Name: TA Driver / Company: TestAmerica — Date: 10/29/18 — Time: 1700

Notes: Total Number of Containers: 17

A. Cool, 4C
A1. Field filtered, Cool, 4C
B. HCl, pH<2, Cool, 4C
C. HNO3, pH<2, Cool, 4C
D. NaOH, pH>12, Cool 4C
E. NaOH/Zn Acetate, pH>9, Cool 4C

1. SW 8260
2. SW 8270
3. SW 8270SIM
4. SW 8082
5. SW 8081
6. SW 8330
7. SW 6010
8. SW 9012
9. SW 9034
10. SW 9056
11. SW 6850
12. EPA 353.2
13. SW 7196

Notes:

Shipment Method: Courier

Temperature Blank

Lab:
Leidos
8866 Commons Drive
Twinsburg, OH 44087
(330) 405-5802

White: Laboratory Pink: Project Manager Yellow: Project QAO Goldenrod: Field Project Manager

Login Sample Receipt Checklist

Client: Leidos, Inc.

Job Number: 280-116303-2

Login Number: 116303
List Number: 1
Creator: Diffendall, Jessica L

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	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	