



September 29, 2017

Service Request No:R1708927

Les Arnold
ALS Environmental
3352 128th Avenue
Holland, MI 49424

Laboratory Results for: USS SWD-1 3Q2017 Cr6 Resample

Dear Les,

Enclosed are the results of the sample(s) submitted to our laboratory September 21, 2017
For your reference, these analyses have been assigned our service request number **R1708927**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

ADDRESS

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

PHONE +1 585 288 5380 | **FAX** +1 585 288 8475

ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water

Service Request: R1708927
Date Received: 9/21/17

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV, validation deliverables including all summary forms and associated raw data. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

8 / Water samples were received for analysis at ALS Environmental on 09/21/2017. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

General Chemistry Analyses:

No significant anomalies were noted with this analysis.

Approved by  Date 9/29/2017

SAMPLE DETECTION SUMMARY

CLIENT ID: RWL-3-GW-09202017		Lab ID: R1708927-001				
Analyte	Results	Flag	MDL	PQL	Units	Method
Chromium, Hexavalent, Dissolved	0.23		0.05	0.10	ug/L	218.6 LL
CLIENT ID: RWL-3-GW-09202017-F		Lab ID: R1708927-002				
Analyte	Results	Flag	MDL	PQL	Units	Method
Chromium, Hexavalent, Dissolved	0.23		0.05	0.10	ug/L	218.6 LL
CLIENT ID: EL-MW-4D-GW-09202017-F		Lab ID: R1708927-004				
Analyte	Results	Flag	MDL	PQL	Units	Method
Chromium, Hexavalent, Dissolved	0.16		0.05	0.10	ug/L	218.6 LL
CLIENT ID: RWL-4-GW-09202017		Lab ID: R1708927-007				
Analyte	Results	Flag	MDL	PQL	Units	Method
Chromium, Hexavalent, Dissolved	0.27		0.05	0.10	ug/L	218.6 LL
CLIENT ID: RWL-4-GW-09202017-F		Lab ID: R1708927-008				
Analyte	Results	Flag	MDL	PQL	Units	Method
Chromium, Hexavalent, Dissolved	0.31		0.05	0.10	ug/L	218.6 LL



Sample Receipt Information

ALS Environmental—Rochester Laboratory

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Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample

Service Request:R1708927

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1708927-001	RWL-3-GW-09202017	9/20/2017	1228
R1708927-002	RWL-3-GW-09202017-F	9/20/2017	1228
R1708927-003	EL-MW-4D-GW-09202017	9/20/2017	1239
R1708927-004	EL-MW-4D-GW-09202017-F	9/20/2017	1239
R1708927-005	EL-MW-4D-GW-09202017-FD	9/20/2017	1239
R1708927-006	EL-MW-4D-GW-09202017-F-FD	9/20/2017	1239
R1708927-007	RWL-4-GW-09202017	9/20/2017	1342
R1708927-008	RWL-4-GW-09202017-F	9/20/2017	1342



Chain of Custody Form

Page 1 of 2

Bill to: ALS Holland - Les Arnold

☒ ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information							Project Information		Parameter/Method Request for Analysis													
Purchase Order							Project Name	USS SWD-1 3Q2017 Cr6 Resample	A	7199 Hexavalent Chromium, Total												
Work Order							Project Number		B	7199 Hexavalent Chromium, Dissolved												
Company Name	USS Gary Works						Bill To Company	US Steel Corporation	C													
Send Report To	Kevin Stetter						Invoice Attn.	Accounts Payable	D													
Address	Penn Liberty Plaza 1 1350 Penn Ave. Suite 200						Address	PO Box 267	E													
City/State/Zip	Gary, IN						City/State/Zip	Pittsburgh, PA 15230	F													
Phone	Pittsburgh, PA 15222						Phone		G													
Fax							Fax		H													
e-Mail Address	mmaywell@wgrp.com, rstichnoth@wgrp.com, shonola@wgrp.com								I													
Comments	Report To: Les Arnold ALS - Holland								J													
									K													
									L													
No.	Sample Description		Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	K	L			
1	RWL-3-GW- 09202017		9-20	1228	AQ	8	1	X														
2	RWL-3-GW- 09202017 -F			1228	AQ	8	1		X													
3																						
4	EL-MW-4D-GW- 09202017			1239	AQ	8	1	X														
5	EL-MW-4D-GW- 09202017 -F			1239	AQ	8	1		X													
6																						
7	EL-MW-4D-GW- 09202017 -FD			1239	AQ	8	1	X														
8	EL-MW-4D-GW- 09202017 -F-FD			1239	AQ	8	1		X													
9																						
10																						

R1708927
 ALS Group USA, Corp.
 USS SWD-1 3Q2017 Cr6 Resample

5

Sampler(s): Please Print & Sign <i>Angie Bouche</i>			Shipment Method:		Required Turnaround Time: (Check Box) <input type="checkbox"/> Other <input checked="" type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour					Results Due Date:	
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:					
<i>Angie Bouche</i>	9-20-17	1400	<i>Max J. (ALS)</i>	9-20-17	1400						
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:					
<i>Max J. (ALS)</i>	9-20-17	1430	<i>[Signature]</i>	9-21-17	09:00						
Logged by (Laboratory):			Checked by (Laboratory):			ALS Cooler ID		Cooler Temp	QC Package: (Check Box Below)		
									<input type="checkbox"/> Level I: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input checked="" type="checkbox"/> Level I: SW846 Methods/CLP like <input type="checkbox"/> Other:		

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.



Chain of Custody Form

Page 2 of 2

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Bill to: ALS Holland - Les Arnold

Customer Information		Project Information		ALS Project Manager:		Amanda G.		ALS Work Order #:		Parameter/Method Request for Analysis											
Purchase Order		Project Name	USS SWD-1 3Q2017 Cr6 Resample	A	7199 Hexavalent Chromium, Total																
Work Order		Project Number		B	7199 Hexavalent Chromium, Dissolved																
Company Name	USS Gary Works	Bill To Company	US Steel Corporation	C																	
Send Report To	Kevin Stetter	Invoice Attn.	Accounts Payable	D																	
Address	Penn Liberty Plaza 1 1350 Penn Ave. Suite 200	Address	PO Box 267	E																	
City/State/Zip	Gary, IN	City/State/Zip	Pittsburgh, PA 15230	F																	
Phone	Pittsburgh, PA 15222	Phone		G																	
Fax		Fax		H																	
e-Mail Address	mmaxwell@wecrp.com, rstichnoth@wecrp.com, sborola@wecrp.com			I																	
Comments	Report to: Les Arnold ALS - Holland			J																	
				K																	
				L																	
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	K	L			
1	RWL-4-GW- 09202017	9-20	1342	AQ	8	1	X														
2	RWL-4-GW- 09202017 -F	9-20	1342	AQ	8	1		X													
3																					
4	RWL-4B-GW			AQ	8	1	X														
5	RWL-4B-GW -F			AQ	8	1	X														
6																					
7																					
8																					
9																					
10																					
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)				Other				Results Due Date:									
Angie Bouche				<input checked="" type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour																	
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:															
Angie Bouche	9-20-17	1400	Max T. / ALS	9-20-17	1400																
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	QC Package: (Check Box Below)															
Max T. / ALS	9-20-17	1430		9-21-17	0910	<input type="checkbox"/> Level I: Standard QC <input type="checkbox"/> Level III: Raw Data															
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV																	
				<input checked="" type="checkbox"/> Level IV: SW846 Methods/CLP like																	
				<input type="checkbox"/> Other:																	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C						Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.															



Cooler Receipt and Preservation Check Form

Project/Client ALS Holland Folder Number R17-8927Cooler received on 9-21-17 by: HE COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	Y <u>N</u>
2	Custody papers properly completed (ink, signed)?	Y <u>N</u>
3	Did all bottles arrive in good condition (unbroken)?	Y <u>N</u>
4	Circle: <u>Wet Ice</u> Dry Ice Gel packs present?	Y <u>N</u>

5a	Perchlorate samples have required headspace?	Y <u>N</u> <u>NA</u>
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y <u>N</u> <u>NA</u>
6	Where did the bottles originate?	<u>ALS/ROC</u> CLIENT
7	Soil VOA received as: Bulk Encore 5035set	<u>NA</u>

8. Temperature Readings Date: 9-21-17 Time: 0932 ID: IR#7 IR#8 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>2.7</u>						
Correction Factor (°C)	<u>+1.0</u>						
Corrected Temp (°C)	<u>3.7</u>						
Temp from: Type of bottle	<u>250 plastic</u>						
Within 0-6°C?	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>
If <0°C, were samples frozen?	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>

If out of Temperature, note packing/ice condition: _____ Ice melted _____ Poorly Packed _____ Same Day Rule

& Client Approval to Run Samples: _____ Standing Approval _____ Client aware at drop-off _____ Client notified by: _____

All samples held in storage location: B-062 by: HE on 9-21-17 at 0936
5035 samples placed in storage location: _____ by _____ on _____ at _____Cooler Breakdown: Date: 9/23/17 Time: 0956 by: HE

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
10. Did all bottle labels and tags agree with custody papers? YES NO
11. Were correct containers used for the tests indicated? YES NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO NA
13. Air Samples: Cassettes / Tubes Intact _____ Canisters Pressurized _____ Tedlar® Bags Inflated NA

pH	Lot of test paper	Reagent	Preserved?		Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
			Yes	No						
≥12		NaOH								
≤2		HNO ₃								
≤2		H ₂ SO ₄								
<4		NaHSO ₄								
Residual Chlorine (-)		For CN Phenol and 522			If +, contact PM to add Na ₂ S ₂ O ₃ (CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃	-	-						
		ZnAcetate	-	-						
		HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Bottle lot numbers: client label
Explain all Discrepancies/ Other Comments: _____

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: HE
PC Secondary Review: HE 9/23/17 9 of 30
*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



Miscellaneous Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% (25% for CLP) difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (×100% Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.



Rochester Lab ID # for State Certifications¹

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID #
Delaware Accredited	Nebraska Accredited	294100 A/B
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047	North Carolina #676	Virginia #460167

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads>

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.

dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample

Service Request: R1708927

Sample Name: Batch QC
Lab Code: K1710075-009
Sample Matrix: Water

Date Collected: NA
Date Received: NA

Analysis Method
218.6 LL

Extracted/Digested By

Analyzed By
CWOODS

Sample Name: RWL-3-GW-09202017
Lab Code: R1708927-001
Sample Matrix: Water

Date Collected: 09/20/17
Date Received: 09/21/17

Analysis Method
218.6 LL

Extracted/Digested By

Analyzed By
CWOODS

Sample Name: RWL-3-GW-09202017-F
Lab Code: R1708927-002
Sample Matrix: Water

Date Collected: 09/20/17
Date Received: 09/21/17

Analysis Method
218.6 LL

Extracted/Digested By

Analyzed By
CWOODS

Sample Name: EL-MW-4D-GW-09202017
Lab Code: R1708927-003
Sample Matrix: Water

Date Collected: 09/20/17
Date Received: 09/21/17

Analysis Method
218.6 LL

Extracted/Digested By

Analyzed By
CWOODS

Sample Name: EL-MW-4D-GW-09202017-F
Lab Code: R1708927-004
Sample Matrix: Water

Date Collected: 09/20/17
Date Received: 09/21/17

Analysis Method
218.6 LL

Extracted/Digested By

Analyzed By
CWOODS

ALS Group USA, Corp.

dba ALS Environmental

Analyst Summary report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample

Service Request: R1708927

Sample Name: EL-MW-4D-GW-09202017-FD
Lab Code: R1708927-005
Sample Matrix: Water

Date Collected: 09/20/17**Date Received:** 09/21/17

Analysis Method
218.6 LL

Extracted/Digested By

Analyzed By
CWOODS

Sample Name: EL-MW-4D-GW-09202017-F-FD
Lab Code: R1708927-006
Sample Matrix: Water

Date Collected: 09/20/17**Date Received:** 09/21/17

Analysis Method
218.6 LL

Extracted/Digested By

Analyzed By
CWOODS

Sample Name: RWL-4-GW-09202017
Lab Code: R1708927-007
Sample Matrix: Water

Date Collected: 09/20/17**Date Received:** 09/21/17

Analysis Method
218.6 LL

Extracted/Digested By

Analyzed By
CWOODS

Sample Name: RWL-4-GW-09202017-F
Lab Code: R1708927-008
Sample Matrix: Water

Date Collected: 09/20/17**Date Received:** 09/21/17

Analysis Method
218.6 LL

Extracted/Digested By

Analyzed By
CWOODS



INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.



Sample Results

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



General Chemistry

ALS Environmental—Rochester Laboratory

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www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water
Sample Name: RWL-3-GW-09202017
Lab Code: R1708927-001

Service Request: R1708927
Date Collected: 09/20/17 12:28
Date Received: 09/21/17 09:10
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent, Dissolved	218.6 LL	0.23	ug/L	0.10	5	09/28/17 17:04	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water
Sample Name: RWL-3-GW-09202017-F
Lab Code: R1708927-002

Service Request: R1708927
Date Collected: 09/20/17 12:28
Date Received: 09/21/17 09:10
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent, Dissolved	218.6 LL	0.23	ug/L	0.10	5	09/28/17 17:39	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water
Sample Name: EL-MW-4D-GW-09202017
Lab Code: R1708927-003

Service Request: R1708927
Date Collected: 09/20/17 12:39
Date Received: 09/21/17 09:10
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent, Dissolved	218.6 LL	0.10 U	ug/L	0.10	5	09/28/17 17:51	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water
Sample Name: EL-MW-4D-GW-09202017-F
Lab Code: R1708927-004

Service Request: R1708927
Date Collected: 09/20/17 12:39
Date Received: 09/21/17 09:10
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent, Dissolved	218.6 LL	0.16	ug/L	0.10	5	09/28/17 18:03	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water

Sample Name: EL-MW-4D-GW-09202017-FD
Lab Code: R1708927-005

Service Request: R1708927
Date Collected: 09/20/17 12:39
Date Received: 09/21/17 09:10

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent, Dissolved	218.6 LL	0.10 U	ug/L	0.10	5	09/28/17 18:15	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water
Sample Name: EL-MW-4D-GW-09202017-F-FD
Lab Code: R1708927-006

Service Request: R1708927
Date Collected: 09/20/17 12:39
Date Received: 09/21/17 09:10
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent, Dissolved	218.6 LL	0.10 U	ug/L	0.10	5	09/28/17 18:27	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water
Sample Name: RWL-4-GW-09202017
Lab Code: R1708927-007

Service Request: R1708927
Date Collected: 09/20/17 13:42
Date Received: 09/21/17 09:10
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent, Dissolved	218.6 LL	0.27	ug/L	0.10	5	09/28/17 18:39	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water
Sample Name: RWL-4-GW-09202017-F
Lab Code: R1708927-008

Service Request: R1708927
Date Collected: 09/20/17 13:42
Date Received: 09/21/17 09:10
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent, Dissolved	218.6 LL	0.31	ug/L	0.10	5	09/28/17 18:51	



QC Summary Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



General Chemistry

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1708927-MB

Service Request: R1708927
Date Collected: NA
Date Received: NA
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chromium, Hexavalent, Dissolved	218.6 LL	0.020 U	ug/L	0.020	1	09/28/17 14:35	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water

Service Request: R1708927
Date Collected: 09/20/17
Date Received: 09/21/17
Date Analyzed: 09/28/17

Duplicate Matrix Spike Summary
Chromium, Hexavalent, Dissolved

Sample Name: RWL-3-GW-09202017
Lab Code: R1708927-001
Analysis Method: 218.6 LL

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike R1708927-001MS			Duplicate Matrix Spike R1708927-001DMS			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chromium, Hexavalent, Dissolved	0.23	1.04	1.00	81 *	1.06	1.00	83 *	90-110	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: USS SWD-1 3Q2017 Cr6 Resample
Sample Matrix: Water

Service Request: R1708927
Date Analyzed: 09/28/17

Lab Control Sample Summary
General Chemistry Parameters

Units:ug/L
Basis:NA

Lab Control Sample
R1708927-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chromium, Hexavalent, Dissolved	218.6 LL	0.182	0.200	91	90-110