APPENDIX I
Import Source Material Chemical Analytical Data

November 6, 2013 Analytical Report for Service Request No: K1311829

Kevin Richardson
Geo Test Services
741 Marine Drive
Bellingham, WA 98225

Dear Kevin:

Enclosed are the results of the samples submitted to our laboratory on October 17, 2013. For your reference, these analyses have been assigned our service request number K1311829.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) 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.

Please call if you have any questions. My extension is 3275. You may also contact me via Email at Chris.Leaf@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Chris Leaf
Project Manager

CL/aj

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626 USA | PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp. Part of the ALS Group An ALS Limited Company

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
LOD	Limit of Detection
LOQ	Limit of Quantitation
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.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	4704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): K1311278

Date 10/15/13 Page 1 Of 1

PROJECT ID:	
REPORT TO COMPANY:	GeoTest Service Inc
PROJECT MANAGER:	Kevin Richardson
ADDRESS:	741 Marine View Dr.
	Bellingham WA 98225
PHONE: 360-920-1141	FAX:
P.O. #:	E-MAIL: kevinr@geotestinc.com
INVOICE TO COMPANY:	GeoTest
ATTENTION:	Janice Patience
ADDRESS:	741 Marine View Dr.
	Bellingham, WA 98225

SAMPLE I.D.	DATE	TIME	TYPE	LAB#
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

ANALYSIS REQUESTED

NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA-8021	MTBE by EPA-8021 ☐ EPA-8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA-8270 SIM ☐	PCB ☐ Pesticides ☐ by EPA 8081/8082	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐

OTHER (Specify)

								NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?

LABORATORY COPY

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Kevin Richardson, GeoTest, 10/15/13, 5:15pm
   Received By: SDavis/ALS-KCDC 10/17/13 0940
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: 10 Standard | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: 5 Standard | 3 | 1 | SAME DAY

OTHER: Specify: See Attached

* Turnaround request less than standard may incur Rush Charges

PC CL

Cooler Receipt and Preservation Form

Client / Project GeoTest Service Request *K13* 11278

Received: October 17, 13 Opened: 10/17 By: SD Unloaded: 10/17 By: SD

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
NDm							8037 3511 9569	

4.. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* N/A

5. Were custody papers properly filled out (ink, signed, etc.)?	NA	(Y) see	N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.*	NA	(Y)	(N)*
7. Were all sample labels complete (i.e analysis, preservation, etc.)?	NA	(Y)	N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.*	NA	(Y)	N
9. Were appropriate bottles/containers and volumes received for the tests indicated?	NA	(Y)	N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below*	(NA)	Y	N
11. Were VOA vials received without headspace? *Indicate in the table below.*	(NA)	Y	N
12. Was C12/Res negative?	(NA)	Y	N

1st 5th 7/13 Sample ID on Bottle	Sample ID on COC	Identified by:
X Sample 1	none	

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
Sample 1	1, 8oz			✓						

Notes, Discrepancies, & Resolutions: Cooler had no cooling agent OR pkg. material. I will attached broken sample label to 2nd page.
See pg 2 of 2 for additional discrepancies

ALS Environmental

44124

CHAIN OF CUSTODY

44124

1317 South 13th Ave. Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

SR# 113148

COC Set____ of____

COC#_____

Project Name: 13-0599	Project Number: 13-0599
Project Manager: Kevin Richardson	
Company: GeoTest Services Inc.	
Address: 741 Marine View Dr., Bellingham, WA	
Phone #: 360-920-1146	email: kevinr@geotestinc.com
Sampler Signature:	Sampler Printed Name: Daniel Craig

CLIENT SAMPLE ID	LABID	SAMPLING Date	SAMPLING Time	Matrix	NUMBER OF CONTAINERS	7D TS-MET / Total Solids	14D 8082A / PCB	14D 8270D / SVOLL	28D 7471B / Hg	180D 6010C / Metals T	1	2	3	4	5	Remarks
1. Lakeside - Anacortes (S1)		10/22/13	8:45		3	X	X	X	X	X						
2. Lakeside - Anacortes (S2)		10/22/13	8:20		3	X	X	X	X	X						
3.																
4.																
5.																
6.																
7.																
8.																
9																
10.																

TAKE SAMPLES TO EXTRALTIONS LAB IMMEDIATELY FOR RUSH ANALYSIS.

Report Requirements

- __ I. Routine Report: Method Blank, Surrogate as required
- X II. Report Dup., MS, MSD as required
- __ III. CLP Like Summary (no raw data)
- __ IV. Data Validation Report
- __ V. EDD

Invoice Information

P.O.# 13-0599

Bill To: GeoTest

Turnaround Requirements

__ 24 hr __ 48 hr.
X 5 Day
__ Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al (As) Sb Ba Be B Ca (Cd) Co (Cr) (Cu) Fe (Pb) Mg Mn Mo Ni K (Ag) Na Se Sr Ti Sn V (Zn) (Hg)

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments:

I've been working with Chris Leaf. We have sent previous samples and these need to be run in same criteria (WAC 173-204-320). Need results on this on 10/30/13. RUSH TAT! Thank you for your efforts -Kevin Richardson

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other_____(Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Daniel Craig	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: GeoTest Services	Firm: 12/23/13 1030	Firm	Firm	Firm	Firm
Date/Time: 10/23/2013	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

PC CL

Cooler Receipt and Preservation Form

Client / Project: Geotest Service Request K13 11480

Received: 10/23/13 Opened: 10/23/13 By: [illegible] Unloaded: 10/23/13 By: [illegible]

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.1	0.1	-	-	0	382		8043 7769 6747	

4.. Packing material: *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* paper

5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

PUSH

*Notes, Discrepancies, & Resolutions:*_____

*Page*____ *of*____

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): K1311350

Date 10-15-13 Page 1 Of 1

PROJECT ID:
REPORT TO COMPANY: GeoTest Services Inc
PROJECT MANAGER: Kevin Richardson
ADDRESS: 741 Marine View Dr.
Bellingham WA
PHONE: 360-920-1146 FAX:
P.O. #: E-MAIL: Kevinr@geotest-inc.com
INVOICE TO COMPANY: GeoTest Services Inc.
ATTENTION: ~~Todd~~ Zoe Hart
ADDRESS:

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA-8021	MTBE by EPA-8021 ☐ EPA-8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA-8270 SIM ☐	PCB ☐ Pesticides ☐ by EPA 8081/8082	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify)	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1.																					
2.																					
3.																					
4.																					
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					

7 Run tests per WAC. Same as last Samples. Call with questions

LABORATORY COPY

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Kevin Rn, GeoTst, 10-18-13, 4:13pm
   Received By: H Smith 10/19/13 0980
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: 10 Standard | (5) | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: 5 Standard | 3 | 1 | SAME DAY

OTHER:
Specify:

* Turnaround request less than standard may incur Rush Charges

CL

PC ##

Cooler Receipt and Preservation Form

Client / Project: GeoTest Service Request *K13* 11350

Received: 10/19/13 Opened: 10/19/13 By: KD Unloaded: 10/19/13 By: KD

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
5.3	5.4	—	—	+.1	337		8034 4889 3885	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* hard pack ice
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y (N)*
9. Were appropriate bottles/containers and volumes received for the tests indicated? (NA) Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

RUSH

Notes, Discrepancies, & Resolutions: *Boulder Hill - Sample 1 10/18/13 1313

Boulder Hill - Sample 2 10/18/13 1313

Belleville Pit - S1 10/18/13 1458

Belleville Pit - S2 10/18/13 1458

*Page*____ *of*____

COLUMBIA ANALYTICAL SERVICES, INC.
LOG-IN and RE-ISSUE INFORMATION SHEET

Date: 10/31/13

K 1311278, K1311350, K1311480

Sample ID's K1311278-001 | K1311480-001

-002 | -002

K1311350-001

-002

-003

-004

Received information for this request from:

____ Project Chemist ____ Bottle Order _X_ Client ____ Bottles

____ Others (Specify) ____

Re-issue Instructions: Run 9060 TOC ASAP

Re-issue Due Date: Nov 4, 2013 48 hr / 2 Bda

Special Instructions:

RUSH

Analytical Report

Client:	Geo Test Services	**Service Request:**	K1311829
Project:		**Date Collected:**	10/15/13 - 10/22/13
Sample Matrix:	Sediment	**Date Received:**	10/17/13 - 10/23/13
Analysis Method:	9060	**Units:**	Percent
Prep Method:	Method	**Basis:**	Dry, per Method

Carbon, Total Organic (TOC)

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Sample 1	K1311829-001	**1.72**	0.10	1	11/05/13 15:04	11/5/13	
Sample 1 Dup	K1311829-002	**1.99**	0.10	1	11/05/13 16:21	11/5/13	
Boulder Hill-Sample 1	K1311829-003	ND U	0.10	1	11/05/13 16:36	11/5/13	
Boulder Hill-Sample 2	K1311829-004	ND U	0.10	1	11/05/13 16:49	11/5/13	
Belleville Pit-S1	K1311829-005	ND U	0.10	1	11/05/13 17:03	11/5/13	
Belleville Pit-S2	K1311829-006	ND U	0.10	1	11/05/13 17:53	11/5/13	
Lakeside-Anacortes (S1)	K1311829-007	ND U	0.10	1	11/05/13 18:07	11/5/13	
Lakeside-Anacortes (S2)	K1311829-008	ND U	0.10	1	11/05/13 18:21	11/5/13	
Method Blank	K1311829-MB	ND U	0.10	1	11/05/13 14:50	11/5/13	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Geo Test Services	**Service Request:**	K1311829
Project		**Date Collected:**	10/15/13
Sample Matrix:	Sediment	**Date Received:**	10/17/13
		Date Analyzed:	11/05/13

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Sample 1	**Units:**	Percent
Lab Code:	K1311829-001	**Basis:**	Dry, per Method

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K1311829-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic (TOC)	9060	0.10	1.72	1.76	1.74	2	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:	Geo Test Services	**Service Request:**	K1311829
Project:		**Date Collected:**	10/15/13
Sample Matrix:	Sediment	**Date Received:**	10/17/13
		Date Analyzed:	11/5/13
		Date Extracted:	11/5/13

Duplicate Matrix Spike Summary
Carbon, Total Organic (TOC)

Sample Name:	Sample 1	**Units:**	Percent
Lab Code:	K1311829-001	**Basis:**	Dry, per Method
Analysis Method:	9060		
Prep Method:	Method		

		Matrix Spike K1311829-001MS			Duplicate Matrix Spike K1311829-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic (TOC)	1.72	7.02	4.62	115	6.78	4.64	109	70-122	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:	Geo Test Services	**Service Request:**	K1311829
Project:		**Date Analyzed:**	11/05/13
Sample Matrix:	Sediment	**Date Extracted:**	11/05/13

Lab Control Sample Summary
Carbon, Total Organic (TOC)

Analysis Method:	9060	**Units:**	Percent
Prep Method:	Method	**Basis:**	Dry, per Method
		Analysis Lot:	366876

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1311829-LCS	0.285	0.28	104	72-122

November 1, 2013

Analytical Report for Service Request No: K1311350
Revised Service Request No: K1311350.01

Kevin Richardson
Geo Test Services
741 Marine Drive
Bellingham, WA 98225

Dear Kevin:

Enclosed is the revised report for the samples submitted to our laboratory on October 19, 2013. For your reference, these analyses have been assigned our service request number K1311350.

The Semi-Volatile Organic Compounds have been reported to the MRL/MDL in this revision.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) 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.

Please call if you have any questions. My extension is 3275. You may also contact me via Email at Chris.Leaf@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

REVISED
5:28 pm, Nov 01, 2013

Chris Leaf
Project Manager

CL/lb

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626 USA | PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp. Part of the ALS Group An ALS Limited Company

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
LOD	Limit of Detection
LOQ	Limit of Quantitation
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.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	4704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

ALS ENVIRONMENTAL

Client:	Geo Test Services	**Service Request No.:**	K1311350
Project:	NA	**Date Received:**	10/19/2013
Sample Matrix:	Sediment		

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 II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Four sediment samples were received for analysis at ALS Environmental on 10/19/2013. The samples were received in good condition and consistent with the accompanying chain of custody form except as noted on the cooler receipt and preservation form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Total Metals

No anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082

Second Source Exceptions:
The analysis of PCB Aroclors by EPA 8082A requires the use of dual column confirmation. The Initial Calibration Verification (ICV) evaluation criteria were not met on the confirmation column for Aroclor 1232 in CAL12822. The ICV criteria were met on the alternate column. The data quality was not affected. No further corrective action was necessary.

No other anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 8270

Calibration Verification Exceptions:
The following analytes were flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS26\1028F003.D: Benzo(b)fluoranthene. In accordance with the EPA Method, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the ALS SOP. The CCV met these criteria. No further corrective action was required.

No other anomalies associated with the analysis of these samples were observed.

Approved by 

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): 1311350

Date 10-15-13 Page 1 Of 1

PROJECT ID:
REPORT TO COMPANY: GeoTest Services Inc
PROJECT MANAGER: Kevin Richardson
ADDRESS: 741 Marine View Dr.
Bellingham WA
PHONE: 360-920-1146 FAX:
P.O. #: E-MAIL: Kevinr@geotest-inc.com

INVOICE TO COMPANY: GeoTest Services Inc.
ATTENTION: ~~Todd~~ Zoe Hurt
ADDRESS:

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA-8021	MTBE by EPA-8021 ☐ EPA-8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA-8270 SIM ☐	PCB ☐ Pesticides ☐ by EPA 8081/8082	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify)	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1.																					
2.																					
3.																					
4.																					
5.																					
6.																					
7.	SOP Run tests per WAC. Same as last Samples. Call with questions																				
8.																					
9.																					
10.																					

LABORATORY COPY

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Kevin Rm, GeoTst, 10-15-13, 4:13pm
   Received By: K Smith 10/19/13 0930
2. Relinquished By:
   Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: 10 Standard | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: 5 Standard | 3 | 1 | SAME DAY

OTHER:
Specify:

* Turnaround request less than standard may incur Rush Charges

CL

PC ##

Cooler Receipt and Preservation Form

Client / Project: GeoTest Service Request *K13* 11350

Received: 10/19/13 Opened: 10/19/13 By: KD Unloaded: 10/19/13 By: KD

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where?_____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
8.3	8.4	—	—	+.1	337		8034 4859 3885	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* hard pack ice
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N*
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

RUSH

Notes, Discrepancies, & Resolutions: *Boulder Hill - Sample 1 10/18/13 1313

Boulder Hill - Sample 2 10/18/13 1313

Belleville Pit - S1 10/18/13 1458

Belleville Pit - S2 10/18/13 1458

*Page*____ *of*____

Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350

Total Solids

Prep Method: NONE
Analysis Method: 160.3M
Test Notes:

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
Boulder Hill-Sample 1	K1311350-001	10/18/2013	10/19/2013	10/24/2013	92.7	
Boulder Hill-Sample 2	K1311350-002	10/18/2013	10/19/2013	10/24/2013	95.3	
Belleville Pit-S1	K1311350-003	10/18/2013	10/19/2013	10/24/2013	95.3	
Belleville Pit-S2	K1311350-004	10/18/2013	10/19/2013	10/24/2013	92.2	

ALS Group USA, Corp.
dba ALS Environmental

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geo Test Services
Project Name:
Project No.:

Service Request: K1311350

Sample Name:	Lab Code:
Batch QC1D	K1310745-001D
Batch QC1S	K1310745-001S
Batch QC2D	K1311196-001D
Batch QC2S	K1311196-001S
Boulder Hill-Sample 1	K1311350-001
Boulder Hill-Sample 2	K1311350-002
Belleville Pit-S1	K1311350-003
Belleville Pit-S2	K1311350-004
Method Blank	K1311350-MB

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Geo Test Services	**Service Request:**	K1311350
Project No.:	NA	**Date Collected:**	10/18/13
Project Name:	NA	**Date Received:**	10/19/13
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Boulder Hill-Sample 1 **Lab Code:** K1311350-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	4.1	2.0	10/21/13	10/22/13	4.1	U	
Cadmium	6010C	0.2	2.0	10/21/13	10/22/13	0.2	U	
Chromium	6010C	0.8	2.0	10/21/13	10/22/13	21.5		
Copper	6010C	0.8	2.0	10/21/13	10/22/13	33.0		
Lead	6010C	2.1	2.0	10/21/13	10/22/13	2.2		
Mercury	7471B	0.02	1.0	10/22/13	10/23/13	0.02		
Silver	6010C	0.8	2.0	10/21/13	10/22/13	0.8	U	
Zinc	6010C	1.0	2.0	10/21/13	10/22/13	36.6		

% Solids: 92.7

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Geo Test Services	**Service Request:**	K1311350
Project No.:	NA	**Date Collected:**	10/18/13
Project Name:	NA	**Date Received:**	10/19/13
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Boulder Hill-Sample 2 **Lab Code:** K1311350-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	3.7	2.0	10/21/13	10/22/13	3.7	U	
Cadmium	6010C	0.2	2.0	10/21/13	10/22/13	0.2	U	
Chromium	6010C	0.7	2.0	10/21/13	10/22/13	17.5		
Copper	6010C	0.7	2.0	10/21/13	10/22/13	20.0		
Lead	6010C	1.9	2.0	10/21/13	10/22/13	2.5		
Mercury	7471B	0.02	1.0	10/22/13	10/23/13	0.03		
Silver	6010C	0.7	2.0	10/21/13	10/22/13	0.7	U	
Zinc	6010C	0.93	2.0	10/21/13	10/22/13	28.5		

% Solids: 95.3

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Geo Test Services	**Service Request:**	K1311350
Project No.:	NA	**Date Collected:**	10/18/13
Project Name:	NA	**Date Received:**	10/19/13
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Belleville Pit-S1 **Lab Code:** K1311350-003

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	3.8	2.0	10/21/13	10/22/13	3.8	U	
Cadmium	6010C	0.2	2.0	10/21/13	10/22/13	0.2	U	
Chromium	6010C	0.8	2.0	10/21/13	10/22/13	18.7		
Copper	6010C	0.8	2.0	10/21/13	10/22/13	17.1		
Lead	6010C	1.9	2.0	10/21/13	10/22/13	2.2		
Mercury	7471B	0.02	1.0	10/22/13	10/23/13	0.02	U	
Silver	6010C	0.8	2.0	10/21/13	10/22/13	0.8	U	
Zinc	6010C	0.94	2.0	10/21/13	10/22/13	29.7		

% Solids: 95.3

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Geo Test Services	**Service Request:**	K1311350
Project No.:	NA	**Date Collected:**	10/18/13
Project Name:	NA	**Date Received:**	10/19/13
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Belleville Pit-S2 **Lab Code:** K1311350-004

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	3.8	2.0	10/21/13	10/22/13	3.8	U	
Cadmium	6010C	0.2	2.0	10/21/13	10/22/13	0.2	U	
Chromium	6010C	0.8	2.0	10/21/13	10/22/13	24.7		
Copper	6010C	0.8	2.0	10/21/13	10/22/13	25.7		
Lead	6010C	1.9	2.0	10/21/13	10/22/13	2.5		
Mercury	7471B	0.02	1.0	10/22/13	10/23/13	0.02	U	
Silver	6010C	0.8	2.0	10/21/13	10/22/13	0.8	U	
Zinc	6010C	0.94	2.0	10/21/13	10/22/13	37.5		

% Solids: 92.2

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Geo Test Services
Service Request: K1311350
Project No.: NA
Date Collected:
Project Name: NA
Date Received:
Matrix: SEDIMENT
Units: mg/Kg
Basis: DRY

Sample Name: Method Blank
Lab Code: K1311350-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	4.0	2.0	10/21/13	10/22/13	4.0	U	
Cadmium	6010C	0.2	2.0	10/21/13	10/22/13	0.2	U	
Chromium	6010C	0.8	2.0	10/21/13	10/22/13	0.8	U	
Copper	6010C	0.8	2.0	10/21/13	10/22/13	0.8	U	
Lead	6010C	2.0	2.0	10/21/13	10/22/13	2.0	U	
Mercury	7471B	0.02	1.0	10/22/13	10/23/13	0.02	U	
Silver	6010C	0.8	2.0	10/21/13	10/22/13	0.8	U	
Zinc	6010C	1.0	2.0	10/21/13	10/22/13	1.0	U	

% Solids: 100.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Geo Test Services **Service Request:** K1311350

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** DRY

Matrix: SOIL **% Solids:** 99.9

Sample Name: Batch QC1S **Lab Code:** K1310745-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	75 - 125	84.1		3.9	U	98.10	85.7		6010C
Cadmium	75 - 125	8.7		0.2		9.81	86.6		6010C
Chromium	75 - 125	38.1		2.5		39.20	90.8		6010C
Copper	75 - 125	48.8		5.7		49.10	87.8		6010C
Lead	75 - 125	91.0		7.2		98.10	85.4		6010C
Silver	75 - 125	8.7		0.8	U	9.81	88.7		6010C
Zinc	75 - 125	90.0		4.6		98.10	87.1		6010C

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Geo Test Services **Service Request:** K1311350

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** As Rec

Matrix: SOIL

Sample Name: Batch QC2S **Lab Code:** K1311196-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	80 - 120	0.49		0.08		0.41	100.0		7471B

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client: Geo Test Services **Service Request:** K1311350

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** DRY

Matrix: SOIL **% Solids:** 99.9

Sample Name: Batch QC1D **Lab Code:** K1310745-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		3.9	U	3.9	U			6010C
Cadmium		0.2		0.2	U	200.0		6010C
Chromium		2.5		2.5		0.0		6010C
Copper	20	5.7		5.8		1.7		6010C
Lead		7.2		6.6		8.7		6010C
Silver		0.8	U	0.8	U			6010C
Zinc		4.6		4.6		0.0		6010C

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Geo Test Services **Service Request:** K1311350

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** As Rec

Matrix: SOIL

Sample Name: Batch QC2D **Lab Code:** K1311196-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.08		0.08		0.0		7471B

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

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LABORATORY CONTROL SAMPLE

Client: Geo Test Services **Service Request:** K1311350

Project No.: NA

Project Name: NA

Aqueous LCS Source: **Solid LCS Source:** **ERA D076-540**

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Arsenic				94.5	98.3		82 117	104.0
Cadmium				60.5	57.3		83 117	94.7
Chromium				70.4	66.9		82 118	95.0
Copper				79.6	85.1		84 116	106.9
Lead				91.8	88.2		82 118	96.1
Mercury				3.73	3.67		72 128	98.4
Silver				34.4	35.1		66 134	102.0
Zinc				140	135		82 118	96.4

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311350
Project:		**Date Collected:**	10/18/2013
Sample Matrix:	Sediment	**Date Received:**	10/19/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	Boulder Hill-Sample 1	**Units:**	mg/Kg
Lab Code:	K1311350-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1221	ND	U	0.11	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1232	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1242	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1248	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1254	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1260	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	87	43-148	10/25/13	Acceptable

Comments:

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311350
Project:		**Date Collected:**	10/18/2013
Sample Matrix:	Sediment	**Date Received:**	10/19/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	Boulder Hill-Sample 2	**Units:**	mg/Kg
Lab Code:	K1311350-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1221	ND	U	0.11	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1232	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1242	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1248	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1254	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1260	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	87	43-148	10/25/13	Acceptable

Comments:

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311350
Project:		**Date Collected:**	10/18/2013
Sample Matrix:	Sediment	**Date Received:**	10/19/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	Belleville Pit-S1	**Units:**	mg/Kg
Lab Code:	K1311350-003	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1221	ND	U	0.11	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1232	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1242	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1248	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1254	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1260	ND	U	0.052	1	10/22/13	10/25/13	KWG1311883	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	83	43-148	10/25/13	Acceptable

Comments:

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311350
Project:		**Date Collected:**	10/18/2013
Sample Matrix:	Sediment	**Date Received:**	10/19/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	Belleville Pit-S2	**Units:**	mg/Kg
Lab Code:	K1311350-004	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1221	ND	U	0.11	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1232	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1242	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1248	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1254	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1260	ND	U	0.054	1	10/22/13	10/25/13	KWG1311883	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	78	43-148	10/25/13	Acceptable

Comments:

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311350
Project:		**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1311883-4	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1221	ND	U	0.099	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1232	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1242	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1248	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1254	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1260	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	81	43-148	10/24/13	Acceptable

Comments:

Client: Geo Test Services **Service Request:** K1311350
Project:
Sample Matrix: Sediment

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8082A **Level:** Low

Sample Name	Lab Code	Sur1
Batch QC	K1311278-001	100
Boulder Hill-Sample 1	K1311350-001	87
Boulder Hill-Sample 2	K1311350-002	87
Belleville Pit-S1	K1311350-003	83
Belleville Pit-S2	K1311350-004	78
Method Blank	KWG1311883-4	81
Batch QCMS	KWG1311883-1	70
Batch QCDMS	KWG1311883-2	103
Lab Control Sample	KWG1311883-3	102

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 43-148

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

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

QA/QC Report

Client:	Geo Test Services	**Service Request:**	K1311350
Project:		**Date Extracted:**	10/22/2013
Sample Matrix:	Sediment	**Date Analyzed:**	10/24/2013 - 10/25/2013

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Batch QC	**Units:**	mg/Kg
Lab Code:	K1311278-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1311883

		Batch QCMS KWG1311883-1 Matrix Spike			Batch QCDMS KWG1311883-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	ND	0.444	0.705	63	0.637	0.701	91	23-145	36	40
Aroclor 1260	ND	0.462	0.705	65	0.656	0.701	94	24-148	35	40

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.

QA/QC Report

Client:	Geo Test Services	**Service Request:**	K1311350
Project:		**Date Extracted:**	10/22/2013
Sample Matrix:	Sediment	**Date Analyzed:**	10/24/2013

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3541	**Units:**	mg/Kg
Analysis Method:	8082A	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1311883

	Lab Control Sample KWG1311883-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
Aroclor 1016	0.851	1.00	85	42-122
Aroclor 1260	0.917	1.00	92	50-124

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

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

Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Collected: 10/18/2013
Date Received: 10/19/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Boulder Hill-Sample 1
Lab Code: K1311350-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	28	3.1	1	10/22/13	10/28/13	KWG1311653	
1,4-Dichlorobenzene	ND	U	9.2	2.5	1	10/22/13	10/28/13	KWG1311653	
1,2-Dichlorobenzene	ND	U	9.2	2.4	1	10/22/13	10/28/13	KWG1311653	
Benzyl Alcohol	ND	U	19	4.9	1	10/22/13	10/28/13	KWG1311653	
2-Methylphenol	ND	U	9.2	4.1	1	10/22/13	10/28/13	KWG1311653	
4-Methylphenol†	ND	U	9.2	4.5	1	10/22/13	10/28/13	KWG1311653	
2,4-Dimethylphenol	ND	U	46	6.3	1	10/22/13	10/28/13	KWG1311653	
Benzoic Acid	ND	U	400	96	1	10/22/13	10/28/13	KWG1311653	
1,2,4-Trichlorobenzene	ND	U	9.2	2.6	1	10/22/13	10/28/13	KWG1311653	
Naphthalene	ND	U	9.2	2.9	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobutadiene	ND	U	9.2	3.0	1	10/22/13	10/28/13	KWG1311653	
2-Methylnaphthalene	ND	U	9.2	2.8	1	10/22/13	10/28/13	KWG1311653	
Acenaphthylene	ND	U	9.2	2.6	1	10/22/13	10/28/13	KWG1311653	
Dimethyl Phthalate	ND	U	9.2	4.0	1	10/22/13	10/28/13	KWG1311653	
Acenaphthene	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenzofuran	ND	U	9.2	3.4	1	10/22/13	10/28/13	KWG1311653	
Fluorene	ND	U	9.2	3.3	1	10/22/13	10/28/13	KWG1311653	
Diethyl Phthalate	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	
N-Nitrosodiphenylamine	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobenzene	ND	U	9.2	3.3	1	10/22/13	10/28/13	KWG1311653	
Pentachlorophenol	ND	U	92	5.3	1	10/22/13	10/28/13	KWG1311653	
Phenanthrene	ND	U	9.2	3.6	1	10/22/13	10/28/13	KWG1311653	
Anthracene	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Di-n-butyl Phthalate	ND	U	19	4.8	1	10/22/13	10/28/13	KWG1311653	
Fluoranthene	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	
Pyrene	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	
Butyl Benzyl Phthalate	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	
Benz(a)anthracene	ND	U	9.2	3.6	1	10/22/13	10/28/13	KWG1311653	
Chrysene	ND	U	9.2	4.1	1	10/22/13	10/28/13	KWG1311653	
Bis(2-ethylhexyl) Phthalate	ND	U	92	8.9	1	10/22/13	10/28/13	KWG1311653	
Di-n-octyl Phthalate	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Benzo(b)fluoranthene	ND	U	9.2	3.4	1	10/22/13	10/28/13	KWG1311653	
Benzo(k)fluoranthene	ND	U	9.2	4.0	1	10/22/13	10/28/13	KWG1311653	

Comments:

REVISED
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Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Collected: 10/18/2013
Date Received: 10/19/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Boulder Hill-Sample 1
Lab Code: K1311350-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	U	9.2	3.6	1	10/22/13	10/28/13	KWG1311653	
Indeno(1,2,3-cd)pyrene	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenz(a,h)anthracene	ND	U	9.2	3.0	1	10/22/13	10/28/13	KWG1311653	
Benzo(g,h,i)perylene	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	46	20-86	10/28/13	Acceptable
Nitrobenzene-d5	48	27-91	10/28/13	Acceptable
2-Fluorobiphenyl	53	25-97	10/28/13	Acceptable
2,4,6-Tribromophenol	38	10-119	10/28/13	Acceptable
Terphenyl-d14	64	33-129	10/28/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

REVISED
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Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Collected: 10/18/2013
Date Received: 10/19/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Boulder Hill-Sample 2
Lab Code: K1311350-002

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**3.7**	J	27	3.1	1	10/22/13	10/28/13	KWG1311653	
1,4-Dichlorobenzene	ND	U	8.9	2.5	1	10/22/13	10/28/13	KWG1311653	
1,2-Dichlorobenzene	ND	U	8.9	2.4	1	10/22/13	10/28/13	KWG1311653	
Benzyl Alcohol	ND	U	18	4.9	1	10/22/13	10/28/13	KWG1311653	
2-Methylphenol	ND	U	8.9	4.1	1	10/22/13	10/28/13	KWG1311653	
4-Methylphenol†	ND	U	8.9	4.5	1	10/22/13	10/28/13	KWG1311653	
2,4-Dimethylphenol	ND	U	45	6.3	1	10/22/13	10/28/13	KWG1311653	
Benzoic Acid	ND	U	400	96	1	10/22/13	10/28/13	KWG1311653	
1,2,4-Trichlorobenzene	ND	U	8.9	2.6	1	10/22/13	10/28/13	KWG1311653	
Naphthalene	ND	U	8.9	2.9	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobutadiene	ND	U	8.9	3.0	1	10/22/13	10/28/13	KWG1311653	
2-Methylnaphthalene	ND	U	8.9	2.8	1	10/22/13	10/28/13	KWG1311653	
Acenaphthylene	ND	U	8.9	2.6	1	10/22/13	10/28/13	KWG1311653	
Dimethyl Phthalate	ND	U	8.9	4.0	1	10/22/13	10/28/13	KWG1311653	
Acenaphthene	ND	U	8.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenzofuran	ND	U	8.9	3.4	1	10/22/13	10/28/13	KWG1311653	
Fluorene	ND	U	8.9	3.3	1	10/22/13	10/28/13	KWG1311653	
Diethyl Phthalate	ND	U	8.9	3.7	1	10/22/13	10/28/13	KWG1311653	
N-Nitrosodiphenylamine	ND	U	8.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobenzene	ND	U	8.9	3.3	1	10/22/13	10/28/13	KWG1311653	
Pentachlorophenol	ND	U	89	5.3	1	10/22/13	10/28/13	KWG1311653	
Phenanthrene	ND	U	8.9	3.6	1	10/22/13	10/28/13	KWG1311653	
Anthracene	ND	U	8.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Di-n-butyl Phthalate	ND	U	18	4.8	1	10/22/13	10/28/13	KWG1311653	
Fluoranthene	ND	U	8.9	3.7	1	10/22/13	10/28/13	KWG1311653	
Pyrene	ND	U	8.9	3.7	1	10/22/13	10/28/13	KWG1311653	
Butyl Benzyl Phthalate	ND	U	8.9	3.7	1	10/22/13	10/28/13	KWG1311653	
Benz(a)anthracene	ND	U	8.9	3.6	1	10/22/13	10/28/13	KWG1311653	
Chrysene	ND	U	8.9	4.1	1	10/22/13	10/28/13	KWG1311653	
Bis(2-ethylhexyl) Phthalate	ND	U	89	8.9	1	10/22/13	10/28/13	KWG1311653	
Di-n-octyl Phthalate	ND	U	8.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Benzo(b)fluoranthene	ND	U	8.9	3.4	1	10/22/13	10/28/13	KWG1311653	
Benzo(k)fluoranthene	ND	U	8.9	4.0	1	10/22/13	10/28/13	KWG1311653	

Comments:

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Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311350
Project:		**Date Collected:**	10/18/2013
Sample Matrix:	Sediment	**Date Received:**	10/19/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Boulder Hill-Sample 2	**Units:**	ug/Kg
Lab Code:	K1311350-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	U	8.9	3.6	1	10/22/13	10/28/13	KWG1311653	
Indeno(1,2,3-cd)pyrene	ND	U	8.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenz(a,h)anthracene	ND	U	8.9	3.0	1	10/22/13	10/28/13	KWG1311653	
Benzo(g,h,i)perylene	ND	U	8.9	3.7	1	10/22/13	10/28/13	KWG1311653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	49	20-86	10/28/13	Acceptable
Nitrobenzene-d5	50	27-91	10/28/13	Acceptable
2-Fluorobiphenyl	57	25-97	10/28/13	Acceptable
2,4,6-Tribromophenol	42	10-119	10/28/13	Acceptable
Terphenyl-d14	69	33-129	10/28/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

REVISED
5:27 pm, Nov 01, 2013

Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Collected: 10/18/2013
Date Received: 10/19/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Belleville Pit-S1
Lab Code: K1311350-003

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**3.4**	J	27	3.1	1	10/22/13	10/28/13	KWG1311653	
1,4-Dichlorobenzene	ND	U	9.0	2.5	1	10/22/13	10/28/13	KWG1311653	
1,2-Dichlorobenzene	ND	U	9.0	2.4	1	10/22/13	10/28/13	KWG1311653	
Benzyl Alcohol	ND	U	18	4.9	1	10/22/13	10/28/13	KWG1311653	
2-Methylphenol	ND	U	9.0	4.1	1	10/22/13	10/28/13	KWG1311653	
4-Methylphenol†	ND	U	9.0	4.5	1	10/22/13	10/28/13	KWG1311653	
2,4-Dimethylphenol	ND	U	45	6.3	1	10/22/13	10/28/13	KWG1311653	
Benzoic Acid	ND	U	400	96	1	10/22/13	10/28/13	KWG1311653	
1,2,4-Trichlorobenzene	ND	U	9.0	2.6	1	10/22/13	10/28/13	KWG1311653	
Naphthalene	ND	U	9.0	2.9	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobutadiene	ND	U	9.0	3.0	1	10/22/13	10/28/13	KWG1311653	
2-Methylnaphthalene	ND	U	9.0	2.8	1	10/22/13	10/28/13	KWG1311653	
Acenaphthylene	ND	U	9.0	2.6	1	10/22/13	10/28/13	KWG1311653	
Dimethyl Phthalate	ND	U	9.0	4.0	1	10/22/13	10/28/13	KWG1311653	
Acenaphthene	ND	U	9.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenzofuran	ND	U	9.0	3.4	1	10/22/13	10/28/13	KWG1311653	
Fluorene	ND	U	9.0	3.3	1	10/22/13	10/28/13	KWG1311653	
Diethyl Phthalate	ND	U	9.0	3.7	1	10/22/13	10/28/13	KWG1311653	
N-Nitrosodiphenylamine	ND	U	9.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobenzene	ND	U	9.0	3.3	1	10/22/13	10/28/13	KWG1311653	
Pentachlorophenol	ND	U	90	5.3	1	10/22/13	10/28/13	KWG1311653	
Phenanthrene	ND	U	9.0	3.6	1	10/22/13	10/28/13	KWG1311653	
Anthracene	ND	U	9.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Di-n-butyl Phthalate	ND	U	18	4.8	1	10/22/13	10/28/13	KWG1311653	
Fluoranthene	ND	U	9.0	3.7	1	10/22/13	10/28/13	KWG1311653	
Pyrene	ND	U	9.0	3.7	1	10/22/13	10/28/13	KWG1311653	
Butyl Benzyl Phthalate	ND	U	9.0	3.7	1	10/22/13	10/28/13	KWG1311653	
Benz(a)anthracene	ND	U	9.0	3.6	1	10/22/13	10/28/13	KWG1311653	
Chrysene	ND	U	9.0	4.1	1	10/22/13	10/28/13	KWG1311653	
Bis(2-ethylhexyl) Phthalate	**24**	J	90	8.9	1	10/22/13	10/28/13	KWG1311653	
Di-n-octyl Phthalate	ND	U	9.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Benzo(b)fluoranthene	ND	U	9.0	3.4	1	10/22/13	10/28/13	KWG1311653	
Benzo(k)fluoranthene	ND	U	9.0	4.0	1	10/22/13	10/28/13	KWG1311653	

Comments:

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5:27 pm, Nov 01, 2013

Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Collected: 10/18/2013
Date Received: 10/19/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Belleville Pit-S1
Lab Code: K1311350-003

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	U	9.0	3.6	1	10/22/13	10/28/13	KWG1311653	
Indeno(1,2,3-cd)pyrene	ND	U	9.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenz(a,h)anthracene	ND	U	9.0	3.0	1	10/22/13	10/28/13	KWG1311653	
Benzo(g,h,i)perylene	ND	U	9.0	3.7	1	10/22/13	10/28/13	KWG1311653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	40	20-86	10/28/13	Acceptable
Nitrobenzene-d5	42	27-91	10/28/13	Acceptable
2-Fluorobiphenyl	47	25-97	10/28/13	Acceptable
2,4,6-Tribromophenol	36	10-119	10/28/13	Acceptable
Terphenyl-d14	65	33-129	10/28/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

REVISED
5:27 pm, Nov 01, 2013

Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Collected: 10/18/2013
Date Received: 10/19/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Belleville Pit-S2
Lab Code: K1311350-004

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**3.8**	J	28	3.1	1	10/22/13	10/28/13	KWG1311653	
1,4-Dichlorobenzene	ND	U	9.2	2.5	1	10/22/13	10/28/13	KWG1311653	
1,2-Dichlorobenzene	ND	U	9.2	2.4	1	10/22/13	10/28/13	KWG1311653	
Benzyl Alcohol	ND	U	19	4.9	1	10/22/13	10/28/13	KWG1311653	
2-Methylphenol	ND	U	9.2	4.1	1	10/22/13	10/28/13	KWG1311653	
4-Methylphenol†	ND	U	9.2	4.5	1	10/22/13	10/28/13	KWG1311653	
2,4-Dimethylphenol	ND	U	46	6.3	1	10/22/13	10/28/13	KWG1311653	
Benzoic Acid	ND	U	400	96	1	10/22/13	10/28/13	KWG1311653	
1,2,4-Trichlorobenzene	ND	U	9.2	2.6	1	10/22/13	10/28/13	KWG1311653	
Naphthalene	ND	U	9.2	2.9	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobutadiene	ND	U	9.2	3.0	1	10/22/13	10/28/13	KWG1311653	
2-Methylnaphthalene	ND	U	9.2	2.8	1	10/22/13	10/28/13	KWG1311653	
Acenaphthylene	ND	U	9.2	2.6	1	10/22/13	10/28/13	KWG1311653	
Dimethyl Phthalate	ND	U	9.2	4.0	1	10/22/13	10/28/13	KWG1311653	
Acenaphthene	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenzofuran	ND	U	9.2	3.4	1	10/22/13	10/28/13	KWG1311653	
Fluorene	ND	U	9.2	3.3	1	10/22/13	10/28/13	KWG1311653	
Diethyl Phthalate	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	
N-Nitrosodiphenylamine	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobenzene	ND	U	9.2	3.3	1	10/22/13	10/28/13	KWG1311653	
Pentachlorophenol	ND	U	92	5.3	1	10/22/13	10/28/13	KWG1311653	
Phenanthrene	ND	U	9.2	3.6	1	10/22/13	10/28/13	KWG1311653	
Anthracene	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Di-n-butyl Phthalate	ND	U	19	4.8	1	10/22/13	10/28/13	KWG1311653	
Fluoranthene	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	
Pyrene	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	
Butyl Benzyl Phthalate	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	
Benz(a)anthracene	ND	U	9.2	3.6	1	10/22/13	10/28/13	KWG1311653	
Chrysene	ND	U	9.2	4.1	1	10/22/13	10/28/13	KWG1311653	
Bis(2-ethylhexyl) Phthalate	ND	U	92	8.9	1	10/22/13	10/28/13	KWG1311653	
Di-n-octyl Phthalate	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Benzo(b)fluoranthene	ND	U	9.2	3.4	1	10/22/13	10/28/13	KWG1311653	
Benzo(k)fluoranthene	ND	U	9.2	4.0	1	10/22/13	10/28/13	KWG1311653	

Comments:

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Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Collected: 10/18/2013
Date Received: 10/19/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Belleville Pit-S2
Lab Code: K1311350-004

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	U	9.2	3.6	1	10/22/13	10/28/13	KWG1311653	
Indeno(1,2,3-cd)pyrene	ND	U	9.2	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenz(a,h)anthracene	ND	U	9.2	3.0	1	10/22/13	10/28/13	KWG1311653	
Benzo(g,h,i)perylene	ND	U	9.2	3.7	1	10/22/13	10/28/13	KWG1311653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	48	20-86	10/28/13	Acceptable
Nitrobenzene-d5	48	27-91	10/28/13	Acceptable
2-Fluorobiphenyl	56	25-97	10/28/13	Acceptable
2,4,6-Tribromophenol	47	10-119	10/28/13	Acceptable
Terphenyl-d14	67	33-129	10/28/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

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Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1311653-5

Extraction Method: EPA 3541
Analysis Method: 8270D

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	20	3.1	1	10/22/13	10/28/13	KWG1311653	
1,4-Dichlorobenzene	ND	U	6.6	2.5	1	10/22/13	10/28/13	KWG1311653	
1,2-Dichlorobenzene	ND	U	6.6	2.4	1	10/22/13	10/28/13	KWG1311653	
Benzyl Alcohol	ND	U	14	4.9	1	10/22/13	10/28/13	KWG1311653	
2-Methylphenol	ND	U	7.5	4.1	1	10/22/13	10/28/13	KWG1311653	
4-Methylphenol†	ND	U	7.5	4.5	1	10/22/13	10/28/13	KWG1311653	
2,4-Dimethylphenol	ND	U	33	6.3	1	10/22/13	10/28/13	KWG1311653	
Benzoic Acid	ND	U	400	96	1	10/22/13	10/28/13	KWG1311653	
1,2,4-Trichlorobenzene	ND	U	6.6	2.6	1	10/22/13	10/28/13	KWG1311653	
Naphthalene	ND	U	6.6	2.9	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobutadiene	ND	U	6.6	3.0	1	10/22/13	10/28/13	KWG1311653	
2-Methylnaphthalene	ND	U	6.6	2.8	1	10/22/13	10/28/13	KWG1311653	
Acenaphthylene	ND	U	6.6	2.6	1	10/22/13	10/28/13	KWG1311653	
Dimethyl Phthalate	ND	U	6.6	4.0	1	10/22/13	10/28/13	KWG1311653	
Acenaphthene	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenzofuran	ND	U	6.6	3.4	1	10/22/13	10/28/13	KWG1311653	
Fluorene	ND	U	6.6	3.3	1	10/22/13	10/28/13	KWG1311653	
Diethyl Phthalate	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	
N-Nitrosodiphenylamine	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobenzene	ND	U	6.6	3.3	1	10/22/13	10/28/13	KWG1311653	
Pentachlorophenol	ND	U	66	5.3	1	10/22/13	10/28/13	KWG1311653	
Phenanthrene	ND	U	6.6	3.6	1	10/22/13	10/28/13	KWG1311653	
Anthracene	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Di-n-butyl Phthalate	ND	U	14	4.8	1	10/22/13	10/28/13	KWG1311653	
Fluoranthene	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	
Pyrene	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	
Butyl Benzyl Phthalate	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	
Benz(a)anthracene	ND	U	6.6	3.6	1	10/22/13	10/28/13	KWG1311653	
Chrysene	ND	U	6.6	4.1	1	10/22/13	10/28/13	KWG1311653	
Bis(2-ethylhexyl) Phthalate	ND	U	66	8.9	1	10/22/13	10/28/13	KWG1311653	
Di-n-octyl Phthalate	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Benzo(b)fluoranthene	ND	U	6.6	3.4	1	10/22/13	10/28/13	KWG1311653	
Benzo(k)fluoranthene	ND	U	6.6	4.0	1	10/22/13	10/28/13	KWG1311653	

Comments:

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Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1311653-5

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	U	6.6	3.6	1	10/22/13	10/28/13	KWG1311653	
Indeno(1,2,3-cd)pyrene	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenz(a,h)anthracene	ND	U	6.6	3.0	1	10/22/13	10/28/13	KWG1311653	
Benzo(g,h,i)perylene	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	50	20-86	10/28/13	Acceptable
Nitrobenzene-d5	52	27-91	10/28/13	Acceptable
2-Fluorobiphenyl	57	25-97	10/28/13	Acceptable
2,4,6-Tribromophenol	42	10-119	10/28/13	Acceptable
Terphenyl-d14	78	33-129	10/28/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

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Client: Geo Test Services **Service Request:** K1311350
Project:
Sample Matrix: Sediment

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8270D **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5
Boulder Hill-Sample 1	K1311350-001	46	48	53	38	64
Boulder Hill-Sample 2	K1311350-002	49	50	57	42	69
Belleville Pit-S1	K1311350-003	40	42	47	36	65
Belleville Pit-S2	K1311350-004	48	48	56	47	67
Method Blank	KWG1311653-5	50	52	57	42	78
Boulder Hill-Sample 1MS	KWG1311653-1	48	49	55	53	59
Boulder Hill-Sample 1DMS	KWG1311653-2	44	44	48	48	59
Lab Control Sample	KWG1311653-3	43	43	49	50	59
Duplicate Lab Control Sample	KWG1311653-4	33	32	36	35	46

Surrogate Recovery Control Limits (%)

Sur1 =	Phenol-d6	20-86	Sur5 =	Terphenyl-d14	33-129
Sur2 =	Nitrobenzene-d5	27-91			
Sur3 =	2-Fluorobiphenyl	25-97			
Sur4 =	2,4,6-Tribromophenol	10-119			

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

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

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Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Extracted: 10/22/2013
Date Analyzed: 10/28/2013

Matrix Spike/Duplicate Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name: Boulder Hill-Sample 1
Lab Code: K1311350-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low
Extraction Lot: KWG1311653

		Boulder Hill-Sample 1MS			Boulder Hill-Sample 1DMS					
		KWG1311653-1 Matrix Spike			KWG1311653-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	ND	132	228	58	117	228	51	15-98	12	40
1,4-Dichlorobenzene	ND	128	228	56	117	228	51	19-93	9	40
1,2,4-Trichlorobenzene	ND	134	228	59	122	228	53	23-99	9	40
Acenaphthene	ND	145	228	64	128	228	56	10-132	12	40
Diethyl Phthalate	ND	140	228	62	111	228	49	10-135	23	40
Pentachlorophenol	ND	119	228	52	101	228	44	10-123	16	40
Pyrene	ND	170	228	75	169	228	74	17-129	0	40
Benzo(a)pyrene	ND	169	228	74	168	228	73	13-126	1	40

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.

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5:27 pm, Nov 01, 2013

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Extracted: 10/22/2013
Date Analyzed: 10/28/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541
Analysis Method: 8270D

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1311653

	Lab Control Sample KWG1311653-3 Lab Control Spike			Duplicate Lab Control Sample KWG1311653-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	135	250	54	98.8	250	40	27-97	31	40
1,4-Dichlorobenzene	131	250	52	95.9	250	38	28-89	31	40
1,2-Dichlorobenzene	131	250	52	96.5	250	39	27-91	30	40
Benzyl Alcohol	108	250	43	74.7	250	30	25-103	36	40
2-Methylphenol	131	250	52	94.3	250	38	18-95	32	40
4-Methylphenol	143	250	57	101	250	40	17-99	35	40
2,4-Dimethylphenol	409	750	55	298	750	40	10-93	31	40
Benzoic Acid	114	750	15	107	750	14	10-96	6	40
1,2,4-Trichlorobenzene	137	250	55	99.0	250	40	27-94	32	40
Naphthalene	137	250	55	98.4	250	39	27-93	32	40
Hexachlorobutadiene	135	250	54	97.9	250	39	25-96	32	40
2-Methylnaphthalene	147	250	59	104	250	41	27-96	34	40
Acenaphthylene	158	250	63	107	250	43	33-99	39	40
Dimethyl Phthalate	168	250	67	114	250	45	39-100	39	40
Acenaphthene	148	250	59	101	250	41	32-91	37	40
Dibenzofuran	152	250	61	103	250	41	34-92	38	40
Fluorene	153	250	61	103	250	41	32-96	39	40
Diethyl Phthalate	166	250	66	119	250	47	41-100	33	40
N-Nitrosodiphenylamine	143	250	57	99.4	250	40	36-96	36	40
Hexachlorobenzene	161	250	64	113	250	45	40-99	35	40
Pentachlorophenol	137	250	55	108	250	43	21-97	24	40
Phenanthrene	165	250	66	118	250	47	39-98	34	40
Anthracene	163	250	65	115	250	46	40-98	35	40
Di-n-butyl Phthalate	181	250	72	139	250	56	42-109	26	40
Fluoranthene	170	250	68	129	250	51	42-104	28	40
Pyrene	190	250	76	141	250	56	45-106	30	40
Butyl Benzyl Phthalate	178	250	71	136	250	54	45-111	27	40
Benz(a)anthracene	177	250	71	133	250	53	44-108	28	40
Chrysene	169	250	68	128	250	51	46-108	28	40
Bis(2-ethylhexyl) Phthalate	183	250	73	208	250	83	47-110	13	40
Di-n-octyl Phthalate	180	250	72	141	250	56	45-109	24	40
Benzo(b)fluoranthene	186	250	74	138	250	55	46-106	30	40
Benzo(k)fluoranthene	157	250	63	117	250	47	47-107	29	40
Benzo(a)pyrene	187	250	75	138	250	55	42-110	30	40
Indeno(1,2,3-cd)pyrene	205	250	82	157	250	63	47-109	27	40

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

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

REVISED
5:27 pm, Nov 01, 2013

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311350
Date Extracted: 10/22/2013
Date Analyzed: 10/28/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541
Analysis Method: 8270D

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1311653

	Lab Control Sample KWG1311653-3 Lab Control Spike			Duplicate Lab Control Sample KWG1311653-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dibenz(a,h)anthracene	169	250	68	124	250	49	47-106	31	40
Benzo(g,h,i)perylene	157	250	63	117	250	47	44-108	29	40

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

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

REVISED
5:27 pm, Nov 01, 2013

November 1, 2013

Analytical Report for Service Request No: K1311480
Revised Service Request No: K1311480.01

Kevin Richardson
Geo Test Services
741 Marine Drive
Bellingham, WA 98225

RE: Marine Sediments/13-0599

Dear Kevin:

Enclosed is the revised report for the samples submitted to our laboratory on October 23, 2013. For your reference, these analyses have been assigned our service request number K1311480.

The Semi-Volatile Organic Compounds have been reported to the MRL/MDL in this revision.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) 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.

Please call if you have any questions. My extension is 3275. You may also contact me via Email at Chris.Leaf@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

REVISED
5:33 pm, Nov 01, 2013

Chris Leaf
Project Manager

CL/lb

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626 USA | PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp. Part of the ALS Group An ALS Limited Company

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
LOD	Limit of Detection
LOQ	Limit of Quantitation
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.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	4704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

ALS ENVIRONMENTAL

Client:	Geo Test Services	**Service Request No.:**	K1311480
Project:	13-0599	**Date Received:**	10/23/2013
Sample Matrix:	Sediment		

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 II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Two sediment samples were received for analysis at ALS Environmental on 10/23/2013. The samples were received in good condition and consistent with the accompanying chain of custody form except as noted on the cooler receipt and preservation form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Total Metals

No anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082

Second Source Exceptions:
The analysis of PCB Aroclors by EPA 8082A requires the use of dual column confirmation. The Initial Calibration Verification (ICV) evaluation criteria were not met on the confirmation column for Aroclor 1232 in CAL12822. The ICV criteria were met on the alternate column. The data quality was not affected. No further corrective action was necessary.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for Aroclor 1016 and Aroclor 1260 in the replicate matrix spike analyses of sample Lakeside-Anacortes (S1) was outside control criteria. The high RPD values were attributable to an apparent low bias in the Duplicate Matrix Spike (DMS). All surrogate and spike recoveries in the matrix spikes and associated Laboratory Control Sample (LCS) were within acceptance limits, which indicated the analytical batch was in control. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 8270

Calibration Verification Exceptions:
The following analytes were flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS26\1028F003.D: Benzo(b)fluoranthene. In accordance with the EPA Method, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the ALS SOP. The CCV met these criteria. No further corrective action was required.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

ALS Environmental

44124

CHAIN OF CUSTODY

44124

1317 South 13th Ave. Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068
www.alsglobal.com

SR# 113148

COC Set ____ of ____

COC# ____

Project Name: 13-0599	Project Number: 13-0599
Project Manager: Kevin Richardson	
Company: GeoTest Services Inc.	
Address: 741 Marine View Dr., Bellingham, WA	
Phone #: 360-920-1146	email: kevinr@geotest-inc.com
Sampler Signature:	Sampler Printed Name: Daniel Cooper

CLIENT SAMPLE ID	LABID	SAMPLING Date	Time	Matrix	NUMBER OF CONTAINERS	7D TS-MET / Total Solids	14D 8082A / PCB	14D 8270D / SVOLL	28D 7471B / Hg	180D 6010C / Metals T	1	2	3	4	5	Remarks
1. Lakeside - Anacortes (S1)		10/22/13	8:45		3	X	X	X	X	X						
2. Lakeside - Anacortes (S2)		10/22/13	8:20		3	X	X	X	X	X						
3.																
4.																
5.																
6.																
7.																
8.																
9.																
10.																

TAKE SAMPLES TO EXTRACTIONS LAB IMMEDIATELY FOR RUSH ANALYSIS

Report Requirements

- ___ I. Routine Report: Method Blank, Surrogate as required
- X II. Report Dup., MS, MSD as required
- ___ III. CLP Like Summary (no raw data)
- ___ IV. Data Validation Report
- ___ V. EDD

Invoice Information

P.O.# 13-0599
Bill To: GeoTest

Turnaround Requirements

___ 24 hr ___ 48 hr.
X 5 Day
___ Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al (As) Sb Ba Be B Ca (Cd) Co (Cr) (Cu) Fe (Pb) Mg Mn Mo Ni K (Ag) Na Se Sr Tl Sn V (Zn) (Hg)

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments:

I've been working with Chris Leaf. We have sent previous samples and these need to be run to same criteria (WAC 173-204-320). Need results on this on 10/30/13. RUSH TAT! Thank you for your efforts -Kevin Richardson

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other ____ (Circle One)

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Daniel Cooper	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: GeoTest Services	Firm: LCS	Firm	Firm	Firm	Firm
Date/Time: 10/23/13	Date/Time: 10/23/13 1030	Date/Time	Date/Time	Date/Time	Date/Time

PC CL

Cooler Receipt and Preservation Form

Client / Project: Greater Service Request *K13* 11480

Received: 10/23/13 Opened: 10/23/13 By: [illegible] Unloaded: 10/23/13 By: [illegible]

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.1	0.1	-	-	0	352		8043 7769 6247	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* paper
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

HSOD

*Notes, Discrepancies, & Resolutions:*_____

*Page*____ *of*____

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599		
Sample Matrix:	Sediment		

Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
Lakeside-Anacortes (S1)	K1311480-001	10/22/2013	10/23/2013	10/25/2013	95.9	
Lakeside-Anacortes (S2)	K1311480-002	10/22/2013	10/23/2013	10/25/2013	95.2	

QA/QC Report

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Collected:**	10/22/2013
Sample Matrix:	Sediment	**Date Received:**	10/23/2013
		Date Analyzed:	10/25/2013

Duplicate Sample Summary

Total Solids

Prep Method:	NONE	**Units:**	PERCENT
Analysis Method:	160.3M	**Basis:**	Wet
Test Notes:			

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Lakeside-Anacortes (S1)	K1311480-001	95.9	95.8	95.9	<1	

ALS Group USA, Corp.
dba ALS Environmental

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geo Test Services
Project Name: Marine Sediments
Project No.: 13-0599

Service Request: K1311480

Sample Name:	Lab Code:
Batch QC1D	K1311119-003D
Batch QC1S	K1311119-003S
Batch QC2D	K1311437-016D
Batch QC2S	K1311437-016S
Lakeside-Anacortes (S1)	K1311480-001
Lakeside-Anacortes (S2)	K1311480-002
Method Blank	K1311480-MB

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Geo Test Services
Project No.: 13-0599
Project Name: Marine Sediments
Matrix: SEDIMENT

Service Request: K1311480
Date Collected: 10/22/13
Date Received: 10/23/13
Units: mg/Kg
Basis: DRY

Sample Name: Lakeside-Anacortes (S1)
Lab Code: K1311480-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	4.0	2.0	10/24/13	10/25/13	4.0	U	
Cadmium	6010C	0.2	2.0	10/24/13	10/25/13	0.3		
Chromium	6010C	0.8	2.0	10/24/13	10/25/13	250		
Copper	6010C	0.8	2.0	10/24/13	10/25/13	81.3		
Lead	6010C	2.0	2.0	10/24/13	10/25/13	2.0	U	
Mercury	7471B	0.02	1.0	10/29/13	10/29/13	0.03		
Silver	6010C	1.6	2.0	10/24/13	10/25/13	1.6	U	
Zinc	6010C	0.99	2.0	10/24/13	10/25/13	57.0		

% Solids: 95.9

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Geo Test Services	**Service Request:**	K1311480
Project No.:	13-0599	**Date Collected:**	10/22/13
Project Name:	Marine Sediments	**Date Received:**	10/23/13
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Lakeside-Anacortes (S2) **Lab Code:** K1311480-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	4.1	2.0	10/24/13	10/25/13	4.1	U	
Cadmium	6010C	0.2	2.0	10/24/13	10/25/13	0.2		
Chromium	6010C	0.8	2.0	10/24/13	10/25/13	105		
Copper	6010C	0.8	2.0	10/24/13	10/25/13	113		
Lead	6010C	2.1	2.0	10/24/13	10/25/13	2.1	U	
Mercury	7471B	0.02	1.0	10/29/13	10/29/13	0.03		
Silver	6010C	1.7	2.0	10/24/13	10/25/13	1.7	U	
Zinc	6010C	1.0	2.0	10/24/13	10/25/13	71.6		

% Solids: 95.2

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Geo Test Services
Project No.: 13-0599
Project Name: Marine Sediments
Matrix: SEDIMENT

Service Request: K1311480
Date Collected:
Date Received:
Units: mg/Kg
Basis: DRY

Sample Name: Method Blank
Lab Code: K1311480-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	4.0	2.0	10/24/13	10/25/13	4.0	U	
Cadmium	6010C	0.2	2.0	10/24/13	10/25/13	0.2	U	
Chromium	6010C	0.8	2.0	10/24/13	10/25/13	0.8	U	
Copper	6010C	0.8	2.0	10/24/13	10/25/13	0.8	U	
Lead	6010C	2.0	2.0	10/24/13	10/25/13	2.0	U	
Mercury	7471B	0.02	1.0	10/29/13	10/29/13	0.02	U	
Silver	6010C	1.6	2.0	10/24/13	10/25/13	1.6	U	
Zinc	6010C	1.0	2.0	10/24/13	10/25/13	1.5		

% Solids: 100.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client:	Geo Test Services	**Service Request:**	K1311480
Project No.:	13-0599	**Units:**	MG/KG
Project Name:	Marine Sediments	**Basis:**	DRY
Matrix:	SOIL	**% Solids:**	9.0

Sample Name: Batch QC1S **Lab Code:** K1311119-003S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	75 - 125	337		14.5	U	363.09	92.8		6010C
Cadmium	75 - 125	36.9		0.7	U	36.31	101.6		6010C
Chromium	75 - 125	158		12.6		145.24	100.1		6010C
Copper	75 - 125	688		501		181.54	103.0		6010C
Lead	75 - 125	363		7.8		363.09	97.8		6010C
Silver	75 - 125	33.9		5.8	U	36.31	93.4		6010C
Zinc	75 - 125	1000		615		363.09	106.0		6010C

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Geo Test Services **Service Request:** K1311480

Project No.: 13-0599 **Units:** MG/KG

Project Name: Marine Sediments **Basis:** As Rec

Matrix: SEDIMENT

Sample Name: Batch QC2S **Lab Code:** K1311437-016S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	80 - 120	0.61		0.08		0.45	117.8		7471B

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client:	Geo Test Services	**Service Request:**	K1311480
Project No.:	13-0599	**Units:**	MG/KG
Project Name:	Marine Sediments	**Basis:**	DRY
Matrix:	SOIL	**% Solids:**	9.0

Sample Name: Batch QC1D **Lab Code:** K1311119-003D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		14.5	U	14.6	U			6010C
Cadmium		0.7	U	0.7	U			6010C
Chromium		12.6		12.2		3.2		6010C
Copper	20	501		524		4.5		6010C
Lead		7.8		7.3	U	200.0		6010C
Silver		5.8	U	5.8	U			6010C
Zinc	20	615		607		1.3		6010C

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Geo Test Services **Service Request:** K1311480

Project No.: 13-0599 **Units:** MG/KG

Project Name: Marine Sediments **Basis:** As Rec

Matrix: SEDIMENT

Sample Name: Batch QC2D **Lab Code:** K1311437-016D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.08		0.08		0.0		7471B

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

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LABORATORY CONTROL SAMPLE

Client: Geo Test Services **Service Request:** K1311480

Project No.: 13-0599

Project Name: Marine Sediments

Aqueous LCS Source: Inorganic Ventures **Solid LCS Source:** ERA D076-540

Analyte	Aqueous (ug/L)			Solid (mg/kg)			- Limits		
	True	Found	%R	True	Found	C			%R
Arsenic	5000	4720	94.4	94.5	94.1		82	117	99.6
Cadmium	2500	2490	99.6	60.5	64.8		83	117	107.1
Chromium	1000	974	97.4	70.4	69.8		82	118	99.1
Copper	1250	1200	96.0	79.6	83.4		84	116	104.8
Lead	5000	4860	97.2	91.8	94.8		82	118	103.3
Mercury	5	5.15	103.0	3.73	3.77		72	128	101.1
Silver	1250	1170	93.6	34.4	35.0		66	134	101.7
Zinc	2500	2520	100.8	140	148		82	118	105.7

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Collected:**	10/22/2013
Sample Matrix:	Sediment	**Date Received:**	10/23/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	Lakeside-Anacortes (S1)	**Units:**	mg/Kg
Lab Code:	K1311480-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.052	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1221	ND	U	0.11	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1232	ND	U	0.052	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1242	ND	U	0.052	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1248	ND	U	0.052	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1254	ND	U	0.052	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1260	ND	U	0.052	1	10/24/13	10/25/13	KWG1311947	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	85	43-148	10/25/13	Acceptable

Comments:

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Collected:**	10/22/2013
Sample Matrix:	Sediment	**Date Received:**	10/23/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	Lakeside-Anacortes (S2)	**Units:**	mg/Kg
Lab Code:	K1311480-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.053	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1221	ND	U	0.11	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1232	ND	U	0.053	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1242	ND	U	0.053	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1248	ND	U	0.053	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1254	ND	U	0.053	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1260	ND	U	0.053	1	10/24/13	10/25/13	KWG1311947	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	88	43-148	10/25/13	Acceptable

Comments:

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1311947-4	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.049	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1221	ND	U	0.098	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1232	ND	U	0.049	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1242	ND	U	0.049	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1248	ND	U	0.049	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1254	ND	U	0.049	1	10/24/13	10/25/13	KWG1311947	
Aroclor 1260	ND	U	0.049	1	10/24/13	10/25/13	KWG1311947	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	87	43-148	10/25/13	Acceptable

Comments:

Client: Geo Test Services **Service Request:** K1311480
Project: Marine Sediments/13-0599
Sample Matrix: Sediment

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8082A **Level:** Low

Sample Name	Lab Code	Sur1
Lakeside-Anacortes (S1)	K1311480-001	85
Lakeside-Anacortes (S2)	K1311480-002	88
Method Blank	KWG1311947-4	87
Lakeside-Anacortes (S1)MS	KWG1311947-1	93
Lakeside-Anacortes (S1)DMS	KWG1311947-2	44
Lab Control Sample	KWG1311947-3	69

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 43-148

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

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

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Extracted:**	10/24/2013
Sample Matrix:	Sediment	**Date Analyzed:**	10/25/2013

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lakeside-Anacortes (S1)	**Units:**	mg/Kg
Lab Code:	K1311480-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1311947

		Lakeside-Anacortes (S1)MS KWG1311947-1 Matrix Spike			Lakeside-Anacortes (S1)DMS KWG1311947-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	ND	0.512	0.509	101	0.231	0.518	45	23-145	76 *	40
Aroclor 1260	ND	0.549	0.509	108	0.254	0.518	49	24-148	73 *	40

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.

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Extracted:**	10/24/2013
Sample Matrix:	Sediment	**Date Analyzed:**	10/25/2013

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3541	**Units:**	mg/Kg
Analysis Method:	8082A	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1311947

	Lab Control Sample KWG1311947-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
Aroclor 1016	0.396	0.500	79	42-122
Aroclor 1260	0.421	0.500	84	50-124

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

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

Analytical Results

Client: Geo Test Services
Project: Marine Sediments/13-0599
Sample Matrix: Sediment

Service Request: K1311480
Date Collected: 10/22/2013
Date Received: 10/23/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Lakeside-Anacortes (S1)
Lab Code: K1311480-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	21	3.1	1	10/22/13	10/28/13	KWG1311653	
1,4-Dichlorobenzene	ND	U	6.9	2.5	1	10/22/13	10/28/13	KWG1311653	
1,2-Dichlorobenzene	ND	U	6.9	2.4	1	10/22/13	10/28/13	KWG1311653	
Benzyl Alcohol	ND	U	14	4.9	1	10/22/13	10/28/13	KWG1311653	
2-Methylphenol	ND	U	7.5	4.1	1	10/22/13	10/28/13	KWG1311653	
4-Methylphenol†	ND	U	7.5	4.5	1	10/22/13	10/28/13	KWG1311653	
2,4-Dimethylphenol	ND	U	35	6.3	1	10/22/13	10/28/13	KWG1311653	
Benzoic Acid	ND	U	400	96	1	10/22/13	10/28/13	KWG1311653	
1,2,4-Trichlorobenzene	ND	U	6.9	2.6	1	10/22/13	10/28/13	KWG1311653	
Naphthalene	ND	U	6.9	2.9	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobutadiene	ND	U	6.9	3.0	1	10/22/13	10/28/13	KWG1311653	
2-Methylnaphthalene	ND	U	6.9	2.8	1	10/22/13	10/28/13	KWG1311653	
Acenaphthylene	ND	U	6.9	2.6	1	10/22/13	10/28/13	KWG1311653	
Dimethyl Phthalate	ND	U	6.9	4.0	1	10/22/13	10/28/13	KWG1311653	
Acenaphthene	ND	U	6.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenzofuran	ND	U	6.9	3.4	1	10/22/13	10/28/13	KWG1311653	
Fluorene	ND	U	6.9	3.3	1	10/22/13	10/28/13	KWG1311653	
Diethyl Phthalate	ND	U	6.9	3.7	1	10/22/13	10/28/13	KWG1311653	
N-Nitrosodiphenylamine	ND	U	6.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobenzene	ND	U	6.9	3.3	1	10/22/13	10/28/13	KWG1311653	
Pentachlorophenol	ND	U	69	5.3	1	10/22/13	10/28/13	KWG1311653	
Phenanthrene	ND	U	6.9	3.6	1	10/22/13	10/28/13	KWG1311653	
Anthracene	ND	U	6.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Di-n-butyl Phthalate	ND	U	14	4.8	1	10/22/13	10/28/13	KWG1311653	
Fluoranthene	ND	U	6.9	3.7	1	10/22/13	10/28/13	KWG1311653	
Pyrene	ND	U	6.9	3.7	1	10/22/13	10/28/13	KWG1311653	
Butyl Benzyl Phthalate	ND	U	6.9	3.7	1	10/22/13	10/28/13	KWG1311653	
Benz(a)anthracene	ND	U	6.9	3.6	1	10/22/13	10/28/13	KWG1311653	
Chrysene	ND	U	6.9	4.1	1	10/22/13	10/28/13	KWG1311653	
Bis(2-ethylhexyl) Phthalate	ND	U	69	8.9	1	10/22/13	10/28/13	KWG1311653	
Di-n-octyl Phthalate	ND	U	6.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Benzo(b)fluoranthene	ND	U	6.9	3.4	1	10/22/13	10/28/13	KWG1311653	
Benzo(k)fluoranthene	ND	U	6.9	4.0	1	10/22/13	10/28/13	KWG1311653	

Comments:

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Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Collected:**	10/22/2013
Sample Matrix:	Sediment	**Date Received:**	10/23/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Lakeside-Anacortes (S1)	**Units:**	ug/Kg
Lab Code:	K1311480-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	U	6.9	3.6	1	10/22/13	10/28/13	KWG1311653	
Indeno(1,2,3-cd)pyrene	ND	U	6.9	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenz(a,h)anthracene	ND	U	6.9	3.0	1	10/22/13	10/28/13	KWG1311653	
Benzo(g,h,i)perylene	ND	U	6.9	3.7	1	10/22/13	10/28/13	KWG1311653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	49	20-86	10/28/13	Acceptable
Nitrobenzene-d5	48	27-91	10/28/13	Acceptable
2-Fluorobiphenyl	55	25-97	10/28/13	Acceptable
2,4,6-Tribromophenol	47	10-119	10/28/13	Acceptable
Terphenyl-d14	72	33-129	10/28/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

REVISED
5:32 pm, Nov 01, 2013

Analytical Results

Client: Geo Test Services
Project: Marine Sediments/13-0599
Sample Matrix: Sediment

Service Request: K1311480
Date Collected: 10/22/2013
Date Received: 10/23/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Lakeside-Anacortes (S2)
Lab Code: K1311480-002

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	21	3.1	1	10/22/13	10/28/13	KWG1311653	
1,4-Dichlorobenzene	ND	U	7.0	2.5	1	10/22/13	10/28/13	KWG1311653	
1,2-Dichlorobenzene	ND	U	7.0	2.4	1	10/22/13	10/28/13	KWG1311653	
Benzyl Alcohol	ND	U	14	4.9	1	10/22/13	10/28/13	KWG1311653	
2-Methylphenol	ND	U	7.5	4.1	1	10/22/13	10/28/13	KWG1311653	
4-Methylphenol†	ND	U	7.5	4.5	1	10/22/13	10/28/13	KWG1311653	
2,4-Dimethylphenol	ND	U	35	6.3	1	10/22/13	10/28/13	KWG1311653	
Benzoic Acid	ND	U	400	96	1	10/22/13	10/28/13	KWG1311653	
1,2,4-Trichlorobenzene	ND	U	7.0	2.6	1	10/22/13	10/28/13	KWG1311653	
Naphthalene	ND	U	7.0	2.9	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobutadiene	ND	U	7.0	3.0	1	10/22/13	10/28/13	KWG1311653	
2-Methylnaphthalene	ND	U	7.0	2.8	1	10/22/13	10/28/13	KWG1311653	
Acenaphthylene	ND	U	7.0	2.6	1	10/22/13	10/28/13	KWG1311653	
Dimethyl Phthalate	ND	U	7.0	4.0	1	10/22/13	10/28/13	KWG1311653	
Acenaphthene	ND	U	7.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenzofuran	ND	U	7.0	3.4	1	10/22/13	10/28/13	KWG1311653	
Fluorene	ND	U	7.0	3.3	1	10/22/13	10/28/13	KWG1311653	
Diethyl Phthalate	ND	U	7.0	3.7	1	10/22/13	10/28/13	KWG1311653	
N-Nitrosodiphenylamine	ND	U	7.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobenzene	ND	U	7.0	3.3	1	10/22/13	10/28/13	KWG1311653	
Pentachlorophenol	ND	U	70	5.3	1	10/22/13	10/28/13	KWG1311653	
Phenanthrene	ND	U	7.0	3.6	1	10/22/13	10/28/13	KWG1311653	
Anthracene	ND	U	7.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Di-n-butyl Phthalate	ND	U	14	4.8	1	10/22/13	10/28/13	KWG1311653	
Fluoranthene	ND	U	7.0	3.7	1	10/22/13	10/28/13	KWG1311653	
Pyrene	ND	U	7.0	3.7	1	10/22/13	10/28/13	KWG1311653	
Butyl Benzyl Phthalate	ND	U	7.0	3.7	1	10/22/13	10/28/13	KWG1311653	
Benz(a)anthracene	ND	U	7.0	3.6	1	10/22/13	10/28/13	KWG1311653	
Chrysene	ND	U	7.0	4.1	1	10/22/13	10/28/13	KWG1311653	
Bis(2-ethylhexyl) Phthalate	ND	U	70	8.9	1	10/22/13	10/28/13	KWG1311653	
Di-n-octyl Phthalate	ND	U	7.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Benzo(b)fluoranthene	ND	U	7.0	3.4	1	10/22/13	10/28/13	KWG1311653	
Benzo(k)fluoranthene	ND	U	7.0	4.0	1	10/22/13	10/28/13	KWG1311653	

Comments:

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Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Collected:**	10/22/2013
Sample Matrix:	Sediment	**Date Received:**	10/23/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Lakeside-Anacortes (S2)	**Units:**	ug/Kg
Lab Code:	K1311480-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	U	7.0	3.6	1	10/22/13	10/28/13	KWG1311653	
Indeno(1,2,3-cd)pyrene	ND	U	7.0	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenz(a,h)anthracene	ND	U	7.0	3.0	1	10/22/13	10/28/13	KWG1311653	
Benzo(g,h,i)perylene	ND	U	7.0	3.7	1	10/22/13	10/28/13	KWG1311653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	48	20-86	10/28/13	Acceptable
Nitrobenzene-d5	48	27-91	10/28/13	Acceptable
2-Fluorobiphenyl	53	25-97	10/28/13	Acceptable
2,4,6-Tribromophenol	47	10-119	10/28/13	Acceptable
Terphenyl-d14	66	33-129	10/28/13	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

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Analytical Results

Client: Geo Test Services
Project: Marine Sediments/13-0599
Sample Matrix: Sediment

Service Request: K1311480
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1311653-5

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	20	3.1	1	10/22/13	10/28/13	KWG1311653	
1,4-Dichlorobenzene	ND	U	6.6	2.5	1	10/22/13	10/28/13	KWG1311653	
1,2-Dichlorobenzene	ND	U	6.6	2.4	1	10/22/13	10/28/13	KWG1311653	
Benzyl Alcohol	ND	U	14	4.9	1	10/22/13	10/28/13	KWG1311653	
2-Methylphenol	ND	U	7.5	4.1	1	10/22/13	10/28/13	KWG1311653	
4-Methylphenol†	ND	U	7.5	4.5	1	10/22/13	10/28/13	KWG1311653	
2,4-Dimethylphenol	ND	U	33	6.3	1	10/22/13	10/28/13	KWG1311653	
Benzoic Acid	ND	U	400	96	1	10/22/13	10/28/13	KWG1311653	
1,2,4-Trichlorobenzene	ND	U	6.6	2.6	1	10/22/13	10/28/13	KWG1311653	
Naphthalene	ND	U	6.6	2.9	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobutadiene	ND	U	6.6	3.0	1	10/22/13	10/28/13	KWG1311653	
2-Methylnaphthalene	ND	U	6.6	2.8	1	10/22/13	10/28/13	KWG1311653	
Acenaphthylene	ND	U	6.6	2.6	1	10/22/13	10/28/13	KWG1311653	
Dimethyl Phthalate	ND	U	6.6	4.0	1	10/22/13	10/28/13	KWG1311653	
Acenaphthene	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenzofuran	ND	U	6.6	3.4	1	10/22/13	10/28/13	KWG1311653	
Fluorene	ND	U	6.6	3.3	1	10/22/13	10/28/13	KWG1311653	
Diethyl Phthalate	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	
N-Nitrosodiphenylamine	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Hexachlorobenzene	ND	U	6.6	3.3	1	10/22/13	10/28/13	KWG1311653	
Pentachlorophenol	ND	U	66	5.3	1	10/22/13	10/28/13	KWG1311653	
Phenanthrene	ND	U	6.6	3.6	1	10/22/13	10/28/13	KWG1311653	
Anthracene	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Di-n-butyl Phthalate	ND	U	14	4.8	1	10/22/13	10/28/13	KWG1311653	
Fluoranthene	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	
Pyrene	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	
Butyl Benzyl Phthalate	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	
Benz(a)anthracene	ND	U	6.6	3.6	1	10/22/13	10/28/13	KWG1311653	
Chrysene	ND	U	6.6	4.1	1	10/22/13	10/28/13	KWG1311653	
Bis(2-ethylhexyl) Phthalate	ND	U	66	8.9	1	10/22/13	10/28/13	KWG1311653	
Di-n-octyl Phthalate	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Benzo(b)fluoranthene	ND	U	6.6	3.4	1	10/22/13	10/28/13	KWG1311653	
Benzo(k)fluoranthene	ND	U	6.6	4.0	1	10/22/13	10/28/13	KWG1311653	

Comments:

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5:32 pm, Nov 01, 2013

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1311653-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	U	6.6	3.6	1	10/22/13	10/28/13	KWG1311653	
Indeno(1,2,3-cd)pyrene	ND	U	6.6	3.2	1	10/22/13	10/28/13	KWG1311653	
Dibenz(a,h)anthracene	ND	U	6.6	3.0	1	10/22/13	10/28/13	KWG1311653	
Benzo(g,h,i)perylene	ND	U	6.6	3.7	1	10/22/13	10/28/13	KWG1311653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	50	20-86	10/28/13	Acceptable
Nitrobenzene-d5	52	27-91	10/28/13	Acceptable
2-Fluorobiphenyl	57	25-97	10/28/13	Acceptable
2,4,6-Tribromophenol	42	10-119	10/28/13	Acceptable
Terphenyl-d14	78	33-129	10/28/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

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Client: Geo Test Services **Service Request:** K1311480
Project: Marine Sediments/13-0599
Sample Matrix: Sediment

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8270D **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5
Batch QC	K1311350-001	46	48	53	38	64
Lakeside-Anacortes (S1)	K1311480-001	49	48	55	47	72
Lakeside-Anacortes (S2)	K1311480-002	48	48	53	47	66
Method Blank	KWG1311653-5	50	52	57	42	78
Batch QCMS	KWG1311653-1	48	49	55	53	59
Batch QCDMS	KWG1311653-2	44	44	48	48	59
Lab Control Sample	KWG1311653-3	43	43	49	50	59
Duplicate Lab Control Sample	KWG1311653-4	33	32	36	35	46

Surrogate Recovery Control Limits (%)

Sur1 =	Phenol-d6	20-86	Sur5 =	Terphenyl-d14	33-129
Sur2 =	Nitrobenzene-d5	27-91			
Sur3 =	2-Fluorobiphenyl	25-97			
Sur4 =	2,4,6-Tribromophenol	10-119			

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

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

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QA/QC Report

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Extracted:**	10/22/2013
Sample Matrix:	Sediment	**Date Analyzed:**	10/28/2013

Matrix Spike/Duplicate Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Batch QC	**Units:**	ug/Kg
Lab Code:	K1311350-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D	**Extraction Lot:**	KWG1311653

		Batch QCMS KWG1311653-1 Matrix Spike			Batch QCDMS KWG1311653-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	ND	132	228	58	117	228	51	15-98	12	40
1,4-Dichlorobenzene	ND	128	228	56	117	228	51	19-93	9	40
1,2,4-Trichlorobenzene	ND	134	228	59	122	228	53	23-99	9	40
Acenaphthene	ND	145	228	64	128	228	56	10-132	12	40
Diethyl Phthalate	ND	140	228	62	111	228	49	10-135	23	40
Pentachlorophenol	ND	119	228	52	101	228	44	10-123	16	40
Pyrene	ND	170	228	75	169	228	74	17-129	0	40
Benzo(a)pyrene	ND	169	228	74	168	228	73	13-126	1	40

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.

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Client: Geo Test Services
Project: Marine Sediments/13-0599
Sample Matrix: Sediment

Service Request: K1311480
Date Extracted: 10/22/2013
Date Analyzed: 10/28/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541
Analysis Method: 8270D

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1311653

	Lab Control Sample KWG1311653-3 Lab Control Spike			Duplicate Lab Control Sample KWG1311653-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	135	250	54	98.8	250	40	27-97	31	40
1,4-Dichlorobenzene	131	250	52	95.9	250	38	28-89	31	40
1,2-Dichlorobenzene	131	250	52	96.5	250	39	27-91	30	40
Benzyl Alcohol	108	250	43	74.7	250	30	25-103	36	40
2-Methylphenol	131	250	52	94.3	250	38	18-95	32	40
4-Methylphenol	143	250	57	101	250	40	17-99	35	40
2,4-Dimethylphenol	409	750	55	298	750	40	10-93	31	40
Benzoic Acid	114	750	15	107	750	14	10-96	6	40
1,2,4-Trichlorobenzene	137	250	55	99.0	250	40	27-94	32	40
Naphthalene	137	250	55	98.4	250	39	27-93	32	40
Hexachlorobutadiene	135	250	54	97.9	250	39	25-96	32	40
2-Methylnaphthalene	147	250	59	104	250	41	27-96	34	40
Acenaphthylene	158	250	63	107	250	43	33-99	39	40
Dimethyl Phthalate	168	250	67	114	250	45	39-100	39	40
Acenaphthene	148	250	59	101	250	41	32-91	37	40
Dibenzofuran	152	250	61	103	250	41	34-92	38	40
Fluorene	153	250	61	103	250	41	32-96	39	40
Diethyl Phthalate	166	250	66	119	250	47	41-100	33	40
N-Nitrosodiphenylamine	143	250	57	99.4	250	40	36-96	36	40
Hexachlorobenzene	161	250	64	113	250	45	40-99	35	40
Pentachlorophenol	137	250	55	108	250	43	21-97	24	40
Phenanthrene	165	250	66	118	250	47	39-98	34	40
Anthracene	163	250	65	115	250	46	40-98	35	40
Di-n-butyl Phthalate	181	250	72	139	250	56	42-109	26	40
Fluoranthene	170	250	68	129	250	51	42-104	28	40
Pyrene	190	250	76	141	250	56	45-106	30	40
Butyl Benzyl Phthalate	178	250	71	136	250	54	45-111	27	40
Benz(a)anthracene	177	250	71	133	250	53	44-108	28	40
Chrysene	169	250	68	128	250	51	46-108	28	40
Bis(2-ethylhexyl) Phthalate	183	250	73	208	250	83	47-110	13	40
Di-n-octyl Phthalate	180	250	72	141	250	56	45-109	24	40
Benzo(b)fluoranthene	186	250	74	138	250	55	46-106	30	40
Benzo(k)fluoranthene	157	250	63	117	250	47	47-107	29	40
Benzo(a)pyrene	187	250	75	138	250	55	42-110	30	40
Indeno(1,2,3-cd)pyrene	205	250	82	157	250	63	47-109	27	40

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

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

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5:32 pm, Nov 01, 2013

Client:	Geo Test Services	**Service Request:**	K1311480
Project:	Marine Sediments/13-0599	**Date Extracted:**	10/22/2013
Sample Matrix:	Sediment	**Date Analyzed:**	10/28/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1311653

	Lab Control Sample KWG1311653-3 Lab Control Spike			Duplicate Lab Control Sample KWG1311653-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dibenz(a,h)anthracene	169	250	68	124	250	49	47-106	31	40
Benzo(g,h,i)perylene	157	250	63	117	250	47	44-108	29	40

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

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

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5:32 pm, Nov 01, 2013

November 1, 2013

Analytical Report for Service Request No: K1311278
Revised Service Request No: K1311278.01

Kevin Richardson
Geo Test Services
741 Marine Drive
Bellingham, WA 98225

Dear Kevin:

Enclosed is the revised report for the samples submitted to our laboratory on October 17, 2013. For your reference, these analyses have been assigned our service request number K1311278.

The Semi-Volatile Organic Compounds have been reported to the MRL/MDL in this revision.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) 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.

Please call if you have any questions. My extension is 3275. You may also contact me via Email at Chris.Leaf@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Chris Leaf
Project Manager

CL/lb

REVISED
5:21 pm, Nov 01, 2013

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
LOD	Limit of Detection
LOQ	Limit of Quantitation
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.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	4704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

ALS ENVIRONMENTAL

Client:	Geo Test Services	**Service Request No.:**	K1311278
Project:	NA	**Date Received:**	10/17/2013
Sample Matrix:	Sediment		

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 II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

One sediment sample was received for analysis at ALS Environmental on 10/17/2013. The samples were received in good condition and consistent with the accompanying chain of custody form except as noted on the cooler receipt and preservation form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory. Per client instructions, one half of the sample volume submitted was labeled as a second sample named Sample 1– Dup.

Total Metals

No anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082

Second Source Exceptions:
The analysis of PCB Aroclors by EPA 8082A requires the use of dual column confirmation. The Initial Calibration Verification (ICV) evaluation criteria were not met on the confirmation column for Aroclor 1232 in CAL12822. The ICV criteria were met on the alternate column. The data quality was not affected. No further corrective action was necessary.

No other anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 8270

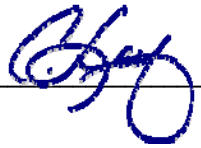
Lab Control Sample Exceptions:
The advisory criterion was exceeded for Benzoic Acid in the replicate Laboratory Control Samples (LCS/DLCS) KWG1311570-3 and KWG1311570-4. As per the ALS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Elevated Detection Limits:
The detection limit was elevated for Butyl Benzyl Phthalate in samples Sample 1 and Sample 1-Dup. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the normal limit. The results were flagged to indicate the matrix interference.

Approved by_____

Semivolatile Organic Compounds by EPA Method 8270 (cont.)

The detection limit was elevated for Benzo(a)pyrene in sample Sample 1-Dup. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the normal limit. The result was flagged to indicate the matrix interference.

Approved by 

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only) K1311278

Date 10/15/13 Page 1 Of 1

PROJECT ID:
REPORT TO COMPANY: GeoTest Services Inc
PROJECT MANAGER: Kevin Richardson
ADDRESS: ~~[illegible]~~ 741 Marine View Dr.
Bellingham WA 98225
PHONE: 360-920-1141 FAX:
P.O. #: E-MAIL: kevinr@geotest-inc.com
INVOICE TO COMPANY: GeoTest
ATTENTION: Janice Patience
ADDRESS: 741 Marine View Dr.
Bellingham WA 98225

ANALYSIS REQUESTED: NWTPH-HCID; NWTPH-DX; NWTPH-GX; BTEX by EPA-8021; MTBE by EPA-8021 ☐ EPA-8260 ☐; Halogenated Volatiles by EPA 8260; Volatile Organic Compounds by EPA 8260; EDB / EDC by EPA 8260 SIM (water); EDB / EDC by EPA 8260 (soil); Semivolatile Organic Compounds by EPA 8270; Polycyclic Aromatic Hydrocarbons (PAH) by EPA-8270 SIM ☐; PCB ☐ Pesticides ☐ by EPA 8081/8082; Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐; Metals Other (Specify); TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐

OTHER (Specify); NUMBER OF CONTAINERS; RECEIVED IN GOOD CONDITION?

SAMPLE I.D.	DATE	TIME	TYPE	LAB#
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Kevin Richardson, GeoTest, 10/15/13, 5:15pm
Received By: SDWOOD/ALS-KELSO 10/17/13 0940
2. Relinquished By:
Received By:

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: 10 (Standard) 5 3 2 1 SAME DAY

Fuels & Hydrocarbon Analysis: 5 (Standard) 3 1 SAME DAY

OTHER:
Specify: See Attached

* Turnaround request less than standard may incur Rush Charges

LABORATORY COPY

ALS

PC CL

Cooler Receipt and Preservation Form

Client / Project GeoTest Service Request K13 11278

Received: October 17, 13 Opened: 10/17 By: SD Unloaded: 10/17 By: SD

1. Samples were received via? *Mail* *(Fed Ex)* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *(Cooler)* *Box* *Envelope* *Other* ______ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? ______

   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)

Raw Cooler Temp	Corrected. Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
N/m	→						8037 3511 8569	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* N/A
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA ~~(Y)~~ see (N)*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:
~~X~~ Sample 1	none	

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
Sample 1	1, 8oz			✓						

Notes, Discrepancies, & Resolutions: Cooler had no cooling agent or pkg. material. I have attached broken sample label to 2nd page.

See pg 2 of 2 for additional discrepancies

Page 1 ***of*** 2

Analytical Results

Client: Geo Test Services **Service Request:** K1311278
Project:
Sample Matrix: Sediment

Total Solids

Prep Method: NONE **Units:** PERCENT
Analysis Method: 160.3M **Basis:** Wet
Test Notes:

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
Sample 1	K1311278-001	10/15/2013	10/17/2013	10/24/2013	94.2	
Sample 1-Dup	K1311278-002	10/15/2013	10/17/2013	10/24/2013	94.0	

ALS Group USA, Corp.
dba ALS Environmental

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Geo Test Services
Project Name:
Project No.:

Service Request: K1311278

Sample Name:	Lab Code:
Batch QCD	K1311224-002D
Batch QCS	K1311224-002S
Batch QCSD	K1311224-002SD
Sample 1	K1311278-001
Sample 1D	K1311278-001D
Sample 1S	K1311278-001S
Sample 1-Dup	K1311278-002
Method Blank	K1311278-MB

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Geo Test Services	**Service Request:**	K1311278
Project No.:	NA	**Date Collected:**	10/15/13
Project Name:	NA	**Date Received:**	10/17/13
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Sample 1 **Lab Code:** K1311278-001

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	3.9	2.0	10/18/13	10/19/13	3.9	U	
Cadmium	6010C	0.2	2.0	10/18/13	10/19/13	0.2	U	
Chromium	6010C	0.8	2.0	10/18/13	10/19/13	29.3		
Copper	6010C	0.8	2.0	10/18/13	10/19/13	17.0		
Lead	6010C	3.9	2.0	10/18/13	10/19/13	3.9	U	
Mercury	7471B	0.02	1.0	10/21/13	10/22/13	0.03		
Silver	6010C	0.8	2.0	10/18/13	10/19/13	0.8	U	
Zinc	6010C	0.98	2.0	10/18/13	10/19/13	32.9		

% Solids: 94.2

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Geo Test Services	**Service Request:**	K1311278
Project No.:	NA	**Date Collected:**	10/15/13
Project Name:	NA	**Date Received:**	10/17/13
Matrix:	SEDIMENT	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: Sample 1-Dup **Lab Code:** K1311278-002

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	4.1	2.0	10/18/13	10/19/13	4.1	U	
Cadmium	6010C	0.2	2.0	10/18/13	10/19/13	0.2	U	
Chromium	6010C	0.8	2.0	10/18/13	10/19/13	30.4		
Copper	6010C	0.8	2.0	10/18/13	10/19/13	16.8		
Lead	6010C	4.1	2.0	10/18/13	10/19/13	4.1	U	
Mercury	7471B	0.02	1.0	10/21/13	10/22/13	0.05		
Silver	6010C	0.8	2.0	10/18/13	10/19/13	0.8	U	
Zinc	6010C	1.0	2.0	10/18/13	10/19/13	32.7		

% Solids: 94.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Geo Test Services
Service Request: K1311278
Project No.: NA
Date Collected:
Project Name: NA
Date Received:
Matrix: SEDIMENT
Units: mg/Kg
Basis: DRY

Sample Name: Method Blank
Lab Code: K1311278-MB

Analyte	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	6010C	4.0	2.0	10/18/13	10/19/13	4.0	U	
Cadmium	6010C	0.2	2.0	10/18/13	10/19/13	0.2	U	
Chromium	6010C	0.8	2.0	10/18/13	10/19/13	0.8	U	
Copper	6010C	0.8	2.0	10/18/13	10/19/13	0.8	U	
Lead	6010C	4.0	2.0	10/18/13	10/19/13	4.0	U	
Mercury	7471B	0.02	1.0	10/21/13	10/22/13	0.02	U	
Silver	6010C	0.8	2.0	10/18/13	10/19/13	0.8	U	
Zinc	6010C	1.0	2.0	10/18/13	10/19/13	1.0	U	

% Solids: 100.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Geo Test Services **Service Request:** K1311278

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** AS REC

Matrix: SEDIMENT

Sample Name: Batch QCS **Lab Code:** K1311224-002S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	80 - 120	0.30		0.05		0.28	89.3		7471B

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Geo Test Services **Service Request:** K1311278

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** AS REC

Matrix: SEDIMENT

Sample Name: Batch QCSD **Lab Code:** K1311224-002SD

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	80 - 120	0.33		0.05		0.28	100.0		7471B

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Geo Test Services **Service Request:** K1311278

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** DRY

Matrix: SEDIMENT **% Solids:** 94.2

Sample Name: Sample 1S **Lab Code:** K1311278-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	75 - 125	98.3		3.9	U	101.10	97.2		6010C
Cadmium	75 - 125	9.1		0.2	U	10.11	90.0		6010C
Chromium	75 - 125	67.8		29.3		40.44	95.2		6010C
Copper	75 - 125	65.6		17.0		50.55	96.1		6010C
Lead	75 - 125	93.1		3.9	U	101.10	92.1		6010C
Silver	75 - 125	9.3		0.8	U	10.11	92.0		6010C
Zinc	75 - 125	121		32.9		101.10	87.1		6010C

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client: Geo Test Services **Service Request:** K1311278

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** AS REC

Matrix: SEDIMENT

Sample Name: **Batch QCD** **Lab Code:** **K1311224-002D**

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.051		0.025		68.4		7471B

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Geo Test Services **Service Request:** K1311278

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** AS REC

Matrix: SEDIMENT

Sample Name: Batch QCSD **Lab Code:** K1311224-002SD

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury	20	0.30		0.33		9.5		7471B

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Geo Test Services **Service Request:** K1311278

Project No.: NA **Units:** MG/KG

Project Name: NA **Basis:** DRY

Matrix: SEDIMENT **% Solids:** 94.2

Sample Name: Sample 1D **Lab Code:** K1311278-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		3.9	U	4.0	U			6010C
Cadmium		0.20	U	0.20	U			6010C
Chromium	20	29.3		29.2		0.3		6010C
Copper	20	17.0		17.1		0.6		6010C
Lead		3.9	U	4.0	U			6010C
Silver		0.8	U	0.8	U			6010C
Zinc	20	32.9		32.9		0.0		6010C

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: Geo Test Services **Service Request:** K1311278

Project No.: NA

Project Name: NA

Aqueous LCS Source: **Solid LCS Source:** **ERA D076-540**

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R	True	Found	C	Limits	%R
Arsenic				94.5	95.3		82 117	100.8
Cadmium				60.5	54.8		83 117	90.6
Chromium				70.4	64.2		82 118	91.2
Copper				79.6	79.5		84 116	99.9
Lead				91.8	84.0		82 118	91.5
Mercury				3.73	3.77		72 128	101.1
Silver				34.4	32.9		66 134	95.6
Zinc				140	125		82 118	89.3

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311278
Project:		**Date Collected:**	10/15/2013
Sample Matrix:	Sediment	**Date Received:**	10/17/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	Sample 1	**Units:**	mg/Kg
Lab Code:	K1311278-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.069	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1221	ND	U	0.14	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1232	ND	U	0.069	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1242	ND	U	0.069	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1248	ND	U	0.069	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1254	ND	U	0.069	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1260	ND	U	0.069	1	10/22/13	10/24/13	KWG1311883	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	100	43-148	10/24/13	Acceptable

Comments:

Analytical Results

Client:	Geo Test Services	**Service Request:**	K1311278
Project:		**Date Collected:**	10/15/2013
Sample Matrix:	Sediment	**Date Received:**	10/17/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	Sample 1-Dup	**Units:**	mg/Kg
Lab Code:	K1311278-002	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.071	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1221	ND	U	0.15	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1232	ND	U	0.071	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1242	ND	U	0.071	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1248	ND	U	0.071	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1254	ND	U	0.071	1	10/22/13	10/25/13	KWG1311883	
Aroclor 1260	ND	U	0.071	1	10/22/13	10/25/13	KWG1311883	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	107	43-148	10/25/13	Acceptable

Comments:

Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG1311883-4

Units: mg/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8082A

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1221	ND	U	0.099	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1232	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1242	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1248	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1254	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	
Aroclor 1260	ND	U	0.050	1	10/22/13	10/24/13	KWG1311883	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	81	43-148	10/24/13	Acceptable

Comments:

Client: Geo Test Services **Service Request:** K1311278
Project:
Sample Matrix: Sediment

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8082A **Level:** Low

Sample Name	Lab Code	Sur1
Sample 1	K1311278-001	100
Sample 1-Dup	K1311278-002	107
Method Blank	KWG1311883-4	81
Sample 1MS	KWG1311883-1	70
Sample 1DMS	KWG1311883-2	103
Lab Control Sample	KWG1311883-3	102

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 43-148

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

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

Client:	Geo Test Services	**Service Request:**	K1311278
Project:		**Date Extracted:**	10/22/2013
Sample Matrix:	Sediment	**Date Analyzed:**	10/24/2013 - 10/25/2013

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Sample 1	**Units:**	mg/Kg
Lab Code:	K1311278-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1311883

		Sample 1MS KWG1311883-1 Matrix Spike			Sample 1DMS KWG1311883-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	ND	0.444	0.705	63	0.637	0.701	91	23-145	36	40
Aroclor 1260	ND	0.462	0.705	65	0.656	0.701	94	24-148	35	40

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.

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Extracted: 10/22/2013
Date Analyzed: 10/24/2013

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082A

Units: mg/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1311883

Lab Control Sample
KWG1311883-3
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Aroclor 1016	0.851	1.00	85	42-122
Aroclor 1260	0.917	1.00	92	50-124

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

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

Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Collected: 10/15/2013
Date Received: 10/17/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Sample 1
Lab Code: K1311278-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	27	3.1	1	10/18/13	10/23/13	KWG1311570	
1,4-Dichlorobenzene	ND	U	9.0	2.5	1	10/18/13	10/23/13	KWG1311570	
1,2-Dichlorobenzene	ND	U	9.0	2.4	1	10/18/13	10/23/13	KWG1311570	
Benzyl Alcohol	ND	U	18	4.9	1	10/18/13	10/23/13	KWG1311570	
2-Methylphenol	ND	U	9.0	4.1	1	10/18/13	10/23/13	KWG1311570	
4-Methylphenol†	**6.2**	J	9.0	4.5	1	10/18/13	10/23/13	KWG1311570	
2,4-Dimethylphenol	ND	U	45	6.3	1	10/18/13	10/23/13	KWG1311570	
Benzoic Acid	ND	U	400	96	1	10/18/13	10/23/13	KWG1311570	*
1,2,4-Trichlorobenzene	ND	U	9.0	2.6	1	10/18/13	10/23/13	KWG1311570	
Naphthalene	ND	U	9.0	2.9	1	10/18/13	10/23/13	KWG1311570	
Hexachlorobutadiene	ND	U	9.0	3.0	1	10/18/13	10/23/13	KWG1311570	
2-Methylnaphthalene	ND	U	9.0	2.8	1	10/18/13	10/23/13	KWG1311570	
Acenaphthylene	ND	U	9.0	2.6	1	10/18/13	10/23/13	KWG1311570	
Dimethyl Phthalate	ND	U	9.0	4.0	1	10/18/13	10/23/13	KWG1311570	
Acenaphthene	**8.1**	J	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Dibenzofuran	**4.6**	J	9.0	3.4	1	10/18/13	10/23/13	KWG1311570	
Fluorene	**6.6**	J	9.0	3.3	1	10/18/13	10/23/13	KWG1311570	
Diethyl Phthalate	ND	U	9.0	3.7	1	10/18/13	10/23/13	KWG1311570	
N-Nitrosodiphenylamine	ND	U	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Hexachlorobenzene	ND	U	9.0	3.3	1	10/18/13	10/23/13	KWG1311570	
Pentachlorophenol	ND	U	90	5.3	1	10/18/13	10/23/13	KWG1311570	
Phenanthrene	**42**		9.0	3.6	1	10/18/13	10/23/13	KWG1311570	
Anthracene	**6.5**	J	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Di-n-butyl Phthalate	**5.5**	J	18	4.8	1	10/18/13	10/23/13	KWG1311570	
Fluoranthene	**43**		9.0	3.7	1	10/18/13	10/23/13	KWG1311570	
Pyrene	**31**		9.0	3.7	1	10/18/13	10/23/13	KWG1311570	
Butyl Benzyl Phthalate	ND	Ui	33	33	1	10/18/13	10/23/13	KWG1311570	
Benz(a)anthracene	**6.2**	J	9.0	3.6	1	10/18/13	10/23/13	KWG1311570	
Chrysene	**8.9**	J	9.0	4.1	1	10/18/13	10/23/13	KWG1311570	
Bis(2-ethylhexyl) Phthalate	**65**	J	90	8.9	1	10/18/13	10/23/13	KWG1311570	
Di-n-octyl Phthalate	ND	U	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Benzo(b)fluoranthene	**6.8**	J	9.0	3.4	1	10/18/13	10/23/13	KWG1311570	
Benzo(k)fluoranthene	ND	U	9.0	4.0	1	10/18/13	10/23/13	KWG1311570	

Comments:

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Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Collected: 10/15/2013
Date Received: 10/17/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Sample 1
Lab Code: K1311278-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	Ui	9.0	7.5	1	10/18/13	10/23/13	KWG1311570	
Indeno(1,2,3-cd)pyrene	ND	U	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Dibenz(a,h)anthracene	ND	U	9.0	3.0	1	10/18/13	10/23/13	KWG1311570	
Benzo(g,h,i)perylene	ND	U	9.0	3.7	1	10/18/13	10/23/13	KWG1311570	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	35	20-86	10/23/13	Acceptable
Nitrobenzene-d5	40	27-91	10/23/13	Acceptable
2-Fluorobiphenyl	43	25-97	10/23/13	Acceptable
2,4,6-Tribromophenol	57	10-119	10/23/13	Acceptable
Terphenyl-d14	54	33-129	10/23/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

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Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Collected: 10/15/2013
Date Received: 10/17/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Sample 1-Dup
Lab Code: K1311278-002

Extraction Method: EPA 3541
Analysis Method: 8270D

Units: ug/Kg
Basis: Dry

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	27	3.1	1	10/18/13	10/23/13	KWG1311570	
1,4-Dichlorobenzene	ND	U	9.0	2.5	1	10/18/13	10/23/13	KWG1311570	
1,2-Dichlorobenzene	ND	U	9.0	2.4	1	10/18/13	10/23/13	KWG1311570	
Benzyl Alcohol	ND	U	18	4.9	1	10/18/13	10/23/13	KWG1311570	
2-Methylphenol	ND	U	9.0	4.1	1	10/18/13	10/23/13	KWG1311570	
4-Methylphenol†	ND	U	9.0	4.5	1	10/18/13	10/23/13	KWG1311570	
2,4-Dimethylphenol	ND	U	45	6.3	1	10/18/13	10/23/13	KWG1311570	
Benzoic Acid	ND	U	400	96	1	10/18/13	10/23/13	KWG1311570	*
1,2,4-Trichlorobenzene	ND	U	9.0	2.6	1	10/18/13	10/23/13	KWG1311570	
Naphthalene	ND	U	9.0	2.9	1	10/18/13	10/23/13	KWG1311570	
Hexachlorobutadiene	ND	U	9.0	3.0	1	10/18/13	10/23/13	KWG1311570	
2-Methylnaphthalene	ND	U	9.0	2.8	1	10/18/13	10/23/13	KWG1311570	
Acenaphthylene	ND	U	9.0	2.6	1	10/18/13	10/23/13	KWG1311570	
Dimethyl Phthalate	ND	U	9.0	4.0	1	10/18/13	10/23/13	KWG1311570	
Acenaphthene	**7.4**	J	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Dibenzofuran	**4.5**	J	9.0	3.4	1	10/18/13	10/23/13	KWG1311570	
Fluorene	**6.8**	J	9.0	3.3	1	10/18/13	10/23/13	KWG1311570	
Diethyl Phthalate	ND	U	9.0	3.7	1	10/18/13	10/23/13	KWG1311570	
N-Nitrosodiphenylamine	ND	U	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Hexachlorobenzene	ND	U	9.0	3.3	1	10/18/13	10/23/13	KWG1311570	
Pentachlorophenol	ND	U	90	5.3	1	10/18/13	10/23/13	KWG1311570	
Phenanthrene	**40**		9.0	3.6	1	10/18/13	10/23/13	KWG1311570	
Anthracene	**7.5**	J	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Di-n-butyl Phthalate	**5.1**	J	18	4.8	1	10/18/13	10/23/13	KWG1311570	
Fluoranthene	**45**		9.0	3.7	1	10/18/13	10/23/13	KWG1311570	
Pyrene	**37**		9.0	3.7	1	10/18/13	10/23/13	KWG1311570	
Butyl Benzyl Phthalate	ND	Ui	23	23	1	10/18/13	10/23/13	KWG1311570	
Benz(a)anthracene	**9.4**		9.0	3.6	1	10/18/13	10/23/13	KWG1311570	
Chrysene	**12**		9.0	4.1	1	10/18/13	10/23/13	KWG1311570	
Bis(2-ethylhexyl) Phthalate	**120**		90	8.9	1	10/18/13	10/23/13	KWG1311570	
Di-n-octyl Phthalate	ND	U	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Benzo(b)fluoranthene	**16**		9.0	3.4	1	10/18/13	10/23/13	KWG1311570	
Benzo(k)fluoranthene	**5.4**	J	9.0	4.0	1	10/18/13	10/23/13	KWG1311570	

Comments:

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Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Collected: 10/15/2013
Date Received: 10/17/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Sample 1-Dup
Lab Code: K1311278-002

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	Ui	16	16	1	10/18/13	10/23/13	KWG1311570	
Indeno(1,2,3-cd)pyrene	**8.0**	J	9.0	3.2	1	10/18/13	10/23/13	KWG1311570	
Dibenz(a,h)anthracene	ND	U	9.0	3.0	1	10/18/13	10/23/13	KWG1311570	
Benzo(g,h,i)perylene	**8.5**	J	9.0	3.7	1	10/18/13	10/23/13	KWG1311570	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	29	20-86	10/23/13	Acceptable
Nitrobenzene-d5	35	27-91	10/23/13	Acceptable
2-Fluorobiphenyl	43	25-97	10/23/13	Acceptable
2,4,6-Tribromophenol	43	10-119	10/23/13	Acceptable
Terphenyl-d14	54	33-129	10/23/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

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Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1311570-5

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	26	3.1	1	10/18/13	10/23/13	KWG1311570	
1,4-Dichlorobenzene	ND	U	8.5	2.5	1	10/18/13	10/23/13	KWG1311570	
1,2-Dichlorobenzene	ND	U	8.5	2.4	1	10/18/13	10/23/13	KWG1311570	
Benzyl Alcohol	ND	U	17	4.9	1	10/18/13	10/23/13	KWG1311570	
2-Methylphenol	ND	U	8.5	4.1	1	10/18/13	10/23/13	KWG1311570	
4-Methylphenol†	ND	U	8.5	4.5	1	10/18/13	10/23/13	KWG1311570	
2,4-Dimethylphenol	ND	U	43	6.3	1	10/18/13	10/23/13	KWG1311570	
Benzoic Acid	ND	U	400	96	1	10/18/13	10/23/13	KWG1311570	*
1,2,4-Trichlorobenzene	ND	U	8.5	2.6	1	10/18/13	10/23/13	KWG1311570	
Naphthalene	ND	U	8.5	2.9	1	10/18/13	10/23/13	KWG1311570	
Hexachlorobutadiene	ND	U	8.5	3.0	1	10/18/13	10/23/13	KWG1311570	
2-Methylnaphthalene	ND	U	8.5	2.8	1	10/18/13	10/23/13	KWG1311570	
Acenaphthylene	ND	U	8.5	2.6	1	10/18/13	10/23/13	KWG1311570	
Dimethyl Phthalate	ND	U	8.5	4.0	1	10/18/13	10/23/13	KWG1311570	
Acenaphthene	ND	U	8.5	3.2	1	10/18/13	10/23/13	KWG1311570	
Dibenzofuran	ND	U	8.5	3.4	1	10/18/13	10/23/13	KWG1311570	
Fluorene	ND	U	8.5	3.3	1	10/18/13	10/23/13	KWG1311570	
Diethyl Phthalate	ND	U	8.5	3.7	1	10/18/13	10/23/13	KWG1311570	
N-Nitrosodiphenylamine	ND	U	8.5	3.2	1	10/18/13	10/23/13	KWG1311570	
Hexachlorobenzene	ND	U	8.5	3.3	1	10/18/13	10/23/13	KWG1311570	
Pentachlorophenol	ND	U	85	5.3	1	10/18/13	10/23/13	KWG1311570	
Phenanthrene	ND	U	8.5	3.6	1	10/18/13	10/23/13	KWG1311570	
Anthracene	ND	U	8.5	3.2	1	10/18/13	10/23/13	KWG1311570	
Di-n-butyl Phthalate	ND	U	17	4.8	1	10/18/13	10/23/13	KWG1311570	
Fluoranthene	ND	U	8.5	3.7	1	10/18/13	10/23/13	KWG1311570	
Pyrene	ND	U	8.5	3.7	1	10/18/13	10/23/13	KWG1311570	
Butyl Benzyl Phthalate	ND	U	8.5	3.7	1	10/18/13	10/23/13	KWG1311570	
Benz(a)anthracene	ND	U	8.5	3.6	1	10/18/13	10/23/13	KWG1311570	
Chrysene	ND	U	8.5	4.1	1	10/18/13	10/23/13	KWG1311570	
Bis(2-ethylhexyl) Phthalate	ND	U	85	8.9	1	10/18/13	10/23/13	KWG1311570	
Di-n-octyl Phthalate	ND	U	8.5	3.2	1	10/18/13	10/23/13	KWG1311570	
Benzo(b)fluoranthene	ND	U	8.5	3.4	1	10/18/13	10/23/13	KWG1311570	
Benzo(k)fluoranthene	ND	U	8.5	4.0	1	10/18/13	10/23/13	KWG1311570	

Comments:

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Analytical Results

Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1311570-5

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8270D

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzo(a)pyrene	ND	U	8.5	3.6	1	10/18/13	10/23/13	KWG1311570	
Indeno(1,2,3-cd)pyrene	ND	U	8.5	3.2	1	10/18/13	10/23/13	KWG1311570	
Dibenz(a,h)anthracene	ND	U	8.5	3.0	1	10/18/13	10/23/13	KWG1311570	
Benzo(g,h,i)perylene	ND	U	8.5	3.7	1	10/18/13	10/23/13	KWG1311570	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	44	20-86	10/23/13	Acceptable
Nitrobenzene-d5	48	27-91	10/23/13	Acceptable
2-Fluorobiphenyl	51	25-97	10/23/13	Acceptable
2,4,6-Tribromophenol	53	10-119	10/23/13	Acceptable
Terphenyl-d14	69	33-129	10/23/13	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

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Client: Geo Test Services **Service Request:** K1311278
Project:
Sample Matrix: Sediment

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8270D **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5
Sample 1	K1311278-001	35	40	43	57	54
Sample 1-Dup	K1311278-002	29	35	43	43	54
Method Blank	KWG1311570-5	44	48	51	53	69
Sample 1MS	KWG1311570-1	40	47	45	61	59
Sample 1DMS	KWG1311570-2	37	46	45	47	46
Lab Control Sample	KWG1311570-3	44	47	44	46	55
Duplicate Lab Control Sample	KWG1311570-4	40	46	46	50	52

Surrogate Recovery Control Limits (%)

Sur1 =	Phenol-d6	20-86	Sur5 =	Terphenyl-d14	33-129
Sur2 =	Nitrobenzene-d5	27-91			
Sur3 =	2-Fluorobiphenyl	25-97			
Sur4 =	2,4,6-Tribromophenol	10-119			

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

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Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Extracted: 10/18/2013
Date Analyzed: 10/23/2013

Matrix Spike/Duplicate Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name: Sample 1
Lab Code: K1311278-001

Extraction Method: EPA 3541
Analysis Method: 8270D

Units: ug/Kg
Basis: Dry

Level: Low
Extraction Lot: KWG1311570

		Sample 1MS KWG1311570-1 Matrix Spike			Sample 1DMS KWG1311570-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	ND	106	224	47	103	224	46	15-98	3	40
1,4-Dichlorobenzene	ND	100	224	45	105	224	47	19-93	5	40
1,2,4-Trichlorobenzene	ND	103	224	46	108	224	48	23-99	4	40
Acenaphthene	8.1	119	224	50	123	224	51	10-132	3	40
Diethyl Phthalate	ND	112	224	50	110	224	49	10-135	1	40
Pentachlorophenol	ND	133	224	60	116	224	52	10-123	14	40
Pyrene	31	210	224	80	201	224	76	17-129	4	40
Benzo(a)pyrene	ND	149	224	67	158	224	70	13-126	5	40

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.

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Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Extracted: 10/18/2013
Date Analyzed: 10/23/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541
Analysis Method: 8270D

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1311570

	Lab Control Sample KWG1311570-3 Lab Control Spike				Duplicate Lab Control Sample KWG1311570-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	128	250	51		130	250	52		27-97	2	40
1,4-Dichlorobenzene	126	250	50		149	250	60		28-89	17	40
1,2-Dichlorobenzene	126	250	51		139	250	55		27-91	9	40
Benzyl Alcohol	96.1	250	38		117	250	47		25-103	19	40
2-Methylphenol	106	250	42		143	250	57		18-95	30	40
4-Methylphenol	112	250	45		132	250	53		17-99	16	40
2,4-Dimethylphenol	363	750	48		390	750	52		10-93	7	40
Benzoic Acid	ND	750	0	*	ND	750	0	*	10-96	NC	40
1,2,4-Trichlorobenzene	126	250	50		132	250	53		27-94	4	40
Naphthalene	132	250	53		135	250	54		27-93	2	40
Hexachlorobutadiene	124	250	49		127	250	51		25-96	3	40
2-Methylnaphthalene	130	250	52		146	250	58		27-96	12	40
Acenaphthylene	136	250	55		155	250	62		33-99	13	40
Dimethyl Phthalate	138	250	55		147	250	59		39-100	6	40
Acenaphthene	132	250	53		145	250	58		32-91	10	40
Dibenzofuran	144	250	58		150	250	60		34-92	4	40
Fluorene	165	250	66		150	250	60		32-96	10	40
Diethyl Phthalate	154	250	62		151	250	60		41-100	2	40
N-Nitrosodiphenylamine	139	250	56		136	250	55		36-96	2	40
Hexachlorobenzene	133	250	53		166	250	66		40-99	22	40
Pentachlorophenol	114	250	46		136	250	54		21-97	18	40
Phenanthrene	147	250	59		159	250	64		39-98	8	40
Anthracene	149	250	59		162	250	65		40-98	8	40
Di-n-butyl Phthalate	148	250	59		186	250	75		42-109	23	40
Fluoranthene	142	250	57		179	250	71		42-104	23	40
Pyrene	163	250	65		170	250	68		45-106	4	40
Butyl Benzyl Phthalate	167	250	67		170	250	68		45-111	1	40
Benz(a)anthracene	156	250	63		166	250	66		44-108	6	40
Chrysene	167	250	67		176	250	70		46-108	5	40
Bis(2-ethylhexyl) Phthalate	160	250	64		179	250	71		47-110	11	40
Di-n-octyl Phthalate	167	250	67		179	250	71		45-109	7	40
Benzo(b)fluoranthene	159	250	64		169	250	68		46-106	6	40
Benzo(k)fluoranthene	158	250	63		173	250	69		47-107	9	40
Benzo(a)pyrene	158	250	63		171	250	68		42-110	8	40
Indeno(1,2,3-cd)pyrene	165	250	66		173	250	69		47-109	5	40

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

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

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Client: Geo Test Services
Project:
Sample Matrix: Sediment

Service Request: K1311278
Date Extracted: 10/18/2013
Date Analyzed: 10/23/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541
Analysis Method: 8270D

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1311570

	Lab Control Sample KWG1311570-3 Lab Control Spike			Duplicate Lab Control Sample KWG1311570-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dibenz(a,h)anthracene	161	250	64	174	250	70	47-106	8	40
Benzo(g,h,i)perylene	151	250	61	165	250	66	44-108	9	40

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

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

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