ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
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www.alsglobal.com

April 17, 2019

Analytical Report for Service Request No: K1810302
Revised Service Request No: K1810302.02

Janet Knox
Pacific Groundwater Group
2377 Eastlake Ave., East
Suite 200
Seattle, WA 98102

RE: DTNA Swan Island Lagoon Sediment / 2006-00115

Dear Janet,

Enclosed is the revised report for the sample(s) submitted to our laboratory October 22, 2018
For your reference, these analyses have been assigned our service request number **K1810302.**

The OC Pesticides were revised on 4/16/2019.

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.

We apologize for any inconvenience this may have created.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

REVISED
12:47 pm, Apr 17, 2019

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Table of Contents

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 DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	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	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	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	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
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.ALSGlobal.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.

Case Narrative

ALS Environmental—Kelso Laboratory
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REVISED
12:47 pm, Apr 17, 2019

ALS Environmental

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Date Received:** 10/22/2018
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 for the Tier level IV requested by the client.

Sample Receipt:

Twenty nine sediment samples were received for analysis at ALS Environmental on 10/22/2018. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Semivolatiles by GC/MS:

Method 8270D, Polynuclear Aromatic Hydrocarbons 11/06,13/18: The results reported for the following compound in samples A1-0to30-102018 and H3-SC-99to114-102118 may contain a slight bias: Acenaphthylene and Benz(a)anthracene respectively. The chromatogram indicated the presence of non-target background components. The matrix interference may have resulted in a slight high bias in the affected samples. The results were flagged with “X” to indicate the issue.

Method 8270D, Polynuclear Aromatic Hydrocarbons 11/06/18: The recoveries of most analytes in Matrix Spikes (MS/MSD) KWG1805647-1/2 were outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was taken.

Method 8270D, Low Level Semivolatile Organic Compounds by GC/MS 12/12/2018: The analysis of sample D6-SC-1to2-102118 for Bis(2-ethylhexyl) Phthalate was initially performed within the recommended holding time. Reanalysis at a dilution was required. The reanalysis was performed 2 days past the recommended holding time. The results from the second analysis were reported.
Method ALS SOP, Organochlorine Pesticides by GC/MS/MS 11/17/2018: The control criteria for matrix spike recovery of Aldrin for sample D6-SC-40to64-102118 were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.
Method ALS SOP, Organochlorine Pesticides by GC/MS/MS 11/26/2018: The following analyte was flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS42\112618F003.D: 2,4'-DDT. 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.

Semivoa GC:

Method ALS SOP, Butyltins 11/21/2018: The analysis of method Butyltins requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the higher of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Tri-n-proplytin. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.
Method Butyltins , Butyltins 11/21/2018: The matrix spike recovery of Tri-n-butylin Cation for sample K6-0to28-101918 were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.
Method Butyltins , Butyltins 11/21/2018:Samples D6-SC-0to1-102118 and D6-1to2-102118 required dilution due to the presence of elevated levels of target analyte. The reporting limits are adjusted to reflect the dilution.

Approved by  Date 04/17/2019

Chain of Custody

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PAGE 1 OF ____ COC# ____

PROJECT NAME: ~~DFNA~~ Swan Island Lagoon Sediment
PROJECT NUMBER: 2006-00115
PROJECT MANAGER: Janet Knox
COMPANY NAME: PGG
ADDRESS: 2377 Eastlake Ave E
CITY/STATE/ZIP: Seattle WA 98102
E-MAIL ADDRESS: janet@pgwg.com
PHONE #: 206 329 0141 FAX#:
SAMPLER'S SIGNATURE: [signature]

Analysis columns: NUMBER OF CONTAINERS; Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐ (X); Volatile Organics 624☐ 8260☐ 8021☐; Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐; BTEX☐; Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐; PCBs Aroclors☐ Congeners☐; Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐ (1699M); Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐; Metals, Total or Dissolved (See List below); Cyanide☐; Hex-Chrom☐; (circle) pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS, Turb.; (circle) NH3-N, COD, TKN, TOC, DOC, NO2+NO3, T-Phos; TOX 9020☐ AOX 1650☐ 506☐; Alkalinity☐ CO3☐ HCO3☐; Dioxins/Furans 1613☐ 8290☐; Dissolved Gases RSK 175☐ Methane☐ Ethane☐ Ethene☐ CO2☐; Tributyltin (ALS SOP)

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
K6-0to28-101918	10/19/18	0926		S	1	Phase 2
O4-0to28-101918		1348		S	1	"
M5-0to25-101918		1155		S	1	"
K4-0to28-101918		0811		S	1	"
O7-0to27-101918		1536		S	1	"
O5-0to27-101918		1423		S	1	"
K7-0to24-101918		1008		S	1	Phase 2
M6-0to26-101918		1118		S	1	Phase 2
M7-0to29-101918		1048		S	1	Phase 2
K5-0to27-101918		0850		S	1	Phase 2

REPORT REQUIREMENTS

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

INVOICE INFORMATION

P.O. # ____
Bill To: ____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
___ Standard (15 working days)
___ Provide FAX Results

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

***INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ____ (CIRCLE ONE)**

SPECIAL INSTRUCTIONS/COMMENTS:

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date/Time: 10/20/18 98	Signature: [signature] Date/Time: 10/22/18 0925	Signature: [signature] Date/Time: 10/22/18 1045	Signature: [signature] Date/Time: 10/22/18 1045
Printed Name: [signature] Firm: PGG	Printed Name: B. Bueneman Firm: ALS	Printed Name: B. Bueneman Firm: ALS	Printed Name: B. Bueneman Firm: ALS

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PAGE 2 OF _____ COC# _____

PROJECT NAME: DTNA Swan Island Lagoon Sediment
PROJECT NUMBER: 2006-00115
PROJECT MANAGER: Janet Knox
COMPANY NAME: PGG
ADDRESS: 2377 Eastlake Ave E
CITY/STATE/ZIP: Seattle WA 98102
E-MAIL ADDRESS: janet@pgnw.com
PHONE #: 206 329 0141 FAX #:
SAMPLER'S SIGNATURE: Jan

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ SIM PAH☒	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Diesel☐ Oil☐ Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 1194M 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS, Turb.	(circle) NH3-N, COD, TKN, TOC, DOC, NO2+NO3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO3☐ HCO3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases RSK 175☐ CO2☐ Methane☐ Ethane☐ Ethene☐	ALS as Tributyltin Active	REMARKS
S15-Oto26-101918	10/19/18	1311		S	1																	phase2
O6-Oto27-101918	"	1457		S	1																	phase2
M4-Oto26-101918	10/19/18	1311		S	1																	phase2
I7-Oto26-101918	10/19/18	1612																			X	
Q6-Oto27-102018	10/20/18	0919																			X	
A1-Oto30-102018	10/20/18	1205																			X	
S5-Oto27-102018	10/20/18	1023																			X	
SA-Oto28-102018	10/20/18	1058																			X	
Q5-Oto29-102018	10/20/18	0845																			X	
Q4-Oto27-102018	10/20/18	0816		S	1																X	

REPORT REQUIREMENTS

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

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

_____ 24 hr. _____ 48 hr.
_____ 5 day
_____ Standard (15 working days)
_____ Provide FAX Results
_____ 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

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: J.Price	Signature: BBeckman	Signature: BBeckman	Signature: BBeckman
Printed Name: J.Price	Printed Name: BBeckman	Printed Name: BBeckman	Printed Name: BBeckman
Date/Time: 10/20/18 925	Date/Time: 10/22/18 0927	Date/Time: 10/22/18 1047	Date/Time: 10/22/18 1047
Firm: PGG	Firm: AW	Firm: AW	Firm: ALS

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PAGE ____ OF ____ COC# ____

PROJECT NAME	DNA Swan Island Lagoon Sediment
PROJECT NUMBER	2006-00115
PROJECT MANAGER	Janet Knox
COMPANY NAME	PGG
ADDRESS	2377 Eastlake Ave E
CITY/STATE/ZIP	Seattle WA 98102
E-MAIL ADDRESS	janet@pgwg.com
PHONE #	206-329-0141 FAX #
SAMPLER'S SIGNATURE	

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
SG-0to25-102118	102018	0940		S	1	Archive
D6-SC-64to88-102118	10/21/18	1740		S	1	Phase 1
D6-SC-40to64-102118		1650		S	1	
H3-SC-88to114-102118		1430		S	1	
~~D6-SC~~						
D6-SC-88to108-102118		1750		S	1	
H3-SC-46to63-102118		1250		S	1	
D6-SC-061-102118		1600		S	1	
H3-SC-162-102118		1155		S	1	
D6-SC-162-102118		1625		S	1	Phase 1

Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☒
Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐
Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐
Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐
PCBs Aroclors☐ Congeners☐
Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐ (1699M)
Chlorophenolics Tri☐ Tetra☐ PCP☐
Metals, Total or Dissolved (See List below)
Cyanide☐ Hex-Chrom☐
(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.
(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos
TOX 9020☐ AOX 1650☐ 506☐
Alkalinity ☐ CO_3 ☐ HCO_3 ☐
Dioxins/Furans 1613☐ 8290☐
Dissolved Gases RSK 175☐ CO_2☐ Methane☐ Ethane☐ Ethene☐
Tributyltin ALS SOP

REPORT REQUIREMENTS

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*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature	Signature	Signature	Signature
Date/Time 10/20/18 925	Date/Time 10/22/18 0925	Date/Time 10/22/18 1045	Date/Time 10/22/18 1045
Printed Name J. Price	Printed Name B Bowman	Printed Name B Bowman	Printed Name B Bowman
Firm PGG	Firm HV	Firm HV	Firm HV

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PC HH

Cooler Receipt and Preservation Form

Client PGE Service Request K18/0302

Received: 10/22/18 Opened: 10/22/18 By: BR Unloaded: 10/22/18 By: BR

1. Samples were received via? *USPS* *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
5.4	5.4	6.2	6.2	0.0	376			
9.1	9.0			-0.1	360			
3.1	3.2	1.9	2.0	+0.1	379			
5.7	5.6	1.9	1.8	-0.1	360			

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA Y N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
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

Notes, Discrepancies, & Resolutions: _____

Total Solids

ALS Environmental—Kelso Laboratory
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www.alsglobal.com

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 - 10/21/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	As Received

Solids, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
K6-0to28-101918	K1810302-001	**32.1**	-	-	1	10/24/18 09:11	
O4-0to28-101918	K1810302-002	**30.2**	-	-	1	10/24/18 09:11	
M5-0to25-101918	K1810302-003	**36.7**	-	-	1	10/24/18 09:11	
K4-0to28-101918	K1810302-004	**34.2**	-	-	1	10/24/18 09:11	
O7-0to27-101918	K1810302-005	**33.8**	-	-	1	10/24/18 13:18	
O5-0to27-101918	K1810302-006	**33.6**	-	-	1	10/24/18 13:18	
K7-0to24-101918	K1810302-007	**35.7**	-	-	1	10/24/18 13:18	
M6-0to26-101918	K1810302-008	**33.4**	-	-	1	10/24/18 13:18	
M7-0to29-101918	K1810302-009	**31.6**	-	-	1	10/24/18 13:18	
K5-0to27-101918	K1810302-010	**30.6**	-	-	1	10/24/18 13:18	
515-0to26-101918	K1810302-011	**39.7**	-	-	1	10/24/18 13:18	
O6-0to27-101918	K1810302-012	**30.8**	-	-	1	10/24/18 13:18	
M4-0to26-101918	K1810302-013	**39.9**	-	-	1	10/24/18 13:18	
A1-0to30-102018	K1810302-016	**54.7**	-	-	1	11/06/18 15:36	
D6-SC-64to88-102118	K1810302-022	**66.0**	-	-	1	10/24/18 13:18	
D6-SC-40to64-102118	K1810302-023	**54.7**	-	-	1	10/24/18 13:18	
H3-SC-99to114-102118	K1810302-024	**69.9**	-	-	1	10/24/18 13:18	
D6-SC-88to108-102118	K1810302-025	**71.5**	-	-	1	10/24/18 13:18	
H3-SC-46to63-102118	K1810302-026	**67.8**	-	-	1	10/24/18 13:18	
D6-SC-0to1-102118	K1810302-027	**42.9**	-	-	1	10/24/18 13:18	
H3-SC-1to2-102118	K1810302-028	**52.0**	-	-	1	10/24/18 13:18	
D6-SC-1to2-102118	K1810302-029	**45.9**	-	-	1	10/24/18 13:18	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 - 10/21/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
Analysis Method:	160.3 Modified	**Units:**	Percent
Prep Method:	None	**Basis:**	As Received

Replicate Sample Summary

Inorganic Parameters

Sample Name:	Lab Code:	MRL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
O4-0to28-101918	K1810302-002DUP	-	30.2	30.3	30.3	<1	20	10/24/18
O6-0to27-101918	K1810302-012DUP	-	30.8	30.8	30.8	<1	20	10/24/18
A1-0to30-102018	K1810302-016DUP	-	54.7	54.5	54.6	<1	20	11/06/18
D6-SC-1to2-102118	K1810302-029DUP	-	45.9	45.9	45.9	<1	20	10/24/18

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.

Butyltins

ALS Environmental—Kelso Laboratory
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Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 09:26
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	K6-0to28-101918	**Units:**	ug/Kg
Lab Code:	K1810302-001	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	**220**	3.1	1.4	1	11/21/18 05:43	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	69	10 - 120	11/21/18 05:43	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/18 12:05
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	A1-0to30-102018	**Units:**	ug/Kg
Lab Code:	K1810302-016	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	ND U	1.8	0.79	1	12/01/18 16:20	11/19/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	52	10 - 120	12/01/18 16:20	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 17:40
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-64to88-102118	**Units:**	ug/Kg
Lab Code:	K1810302-022	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	**1.2 J**	1.5	0.65	1	11/21/18 03:30	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	49	10 - 120	11/21/18 03:30	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 16:50
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-40to64-102118	**Units:**	ug/Kg
Lab Code:	K1810302-023	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	**29**	1.8	0.79	1	11/21/18 06:40	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	63	10 - 120	11/21/18 06:40	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 14:30
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	H3-SC-99to114-102118	**Units:**	ug/Kg
Lab Code:	K1810302-024	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	ND U	1.4	0.61	1	11/21/18 07:00	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	51	10 - 120	11/21/18 07:00	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 17:50
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-88to108-102118	**Units:**	ug/Kg
Lab Code:	K1810302-025	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	**0.59 JP**	1.4	0.59	1	11/21/18 07:18	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	60	10 - 120	11/21/18 07:18	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 12:50
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	H3-SC-46to63-102118	**Units:**	ug/Kg
Lab Code:	K1810302-026	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	**1.1 J**	1.4	0.63	1	11/21/18 07:37	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	65	10 - 120	11/21/18 07:37	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 16:00
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-0to1-102118	**Units:**	ug/Kg
Lab Code:	K1810302-027	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	**210**	23	10	10	12/04/18 18:52	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	46	10 - 120	12/04/18 18:52	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 11:55
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	H3-SC-1to2-102118	**Units:**	ug/Kg
Lab Code:	K1810302-028	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	**1.2 J**	1.9	0.82	1	11/21/18 08:14	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	63	10 - 120	11/21/18 08:14	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 16:15
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-1to2-102118	**Units:**	ug/Kg
Lab Code:	K1810302-029	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	**1200**	22	9.4	10	12/04/18 19:10	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	53	10 - 120	12/04/18 19:10	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1815421-04	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	ND U	0.99	0.43	1	11/21/18 03:11	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	40	10 - 120	11/21/18 03:11	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1815422-04	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	ND U	0.98	0.43	1	11/21/18 05:24	10/30/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	57	10 - 120	11/21/18 05:24	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1816241-04	**Basis:**	Dry

Butyltins

Analysis Method: ALS SOP
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Tri-n-butyltin Cation	ND U	0.98	0.43	1	12/01/18 17:34	11/19/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	76	10 - 120	12/01/18 17:34	

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/19/18 09:26
Date Received: 10/22/18

Sample Name: K6-0to28-101918
Lab Code: K1810302-001

Units: ug/Kg
Basis: Dry
Percent Solids: 32.1

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	1.4	220	220	<1		1	11/21/18 05:43

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/21/18 17:40
Date Received: 10/22/18

Sample Name: D6-SC-64to88-102118
Lab Code: K1810302-022

Units: ug/Kg
Basis: Dry
Percent Solids: 66.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.65	1.2	1.5	22	J	1	11/21/18 03:30

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/21/18 16:50
Date Received: 10/22/18

Sample Name: D6-SC-40to64-102118
Lab Code: K1810302-023

Units: ug/Kg
Basis: Dry
Percent Solids: 54.7

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.79	29	30	3		1	11/21/18 06:40

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/21/18 17:50
Date Received: 10/22/18

Sample Name: D6-SC-88to108-102118
Lab Code: K1810302-025

Units: ug/Kg
Basis: Dry
Percent Solids: 71.5

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.59	0.59	0.92	44	JP	1	11/21/18 07:18

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/21/18 12:50
Date Received: 10/22/18

Sample Name: H3-SC-46to63-102118
Lab Code: K1810302-026

Units: ug/Kg
Basis: Dry
Percent Solids: 67.8

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.63	1.1	1.2	9	J	1	11/21/18 07:37

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/21/18 16:00
Date Received: 10/22/18

Sample Name: D6-SC-0to1-102118
Lab Code: K1810302-027

Units: ug/Kg
Basis: Dry
Percent Solids: 42.9

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	10	210	220	5		10	12/04/18 18:52

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/21/18 11:55
Date Received: 10/22/18

Sample Name: H3-SC-1to2-102118
Lab Code: K1810302-028

Units: ug/Kg
Basis: Dry
Percent Solids: 52.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.82	1.2	1.4	15	J	1	11/21/18 08:14

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/21/18 16:15
Date Received: 10/22/18

Sample Name: D6-SC-1to2-102118
Lab Code: K1810302-029

Units: ug/Kg
Basis: Dry
Percent Solids: 45.9

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	9.4	1200	1300	8		10	12/04/18 19:10

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/21/18 17:40
Date Received: 10/22/18

Sample Name: D6-SC-64to88-102118
Lab Code: KQ1815421-01

Units: ug/Kg
Basis: Dry
Percent Solids: 66.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.65	22.6	24.8	9		1	11/21/18 03:49

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/21/18 17:40
Date Received: 10/22/18

Sample Name: D6-SC-64to88-102118
Lab Code: KQ1815421-02

Units: ug/Kg
Basis: Dry
Percent Solids: 66.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.65	24.3	25.1	3		1	11/21/18 04:08

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ1815421-03

Units: ug/Kg
Basis: Dry

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.43	12.4	14.8	18		1	11/21/18 02:52

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/19/18 09:26
Date Received: 10/22/18

Sample Name: K6-0to28-101918
Lab Code: KQ1815422-01

Units: ug/Kg
Basis: Dry
Percent Solids: 32.1

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	1.4	375	400	6	E	1	11/21/18 06:02

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: 10/19/18 09:26
Date Received: 10/22/18

Sample Name: K6-0to28-101918
Lab Code: KQ1815422-02

Units: ug/Kg
Basis: Dry
Percent Solids: 32.1

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	1.4	260	262	<1		1	11/21/18 06:22

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ1815422-03

Units: ug/Kg
Basis: Dry

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.43	15.6	16.1	3		1	11/21/18 05:05

Confirmation Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115
SRM Matrix: Sediment

Service Request: K1810302
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ1816241-03

Units: ug/Kg
Basis: Dry

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.43	15.6	15.0	4		1	12/01/18 17:16

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Butyltins

Analysis Method: ALS SOP
Extraction Method: Method

Sample Name	Lab Code	Tri-n-propyltin 10-120
K6-0to28-101918	K1810302-001	69
A1-0to30-102018	K1810302-016	52
D6-SC-64to88-102118	K1810302-022	49
D6-SC-40to64-102118	K1810302-023	63
H3-SC-99to114-102118	K1810302-024	51
D6-SC-88to108-102118	K1810302-025	60
H3-SC-46to63-102118	K1810302-026	65
D6-SC-0to1-102118	K1810302-027	46
H3-SC-1to2-102118	K1810302-028	63
D6-SC-1to2-102118	K1810302-029	53
Method Blank	KQ1815421-04	40
Method Blank	KQ1815422-04	57
Method Blank	KQ1816241-04	76
Lab Control Sample	KQ1815421-03	44
Lab Control Sample	KQ1815422-03	61
Lab Control Sample	KQ1816241-03	69
D6-SC-64to88-102118	KQ1815421-01	50
D6-SC-64to88-102118	KQ1815421-02	63
K6-0to28-101918	KQ1815422-01	78
K6-0to28-101918	KQ1815422-02	75

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
		Date Analyzed:	11/21/18
		Date Extracted:	10/30/18

Duplicate Matrix Spike Summary
Butyltins

Sample Name:	D6-SC-64to88-102118	**Units:**	ug/Kg
Lab Code:	K1810302-022	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	Method		

		Matrix Spike KQ1815421-01			Duplicate Matrix Spike KQ1815421-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Tri-n-butyltin Cation	1.2 J	22.6	33.7	63	24.3	33.4	69	10-115	8	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:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
		Date Analyzed:	11/21/18
		Date Extracted:	10/30/18

Duplicate Matrix Spike Summary
Butyltins

Sample Name:	K6-0to28-101918	**Units:**	ug/Kg
Lab Code:	K1810302-001	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	Method		

		Matrix Spike KQ1815422-01			Duplicate Matrix Spike KQ1815422-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Tri-n-butyltin Cation	220	375 E	68.3	233 *	260	68.1	66	10-115	36	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:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	615992

Lab Control Sample
KQ1815421-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Tri-n-butyltin Cation	12.4	22.3	56	10-122

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	615992

Lab Control Sample
KQ1815422-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Tri-n-butyltin Cation	15.6	22.3	70	10-122

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/01/18
Sample Matrix:	Sediment	**Date Extracted:**	11/19/18

Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	617147

Lab Control Sample
KQ1816241-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Tri-n-butyltin Cation	15.6	22.3	70	10-122

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 03:11
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Method Blank Summary
Butyltins

Sample Name:	Method Blank	**Instrument ID:**	K-GC-26
Lab Code:	KQ1815421-04	**File ID:**	J:\GC26\DATA\112018\1120F031.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	615992
Prep Method:	Method	**Extraction Lot:**	324893

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1815421-03	J:\GC26\DATA\112018\1120F030.D\	11/21/18 02:52
D6-SC-64to88-102118	K1810302-022	J:\GC26\DATA\112018\1120F032.D\	11/21/18 03:30
D6-SC-64to88-102118MS	KQ1815421-01	J:\GC26\DATA\112018\1120F033.D\	11/21/18 03:49
D6-SC-64to88-102118DMS	KQ1815421-02	J:\GC26\DATA\112018\1120F034.D\	11/21/18 04:08

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Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 05:24
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Method Blank Summary
Butyltins

Sample Name:	Method Blank	**Instrument ID:**	K-GC-26
Lab Code:	KQ1815422-04	**File ID:**	J:\GC26\DATA\112018\1120F038.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	615992
Prep Method:	Method	**Extraction Lot:**	324894

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1815422-03	J:\GC26\DATA\112018\1120F037.D\	11/21/18 05:05
K6-0to28-101918	K1810302-001	J:\GC26\DATA\112018\1120F039.D\	11/21/18 05:43
K6-0to28-101918MS	KQ1815422-01	J:\GC26\DATA\112018\1120F040.D\	11/21/18 06:02
K6-0to28-101918DMS	KQ1815422-02	J:\GC26\DATA\112018\1120F041.D\	11/21/18 06:22
D6-SC-40to64-102118	K1810302-023	J:\GC26\DATA\112018\1120F042.D\	11/21/18 06:40
H3-SC-99to114-102118	K1810302-024	J:\GC26\DATA\112018\1120F043.D\	11/21/18 07:00
D6-SC-88to108-102118	K1810302-025	J:\GC26\DATA\112018\1120F044.D\	11/21/18 07:18
H3-SC-46to63-102118	K1810302-026	J:\GC26\DATA\112018\1120F045.D\	11/21/18 07:37
H3-SC-1to2-102118	K1810302-028	J:\GC26\DATA\112018\1120F047.D\	11/21/18 08:14

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 03:11
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Method Blank Summary
Butyltins

Sample Name:	Method Blank	**Instrument ID:**	K-GC-26
Lab Code:	KQ1815421-04	**File ID:**	J:\GC26\DATA\112018\1120F031.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	615992,617518
Prep Method:	Method	**Extraction Lot:**	324893

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1815421-03	J:\GC26\DATA\112018\1120F030.D\	11/21/18 02:52
D6-SC-64to88-102118	K1810302-022	J:\GC26\DATA\112018\1120F032.D\	11/21/18 03:30
D6-SC-64to88-102118MS	KQ1815421-01	J:\GC26\DATA\112018\1120F033.D\	11/21/18 03:49
D6-SC-64to88-102118DMS	KQ1815421-02	J:\GC26\DATA\112018\1120F034.D\	11/21/18 04:08

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 05:24
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Method Blank Summary
Butyltins

Sample Name:	Method Blank	**Instrument ID:**	K-GC-26
Lab Code:	KQ1815422-04	**File ID:**	J:\GC26\DATA\112018\1120F038.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	615992,617518
Prep Method:	Method	**Extraction Lot:**	324894

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1815422-03	J:\GC26\DATA\112018\1120F037.D\	11/21/18 05:05
K6-0to28-101918	K1810302-001	J:\GC26\DATA\112018\1120F039.D\	11/21/18 05:43
K6-0to28-101918MS	KQ1815422-01	J:\GC26\DATA\112018\1120F040.D\	11/21/18 06:02
K6-0to28-101918DMS	KQ1815422-02	J:\GC26\DATA\112018\1120F041.D\	11/21/18 06:22
D6-SC-40to64-102118	K1810302-023	J:\GC26\DATA\112018\1120F042.D\	11/21/18 06:40
H3-SC-99to114-102118	K1810302-024	J:\GC26\DATA\112018\1120F043.D\	11/21/18 07:00
D6-SC-88to108-102118	K1810302-025	J:\GC26\DATA\112018\1120F044.D\	11/21/18 07:18
H3-SC-46to63-102118	K1810302-026	J:\GC26\DATA\112018\1120F045.D\	11/21/18 07:37
H3-SC-1to2-102118	K1810302-028	J:\GC26\DATA\112018\1120F047.D\	11/21/18 08:14
D6-SC-0to1-102118	K1810302-027	J:\GC26\DATA\120418B\1204F017.D\	12/04/18 18:52
D6-SC-1to2-102118	K1810302-029	J:\GC26\DATA\120418B\1204F018.D\	12/04/18 19:10

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/01/18 17:34
Sample Matrix:	Sediment	**Date Extracted:**	11/19/18

Method Blank Summary
Butyltins

Sample Name:	Method Blank	**Instrument ID:**	K-GC-26
Lab Code:	KQ1816241-04	**File ID:**	J:\GC26\DATA\120118\1201F023.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	617147
Prep Method:	Method	**Extraction Lot:**	325830

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
A1-0to30-102018	K1810302-016	J:\GC26\DATA\120118\1201F019.D\	12/01/18 16:20
Lab Control Sample	KQ1816241-03	J:\GC26\DATA\120118\1201F022.D\	12/01/18 17:16

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 02:52
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Lab Control Sample Summary
Butyltins

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-26
Lab Code:	KQ1815421-03	**File ID:**	J:\GC26\DATA\112018\1120F030.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	615992
Prep Method:	Method	**Extraction Lot:**	324893

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1815421-04	J:\GC26\DATA\112018\1120F031.D\	11/21/18 03:11
D6-SC-64to88-102118	K1810302-022	J:\GC26\DATA\112018\1120F032.D\	11/21/18 03:30
D6-SC-64to88-102118MS	KQ1815421-01	J:\GC26\DATA\112018\1120F033.D\	11/21/18 03:49
D6-SC-64to88-102118DMS	KQ1815421-02	J:\GC26\DATA\112018\1120F034.D\	11/21/18 04:08

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 05:05
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Lab Control Sample Summary
Butyltins

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-26
Lab Code:	KQ1815422-03	**File ID:**	J:\GC26\DATA\112018\1120F037.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	615992
Prep Method:	Method	**Extraction Lot:**	324894

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1815422-04	J:\GC26\DATA\112018\1120F038.D\	11/21/18 05:24
K6-0to28-101918	K1810302-001	J:\GC26\DATA\112018\1120F039.D\	11/21/18 05:43
K6-0to28-101918MS	KQ1815422-01	J:\GC26\DATA\112018\1120F040.D\	11/21/18 06:02
K6-0to28-101918DMS	KQ1815422-02	J:\GC26\DATA\112018\1120F041.D\	11/21/18 06:22
D6-SC-40to64-102118	K1810302-023	J:\GC26\DATA\112018\1120F042.D\	11/21/18 06:40
H3-SC-99to114-102118	K1810302-024	J:\GC26\DATA\112018\1120F043.D\	11/21/18 07:00
D6-SC-88to108-102118	K1810302-025	J:\GC26\DATA\112018\1120F044.D\	11/21/18 07:18
H3-SC-46to63-102118	K1810302-026	J:\GC26\DATA\112018\1120F045.D\	11/21/18 07:37
H3-SC-1to2-102118	K1810302-028	J:\GC26\DATA\112018\1120F047.D\	11/21/18 08:14

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 02:52
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Lab Control Sample Summary
Butyltins

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-26
Lab Code:	KQ1815421-03	**File ID:**	J:\GC26\DATA\112018\1120F030.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	615992,617518
Prep Method:	Method	**Extraction Lot:**	324893

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1815421-04	J:\GC26\DATA\112018\1120F031.D\	11/21/18 03:11
D6-SC-64to88-102118	K1810302-022	J:\GC26\DATA\112018\1120F032.D\	11/21/18 03:30
D6-SC-64to88-102118MS	KQ1815421-01	J:\GC26\DATA\112018\1120F033.D\	11/21/18 03:49
D6-SC-64to88-102118DMS	KQ1815421-02	J:\GC26\DATA\112018\1120F034.D\	11/21/18 04:08

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 05:05
Sample Matrix:	Sediment	**Date Extracted:**	10/30/18

Lab Control Sample Summary
Butyltins

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-26
Lab Code:	KQ1815422-03	**File ID:**	J:\GC26\DATA\112018\1120F037.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	615992,617518
Prep Method:	Method	**Extraction Lot:**	324894

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1815422-04	J:\GC26\DATA\112018\1120F038.D\	11/21/18 05:24
K6-0to28-101918	K1810302-001	J:\GC26\DATA\112018\1120F039.D\	11/21/18 05:43
K6-0to28-101918MS	KQ1815422-01	J:\GC26\DATA\112018\1120F040.D\	11/21/18 06:02
K6-0to28-101918DMS	KQ1815422-02	J:\GC26\DATA\112018\1120F041.D\	11/21/18 06:22
D6-SC-40to64-102118	K1810302-023	J:\GC26\DATA\112018\1120F042.D\	11/21/18 06:40
H3-SC-99to114-102118	K1810302-024	J:\GC26\DATA\112018\1120F043.D\	11/21/18 07:00
D6-SC-88to108-102118	K1810302-025	J:\GC26\DATA\112018\1120F044.D\	11/21/18 07:18
H3-SC-46to63-102118	K1810302-026	J:\GC26\DATA\112018\1120F045.D\	11/21/18 07:37
H3-SC-1to2-102118	K1810302-028	J:\GC26\DATA\112018\1120F047.D\	11/21/18 08:14
D6-SC-0to1-102118	K1810302-027	J:\GC26\DATA\120418B\1204F017.D\	12/04/18 18:52
D6-SC-1to2-102118	K1810302-029	J:\GC26\DATA\120418B\1204F018.D\	12/04/18 19:10

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Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/01/18 17:16
Sample Matrix:	Sediment	**Date Extracted:**	11/19/18

Lab Control Sample Summary
Butyltins

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-26
Lab Code:	KQ1816241-03	**File ID:**	J:\GC26\DATA\120118\1201F022.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	617147
Prep Method:	Method	**Extraction Lot:**	325830

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
A1-0to30-102018	K1810302-016	J:\GC26\DATA\120118\1201F019.D\	12/01/18 16:20
Method Blank	KQ1816241-04	J:\GC26\DATA\120118\1201F023.D\	12/01/18 17:34

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 9/17/2018

Initial Calibration Summary
Butyltins

Calibration ID: KC1800436 **Signal ID:** RTX-1
Instrument ID: K-GC-26

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800436-01	OT5-010A @ 2PPB	J:\GC26\DATA\091718\0917F004.D	09/17/2018 14:55
02	KC1800436-02	OT5-010B @ 5PPB	J:\GC26\DATA\091718\0917F005.D	09/17/2018 15:13
03	KC1800436-03	OT5-010C @ 10PPB	J:\GC26\DATA\091718\0917F006.D	09/17/2018 15:32
04	KC1800436-04	OT5-010D @ 20PPB	J:\GC26\DATA\091718\0917F007.D	09/17/2018 15:50
05	KC1800436-05	OT5-010K@50 PPB	J:\GC26\DATA\091718\0917F008.D	09/17/2018 16:08
06	KC1800436-06	OT5-010E @ 200 PPB	J:\GC26\DATA\091718\0917F009.D	09/17/2018 16:27
07	KC1800436-07	OT5-010F @ 500 PPB	J:\GC26\DATA\091718\0917F010.D	09/17/2018 16:45

Analyte

Tri-n-butyltin Cation

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	1.782	7.605E4	02	4.455	7.24E4	03	8.910	6.65E4	04	17.820	6.585E4
05	44.550	6.93E4	06	178.200	6.9E4	07	445.500	6.747E4			

Tri-n-propyltin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	6.839E4	02	5.000	5.283E4	03	10.000	4.594E4	04	20.000	5.002E4
05	50.000	5.595E4	06	200.000	5.459E4	07	500.000	5.511E4			

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 9/17/2018

Initial Calibration Summary
Butyltins

Calibration ID: KC1800436 **Signal ID:** RTX-1
Instrument ID: K-GC-26

Analyte Name	Compound Type	Calibration Evaluation				Calibration Evaluation	
		Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Tri-n-butyltin Cation	TRG	Average RF	% RSD	5.2	≤20	6.951E4	
Tri-n-propyltin	SURR	Average RF	% RSD	12.7	≤20	5.469E4	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 9/17/2018

Initial Calibration Summary
Butyltins

Calibration ID: KC1800436 **Signal ID:** RTX-35
Instrument ID: K-GC-26

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800436-01	OT5-010A @ 2PPB	J:\GC26\DATA\091718\0917F004.D	09/17/2018 14:55
02	KC1800436-02	OT5-010B @ 5PPB	J:\GC26\DATA\091718\0917F005.D	09/17/2018 15:13
03	KC1800436-03	OT5-010C @ 10PPB	J:\GC26\DATA\091718\0917F006.D	09/17/2018 15:32
04	KC1800436-04	OT5-010D @ 20PPB	J:\GC26\DATA\091718\0917F007.D	09/17/2018 15:50
05	KC1800436-05	OT5-010K@50 PPB	J:\GC26\DATA\091718\0917F008.D	09/17/2018 16:08
06	KC1800436-06	OT5-010E @ 200 PPB	J:\GC26\DATA\091718\0917F009.D	09/17/2018 16:27
07	KC1800436-07	OT5-010F @ 500 PPB	J:\GC26\DATA\091718\0917F010.D	09/17/2018 16:45

Analyte

Tri-n-butyltin Cation

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	1.782	1.246E5	02	4.455	9.429E4	03	8.910	1.125E5	04	17.820	9.717E4
05	44.550	1.058E5	06	178.200	9.935E4	07	445.500	9.552E4			

Tri-n-propyltin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	7.47E4	02	5.000	7.544E4	03	10.000	7.709E4	04	20.000	7.852E4
05	50.000	8.615E4	06	200.000	7.943E4	07	500.000	7.633E4			

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 9/17/2018

Initial Calibration Summary
Butyltins

Calibration ID: KC1800436 **Signal ID:** RTX-35
Instrument ID: K-GC-26

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Tri-n-butyltin Cation	TRG	Average RF	% RSD	10.6	≤20	1.042E5	
Tri-n-propyltin	SURR	Average RF	% RSD	4.9	≤20	7.824E4	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 9/17/2018

Initial Calibration Verification Summary
Butyltins

Calibration ID: KC1800436 **Signal ID:** RTX-1
Instrument ID: K-GC-26

#	Lab Code	Sample Name	File Location	Acquisition Date
08	KC1800436-08	OT5-09P @ 50PPB ICV	J:\GC26\DATA\091718\0917F012.D	09/17/2018 17:22

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	52.9	6.951E4	8.251E4	18.71	±25	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 9/17/2018

Initial Calibration Verification Summary
Butyltins

Calibration ID: KC1800436 **Signal ID:** RTX-35
Instrument ID: K-GC-26

#	Lab Code	Sample Name	File Location	Acquisition Date
08	KC1800436-08	OT5-09P @ 50PPB ICV	J:\GC26\DATA\091718\0917F012.D	09/17/2018 17:22

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	50.1	1.042E5	1.172E5	12.50	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/20/18 22:52

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\112018\1120F017.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-1	**Analysis Lot:**	615992
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	40.5	6.951E4	6.316E4	-9.1	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	48.1	5.469E4	5.264E4	-3.7	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/20/18 22:52

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\112018\1120F017.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-35	**Analysis Lot:**	615992
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	42.6	1.042E5	9.956E4	-4.4	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	49.2	7.824E4	7.693E4	-1.7	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 04:27

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\112018\1120F035.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-1	**Analysis Lot:**	615992
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	33.9	6.951E4	5.285E4	-24.0	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	41.5	5.469E4	4.542E4	-17.0	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 04:27

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\112018\1120F035.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-35	**Analysis Lot:**	615992
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	37.8	1.042E5	8.835E4	-15.2	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	37.1	7.824E4	5.802E4	-25.8*	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 08:52

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\112018\1120F049.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-1	**Analysis Lot:**	615992
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	34.7	6.951E4	5.409E4	-22.2	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	37.9	5.469E4	4.142E4	-24.3	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/21/18 08:52

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\112018\1120F049.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-35	**Analysis Lot:**	615992
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	35.0	1.042E5	8.186E4	-21.4	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	43.2	7.824E4	6.754E4	-13.7	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/01/18 14:29

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\120118\1201F013.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-35	**Analysis Lot:**	617147
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	33.0	1.042E5	7.727E4	-25.8*	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	41.0	7.824E4	6.423E4	-17.9	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/01/18 14:29

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\120118\1201F013.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-1	**Analysis Lot:**	617147
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	34.6	6.951E4	5.397E4	-22.4	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	39.6	5.469E4	4.337E4	-20.7	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/01/18 17:53

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\120118\1201F024.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-1	**Analysis Lot:**	617147
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	35.1	6.951E4	5.482E4	-21.1	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	38.0	5.469E4	4.156E4	-24.0	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/01/18 17:53

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\120118\1201F024.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-35	**Analysis Lot:**	617147
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	35.7	1.042E5	8.348E4	-19.9	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	40.5	7.824E4	6.339E4	-19.0	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/04/18 17:57

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\120418B\1204F014.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-35	**Analysis Lot:**	617518
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	33.8	1.042E5	7.897E4	-24.2	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	38.9	7.824E4	6.091E4	-22.2	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/04/18 17:57

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\120418B\1204F014.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-1	**Analysis Lot:**	617518
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	38.2	6.951E4	5.967E4	-14.2	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	40.3	5.469E4	4.411E4	-19.3	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/04/18 19:28

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\120418B\1204F019.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-35	**Analysis Lot:**	617518
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	35.5	1.042E5	8.298E4	-20.4	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	40.3	7.824E4	6.298E4	-19.5	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/04/18 19:28

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	9/17/2018
File ID:	J:\GC26\DATA\120418B\1204F019.D\	**Calibration ID:**	KC1800436
Signal ID:	RTX-1	**Analysis Lot:**	617518
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	35.9	6.951E4	5.602E4	-19.4	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	39.9	5.469E4	4.363E4	-20.2	NA	±25	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Butyltins

Analysis Method: ALS SOP **Analysis Lot:**615992
Instrument ID:K-GC-26

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC26\DATA\112018\1120F017.D\	Continuing Calibration Verification	KQ1817284-01	11/20/2018	22:52:00	
J:\GC26\DATA\112018\1120F018.D\	ZZZZZZZ	ZZZZZZZ	11/20/2018	23:10:00	
J:\GC26\DATA\112018\1120F019.D\	ZZZZZZZ	ZZZZZZZ	11/20/2018	23:29:00	
J:\GC26\DATA\112018\1120F020.D\	ZZZZZZZ	ZZZZZZZ	11/20/2018	23:47:00	
J:\GC26\DATA\112018\1120F021.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	00:06:00	
J:\GC26\DATA\112018\1120F022.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	00:24:00	
J:\GC26\DATA\112018\1120F023.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	00:42:00	
J:\GC26\DATA\112018\1120F024.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	01:01:00	
J:\GC26\DATA\112018\1120F025.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	01:19:00	
J:\GC26\DATA\112018\1120F026.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	01:38:00	
J:\GC26\DATA\112018\1120F027.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	01:56:00	
J:\GC26\DATA\112018\1120F028.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	02:15:00	
J:\GC26\DATA\112018\1120F029.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	02:33:00	
J:\GC26\DATA\112018\1120F030.D\	Lab Control Sample	KQ1815421-03	11/21/2018	02:52:00	
J:\GC26\DATA\112018\1120F031.D\	Method Blank	KQ1815421-04	11/21/2018	03:11:00	
J:\GC26\DATA\112018\1120F032.D\	D6-SC-64to88-102118	K1810302-022	11/21/2018	03:30:00	
J:\GC26\DATA\112018\1120F033.D\	D6-SC-64to88-102118 MS	KQ1815421-01	11/21/2018	03:49:00	
J:\GC26\DATA\112018\1120F034.D\	D6-SC-64to88-102118 DMS	KQ1815421-02	11/21/2018	04:08:00	
J:\GC26\DATA\112018\1120F035.D\	Continuing Calibration Verification	KQ1817284-03	11/21/2018	04:27:00	
J:\GC26\DATA\112018\1120F036.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	04:45:00	
J:\GC26\DATA\112018\1120F037.D\	Lab Control Sample	KQ1815422-03	11/21/2018	05:05:00	
J:\GC26\DATA\112018\1120F038.D\	Method Blank	KQ1815422-04	11/21/2018	05:24:00	
J:\GC26\DATA\112018\1120F039.D\	K6-0to28-101918	K1810302-001	11/21/2018	05:43:00	
J:\GC26\DATA\112018\1120F040.D\	K6-0to28-101918 MS	KQ1815422-01	11/21/2018	06:02:00	
J:\GC26\DATA\112018\1120F041.D\	K6-0to28-101918 DMS	KQ1815422-02	11/21/2018	06:22:00	
J:\GC26\DATA\112018\1120F042.D\	D6-SC-40to64-102118	K1810302-023	11/21/2018	06:40:00	
J:\GC26\DATA\112018\1120F043.D\	H3-SC-99to114-102118	K1810302-024	11/21/2018	07:00:00	
J:\GC26\DATA\112018\1120F044.D\	D6-SC-88to108-102118	K1810302-025	11/21/2018	07:18:00	
J:\GC26\DATA\112018\1120F045.D\	H3-SC-46to63-102118	K1810302-026	11/21/2018	07:37:00	
J:\GC26\DATA\112018\1120F046.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	07:55:00	
J:\GC26\DATA\112018\1120F047.D\	H3-SC-1to2-102118	K1810302-028	11/21/2018	08:14:00	
J:\GC26\DATA\112018\1120F048.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	08:34:00	
J:\GC26\DATA\112018\1120F049.D\	Continuing Calibration Verification	KQ1817284-05	11/21/2018	08:52:00	
J:\GC26\DATA\112018\1120F050.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	09:11:00	
J:\GC26\DATA\112018\1120F051.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	09:30:00	
J:\GC26\DATA\112018\1120F052.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	09:49:00	
J:\GC26\DATA\112018\1120F053.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	10:08:00	
J:\GC26\DATA\112018\1120F054.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	10:28:00	
J:\GC26\DATA\112018\1120F055.D\	ZZZZZZZ	ZZZZZZZ	11/21/2018	10:47:00	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Butyltins

Analysis Method: **Analysis Lot:**617147
Instrument ID:K-GC-26

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC26\DATA\120118\1201F003.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	11:23:00	
J:\GC26\DATA\120118\1201F004.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	11:41:00	
J:\GC26\DATA\120118\1201F006.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	12:18:00	
J:\GC26\DATA\120118\1201F007.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	12:37:00	
J:\GC26\DATA\120118\1201F009.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	13:14:00	
J:\GC26\DATA\120118\1201F010.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	13:33:00	
J:\GC26\DATA\120118\1201F011.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	13:51:00	
J:\GC26\DATA\120118\1201F012.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	14:10:00	
J:\GC26\DATA\120118\1201F013.D\	Continuing Calibration Verification	KQ1817582-02	12/1/2018	14:29:00	
J:\GC26\DATA\120118\1201F014.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	14:47:00	
J:\GC26\DATA\120118\1201F016.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	15:25:00	
J:\GC26\DATA\120118\1201F017.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	15:43:00	
J:\GC26\DATA\120118\1201F019.D\	A1-0to30-102018	K1810302-016	12/1/2018	16:20:00	
J:\GC26\DATA\120118\1201F020.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	16:38:00	
J:\GC26\DATA\120118\1201F021.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	16:57:00	
J:\GC26\DATA\120118\1201F022.D\	Lab Control Sample	KQ1816241-03	12/1/2018	17:16:00	
J:\GC26\DATA\120118\1201F023.D\	Method Blank	KQ1816241-04	12/1/2018	17:34:00	
J:\GC26\DATA\120118\1201F024.D\	Continuing Calibration Verification	KQ1817582-03	12/1/2018	17:53:00	
J:\GC26\DATA\120118\1201F025.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	18:12:00	
J:\GC26\DATA\120118\1201F027.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	18:50:00	
J:\GC26\DATA\120118\1201F028.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	19:09:00	
J:\GC26\DATA\120118\1201F029.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	19:28:00	
J:\GC26\DATA\120118\1201F030.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	19:47:00	
J:\GC26\DATA\120118\1201F031.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	20:06:00	
J:\GC26\DATA\120118\1201F032.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	20:25:00	
J:\GC26\DATA\120118\1201F033.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	20:44:00	
J:\GC26\DATA\120118\1201F034.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	21:03:00	
J:\GC26\DATA\120118\1201F035.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	21:23:00	
J:\GC26\DATA\120118\1201F036.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	21:42:00	
J:\GC26\DATA\120118\1201F037.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	22:01:00	
J:\GC26\DATA\120118\1201F038.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	22:20:00	
J:\GC26\DATA\120118\1201F039.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	22:40:00	
J:\GC26\DATA\120118\1201F040.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	22:59:00	
J:\GC26\DATA\120118\1201F041.D\	ZZZZZZZ	ZZZZZZZ	12/1/2018	23:19:00	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Butyltins

Analysis Method: ALS SOP **Analysis Lot:**617518
Instrument ID:K-GC-26

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC26\DATA\120418B\1204F014.D\	Continuing Calibration Verification	KQ1817717-01	12/4/2018	17:57:00	
J:\GC26\DATA\120418B\1204F015.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	18:15:00	
J:\GC26\DATA\120418B\1204F016.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	18:33:00	
J:\GC26\DATA\120418B\1204F017.D\	D6-SC-0to1-102118	K1810302-027	12/4/2018	18:52:00	
J:\GC26\DATA\120418B\1204F018.D\	D6-SC-1to2-102118	K1810302-029	12/4/2018	19:10:00	
J:\GC26\DATA\120418B\1204F019.D\	Continuing Calibration Verification	KQ1817717-02	12/4/2018	19:28:00	
J:\GC26\DATA\120418B\1204F020.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	19:47:00	
J:\GC26\DATA\120418B\1204F021.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	20:05:00	
J:\GC26\DATA\120418B\1204F024.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	21:01:00	
J:\GC26\DATA\120418B\1204F025.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	21:20:00	
J:\GC26\DATA\120418B\1204F026.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	21:38:00	
J:\GC26\DATA\120418B\1204F027.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	21:57:00	
J:\GC26\DATA\120418B\1204F028.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	22:15:00	
J:\GC26\DATA\120418B\1204F029.D\	ZZZZZZZ	ZZZZZZZ	12/4/2018	22:33:00	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Butyltins

Prep Method: Method **Extraction Lot:** 324894
Analytical Method: ALS SOP **Extraction Date:** 10/30/18 17:05

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
K6-0to28-101918	K1810302-001	10/19/18	10/22/18	20.197 g	4 mL	32.1
D6-SC-40to64-102118	K1810302-023	10/21/18	10/22/18	20.111 g	4 mL	54.7
H3-SC-99to114-102118	K1810302-024	10/21/18	10/22/18	20.189 g	4 mL	69.9
D6-SC-88to108-102118	K1810302-025	10/21/18	10/22/18	20.388 g	4 mL	71.5
H3-SC-46to63-102118	K1810302-026	10/21/18	10/22/18	20.371 g	4 mL	67.8
D6-SC-0to1-102118	K1810302-027	10/21/18	10/22/18	20.235 g	4 mL	42.9
H3-SC-1to2-102118	K1810302-028	10/21/18	10/22/18	20.172 g	4 mL	52.0
D6-SC-1to2-102118	K1810302-029	10/21/18	10/22/18	20.037 g	4 mL	45.9
Matrix Spike	KQ1815422-01MS	10/19/18	10/22/18	20.319 g	4 mL	32.1
Duplicate Matrix Spike	KQ1815422-02DMS	10/19/18	10/22/18	20.390 g	4 mL	32.1
Lab Control Sample	KQ1815422-03LCS	NA	NA	20.00 g	4 mL	
Method Blank	KQ1815422-04MB	NA	NA	20.3900 g	4 mL	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Butyltins

Prep Method: Method **Extraction Lot:** 325830
Analytical Method: ALS SOP **Extraction Date:** 11/19/18 18:38

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
A1-0to30-102018	K1810302-016	10/20/18	10/22/18	20.007 g	4 mL	54.7
Lab Control Sample	KQ1816241-03LCS	NA	NA	20.00 g	4 mL	
Method Blank	KQ1816241-04MB	NA	NA	20.3210 g	4 mL	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Butyltins

Prep Method: Method **Extraction Lot:** 324893
Analytical Method: ALS SOP **Extraction Date:** 10/30/18 17:05

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
D6-SC-64to88-102118	K1810302-022	10/21/18	10/22/18	20.238 g	4 mL	66.0
Matrix Spike	KQ1815421-01MS	10/21/18	10/22/18	20.054 g	4 mL	66.0
Duplicate Matrix Spike	KQ1815421-02DMS	10/21/18	10/22/18	20.231 g	4 mL	66.0
Lab Control Sample	KQ1815421-03LCS	NA	NA	20.00 g	4 mL	
Method Blank	KQ1815421-04MB	NA	NA	20.2380 g	4 mL	

Organochlorine Pesticides

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

REVISED
12:48 pm, Apr 17, 2019

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/18 12:05
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	A1-0to30-102018	**Units:**	ug/Kg
Lab Code:	K1810302-016	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.091	0.063	1	11/26/18 21:57	11/7/18	
2,4'-DDE	ND U	0.091	0.079	1	11/26/18 21:57	11/7/18	
2,4'-DDT	ND U	0.094	0.094	1	11/26/18 21:57	11/7/18	*
4,4'-DDD	ND U	0.091	0.035	1	11/26/18 21:57	11/7/18	
4,4'-DDE	ND U	0.091	0.070	1	11/26/18 21:57	11/7/18	
4,4'-DDT	ND U	0.091	0.047	1	11/26/18 21:57	11/7/18	
Aldrin	ND U	0.091	0.079	1	11/26/18 21:57	11/7/18	
alpha-Chlordane	ND U	0.18	0.062	1	11/26/18 21:57	11/7/18	
cis-Nonachlor	ND U	0.097	0.097	1	11/26/18 21:57	11/7/18	
Dieldrin	ND U	0.20	0.077	1	11/26/18 21:57	11/7/18	
gamma-BHC (Lindane)	ND U	0.091	0.031	1	11/26/18 21:57	11/7/18	
gamma-Chlordane	ND U	0.18	0.064	1	11/26/18 21:57	11/7/18	
Heptachlor	ND U	0.091	0.039	1	11/26/18 21:57	11/7/18	
Oxychlordane	ND U	0.20	0.13	1	11/26/18 21:57	11/7/18	
trans-Nonachlor	ND U	0.18	0.058	1	11/26/18 21:57	11/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	84	5 - 120	11/26/18 21:57	
S_4,4'-DDT-d4	99	13 - 200	11/26/18 21:57	
S_Aldrin-13C12	58	10 - 143	11/26/18 21:57	
S_Endrin-13C12	79	20 - 157	11/26/18 21:57	
S_GBHCD6	61	5 - 124	11/26/18 21:57	
S_Heptachlor-13C10	78	10 - 177	11/26/18 21:57	
S_Heptachlrepox13C10	65	8 - 146	11/26/18 21:57	
S_Oxychlordane-13C10	63	5 - 144	11/26/18 21:57	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 17:40
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-64to88-102118	**Units:**	ug/Kg
Lab Code:	K1810302-022	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.075	0.063	1	11/16/18 23:56	10/31/18	
2,4'-DDE	**0.088**	0.079	0.079	1	11/16/18 23:56	10/31/18	
2,4'-DDT	ND U	0.094	0.094	1	11/16/18 23:56	10/31/18	
4,4'-DDD	**0.46**	0.075	0.035	1	11/16/18 23:56	10/31/18	
4,4'-DDE	**0.74**	0.075	0.070	1	11/16/18 23:56	10/31/18	
4,4'-DDT	ND U	0.075	0.047	1	11/16/18 23:56	10/31/18	
Aldrin	ND U	0.079	0.079	1	11/16/18 23:56	10/31/18	
alpha-Chlordane	ND U	0.15	0.062	1	11/16/18 23:56	10/31/18	
cis-Nonachlor	ND U	0.097	0.097	1	11/16/18 23:56	10/31/18	
Dieldrin	ND U	0.20	0.077	1	11/16/18 23:56	10/31/18	
gamma-BHC (Lindane)	ND U	0.075	0.031	1	11/16/18 23:56	10/31/18	
gamma-Chlordane	ND U	0.15	0.064	1	11/16/18 23:56	10/31/18	
Heptachlor	ND U	0.075	0.039	1	11/16/18 23:56	10/31/18	
Oxychlordane	ND U	0.20	0.13	1	11/16/18 23:56	10/31/18	
trans-Nonachlor	ND U	0.15	0.058	1	11/16/18 23:56	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	82	5 - 120	11/16/18 23:56	
S_4,4'-DDT-d4	120	13 - 200	11/16/18 23:56	
S_Aldrin-13C12	51	10 - 143	11/16/18 23:56	
S_Endrin-13C12	78	20 - 157	11/16/18 23:56	
S_GBHCD6	58	5 - 124	11/16/18 23:56	
S_Heptachlor-13C10	75	10 - 177	11/16/18 23:56	
S_Heptachlrepox13C10	59	8 - 146	11/16/18 23:56	
S_Oxychlordane-13C10	58	5 - 144	11/16/18 23:56	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 16:50
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-40to64-102118	**Units:**	ug/Kg
Lab Code:	K1810302-023	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND	U	0.091	0.063	1	11/17/18 00:14	10/31/18	
2,4'-DDE	**1.2**		0.091	0.079	1	11/17/18 00:14	10/31/18	
2,4'-DDT	ND	U	0.094	0.094	1	11/17/18 00:14	10/31/18	
4,4'-DDD	**4.1**		0.091	0.035	1	11/17/18 00:14	10/31/18	
4,4'-DDE	**8.9**		0.091	0.070	1	11/17/18 00:14	10/31/18	
4,4'-DDT	ND	U	0.091	0.047	1	11/17/18 00:14	10/31/18	
Aldrin	ND	U	0.091	0.079	1	11/17/18 00:14	10/31/18	
alpha-Chlordane	**0.14**	**J**	0.18	0.062	1	11/17/18 00:14	10/31/18	
cis-Nonachlor	ND	U	0.097	0.097	1	11/17/18 00:14	10/31/18	
Dieldrin	ND	U	0.20	0.077	1	11/17/18 00:14	10/31/18	
gamma-BHC (Lindane)	ND	U	0.091	0.031	1	11/17/18 00:14	10/31/18	
gamma-Chlordane	**0.46**		0.18	0.064	1	11/17/18 00:14	10/31/18	
Heptachlor	ND	U	0.091	0.039	1	11/17/18 00:14	10/31/18	
Oxychlordane	ND	U	0.20	0.13	1	11/17/18 00:14	10/31/18	
trans-Nonachlor	ND	U	0.18	0.058	1	11/17/18 00:14	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	36	5 - 120	11/17/18 00:14	
S_4,4'-DDT-d4	83	13 - 200	11/17/18 00:14	
S_Aldrin-13C12	27	10 - 143	11/17/18 00:14	
S_Endrin-13C12	40	20 - 157	11/17/18 00:14	
S_GBHCD6	30	5 - 124	11/17/18 00:14	
S_Heptachlor-13C10	42	10 - 177	11/17/18 00:14	
S_Heptachlrepox13C10	32	8 - 146	11/17/18 00:14	
S_Oxychlordane-13C10	30	5 - 144	11/17/18 00:14	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 14:30
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	H3-SC-99to114-102118	**Units:**	ug/Kg
Lab Code:	K1810302-024	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.071	0.063	1	11/17/18 00:32	10/31/18	
2,4'-DDE	ND U	0.079	0.079	1	11/17/18 00:32	10/31/18	
2,4'-DDT	ND U	0.094	0.094	1	11/17/18 00:32	10/31/18	
4,4'-DDD	ND U	0.071	0.035	1	11/17/18 00:32	10/31/18	
4,4'-DDE	ND U	0.071	0.070	1	11/17/18 00:32	10/31/18	
4,4'-DDT	ND U	0.071	0.047	1	11/17/18 00:32	10/31/18	
Aldrin	ND U	0.079	0.079	1	11/17/18 00:32	10/31/18	
alpha-Chlordane	ND U	0.14	0.062	1	11/17/18 00:32	10/31/18	
cis-Nonachlor	ND U	0.097	0.097	1	11/17/18 00:32	10/31/18	
Dieldrin	ND U	0.20	0.077	1	11/17/18 00:32	10/31/18	
gamma-BHC (Lindane)	ND U	0.071	0.031	1	11/17/18 00:32	10/31/18	
gamma-Chlordane	ND U	0.14	0.064	1	11/17/18 00:32	10/31/18	
Heptachlor	ND U	0.071	0.039	1	11/17/18 00:32	10/31/18	
Oxychlordane	ND U	0.20	0.13	1	11/17/18 00:32	10/31/18	
trans-Nonachlor	ND U	0.14	0.058	1	11/17/18 00:32	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	73	5 - 120	11/17/18 00:32	
S_4,4'-DDT-d4	98	13 - 200	11/17/18 00:32	
S_Aldrin-13C12	48	10 - 143	11/17/18 00:32	
S_Endrin-13C12	71	20 - 157	11/17/18 00:32	
S_GBHCD6	49	5 - 124	11/17/18 00:32	
S_Heptachlor-13C10	66	10 - 177	11/17/18 00:32	
S_Heptachlrepox13C10	53	8 - 146	11/17/18 00:32	
S_Oxychlordane-13C10	52	5 - 144	11/17/18 00:32	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 17:50
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-88to108-102118	**Units:**	ug/Kg
Lab Code:	K1810302-025	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND	U	0.070	0.063	1	11/16/18 17:46	10/31/18	
2,4'-DDE	ND	U	0.079	0.079	1	11/16/18 17:46	10/31/18	
2,4'-DDT	ND	U	0.094	0.094	1	11/16/18 17:46	10/31/18	
4,4'-DDD	**0.043**	**J**	0.070	0.035	1	11/16/18 17:46	10/31/18	
4,4'-DDE	**0.11**		0.070	0.070	1	11/16/18 17:46	10/31/18	
4,4'-DDT	ND	U	0.070	0.047	1	11/16/18 17:46	10/31/18	
Aldrin	ND	U	0.079	0.079	1	11/16/18 17:46	10/31/18	
alpha-Chlordane	ND	U	0.14	0.062	1	11/16/18 17:46	10/31/18	
cis-Nonachlor	ND	U	0.097	0.097	1	11/16/18 17:46	10/31/18	
Dieldrin	ND	U	0.20	0.077	1	11/16/18 17:46	10/31/18	
gamma-BHC (Lindane)	ND	U	0.070	0.031	1	11/16/18 17:46	10/31/18	
gamma-Chlordane	ND	U	0.14	0.064	1	11/16/18 17:46	10/31/18	
Heptachlor	ND	U	0.070	0.039	1	11/16/18 17:46	10/31/18	
Oxychlordane	ND	U	0.20	0.13	1	11/16/18 17:46	10/31/18	
trans-Nonachlor	ND	U	0.14	0.058	1	11/16/18 17:46	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	60	5 - 120	11/16/18 17:46	
S_4,4'-DDT-d4	80	13 - 200	11/16/18 17:46	
S_Aldrin-13C12	46	10 - 143	11/16/18 17:46	
S_Endrin-13C12	58	20 - 157	11/16/18 17:46	
S_GBHCD6	44	5 - 124	11/16/18 17:46	
S_Heptachlor-13C10	52	10 - 177	11/16/18 17:46	
S_Heptachlrepox13C10	48	8 - 146	11/16/18 17:46	
S_Oxychlordane-13C10	47	5 - 144	11/16/18 17:46	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 12:50
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	H3-SC-46to63-102118	**Units:**	ug/Kg
Lab Code:	K1810302-026	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.073	0.063	1	11/17/18 00:49	10/31/18	
2,4'-DDE	ND U	0.079	0.079	1	11/17/18 00:49	10/31/18	
2,4'-DDT	ND U	0.094	0.094	1	11/17/18 00:49	10/31/18	
4,4'-DDD	ND Ui	0.59	0.59	1	11/17/18 00:49	10/31/18	
4,4'-DDE	**0.13**	0.073	0.070	1	11/17/18 00:49	10/31/18	
4,4'-DDT	ND U	0.073	0.047	1	11/17/18 00:49	10/31/18	
Aldrin	ND U	0.079	0.079	1	11/17/18 00:49	10/31/18	
alpha-Chlordane	ND U	0.15	0.062	1	11/17/18 00:49	10/31/18	
cis-Nonachlor	ND U	0.097	0.097	1	11/17/18 00:49	10/31/18	
Dieldrin	ND U	0.20	0.077	1	11/17/18 00:49	10/31/18	
gamma-BHC (Lindane)	ND U	0.073	0.031	1	11/17/18 00:49	10/31/18	
gamma-Chlordane	ND U	0.15	0.064	1	11/17/18 00:49	10/31/18	
Heptachlor	ND U	0.073	0.039	1	11/17/18 00:49	10/31/18	
Oxychlordane	ND U	0.20	0.13	1	11/17/18 00:49	10/31/18	
trans-Nonachlor	ND U	0.15	0.058	1	11/17/18 00:49	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	66	5 - 120	11/17/18 00:49	
S_4,4'-DDT-d4	112	13 - 200	11/17/18 00:49	
S_Aldrin-13C12	42	10 - 143	11/17/18 00:49	
S_Endrin-13C12	65	20 - 157	11/17/18 00:49	
S_GBHCD6	46	5 - 124	11/17/18 00:49	
S_Heptachlor-13C10	64	10 - 177	11/17/18 00:49	
S_Heptachlrepox13C10	47	8 - 146	11/17/18 00:49	
S_Oxychlordane-13C10	47	5 - 144	11/17/18 00:49	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 16:00
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-0to1-102118	**Units:**	ug/Kg
Lab Code:	K1810302-027	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND	U	0.12	0.073	1	11/17/18 01:07	10/31/18	
2,4'-DDE	**0.15**		0.12	0.092	1	11/17/18 01:07	10/31/18	
2,4'-DDT	ND	U	0.12	0.11	1	11/17/18 01:07	10/31/18	
4,4'-DDD	**1.8**		0.12	0.041	1	11/17/18 01:07	10/31/18	
4,4'-DDE	**2.8**		0.12	0.081	1	11/17/18 01:07	10/31/18	
4,4'-DDT	ND	U	0.12	0.055	1	11/17/18 01:07	10/31/18	
Aldrin	ND	U	0.12	0.092	1	11/17/18 01:07	10/31/18	
alpha-Chlordane	**0.18**	**J**	0.23	0.072	1	11/17/18 01:07	10/31/18	
cis-Nonachlor	ND	U	0.12	0.12	1	11/17/18 01:07	10/31/18	
Dieldrin	ND	U	0.23	0.089	1	11/17/18 01:07	10/31/18	
gamma-BHC (Lindane)	ND	U	0.12	0.036	1	11/17/18 01:07	10/31/18	
gamma-Chlordane	**0.29**		0.23	0.074	1	11/17/18 01:07	10/31/18	
Heptachlor	ND	U	0.12	0.046	1	11/17/18 01:07	10/31/18	
Oxychlordane	ND	U	0.23	0.16	1	11/17/18 01:07	10/31/18	
trans-Nonachlor	**0.20**	**J**	0.23	0.067	1	11/17/18 01:07	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	70	5 - 120	11/17/18 01:07	
S_4,4'-DDT-d4	100	13 - 200	11/17/18 01:07	
S_Aldrin-13C12	44	10 - 143	11/17/18 01:07	
S_Endrin-13C12	67	20 - 157	11/17/18 01:07	
S_GBHCD6	50	5 - 124	11/17/18 01:07	
S_Heptachlor-13C10	69	10 - 177	11/17/18 01:07	
S_Heptachlrepox13C10	50	8 - 146	11/17/18 01:07	
S_Oxychlordane-13C10	48	5 - 144	11/17/18 01:07	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 11:55
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	H3-SC-1to2-102118	**Units:**	ug/Kg
Lab Code:	K1810302-028	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND	U	0.096	0.063	1	11/17/18 01:25	10/31/18	
2,4'-DDE	**2.4**		0.096	0.079	1	11/17/18 01:25	10/31/18	
2,4'-DDT	ND	U	0.096	0.094	1	11/17/18 01:25	10/31/18	
4,4'-DDD	**13**		0.096	0.035	1	11/17/18 01:25	10/31/18	
4,4'-DDE	**19**		0.096	0.070	1	11/17/18 01:25	10/31/18	
4,4'-DDT	**2.0**		0.096	0.047	1	11/17/18 01:25	10/31/18	
Aldrin	ND	U	0.096	0.079	1	11/17/18 01:25	10/31/18	
alpha-Chlordane	**0.33**		0.19	0.062	1	11/17/18 01:25	10/31/18	
cis-Nonachlor	**0.19**		0.097	0.097	1	11/17/18 01:25	10/31/18	
Dieldrin	ND	U	0.20	0.077	1	11/17/18 01:25	10/31/18	
gamma-BHC (Lindane)	ND	U	0.096	0.031	1	11/17/18 01:25	10/31/18	
gamma-Chlordane	**1.0**		0.19	0.064	1	11/17/18 01:25	10/31/18	
Heptachlor	ND	U	0.096	0.039	1	11/17/18 01:25	10/31/18	
Oxychlordane	ND	U	0.20	0.13	1	11/17/18 01:25	10/31/18	
trans-Nonachlor	**0.13**	**J**	0.19	0.058	1	11/17/18 01:25	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	50	5 - 120	11/17/18 01:25	
S_4,4'-DDT-d4	132	13 - 200	11/17/18 01:25	
S_Aldrin-13C12	37	10 - 143	11/17/18 01:25	
S_Endrin-13C12	59	20 - 157	11/17/18 01:25	
S_GBHCD6	37	5 - 124	11/17/18 01:25	
S_Heptachlor-13C10	57	10 - 177	11/17/18 01:25	
S_Heptachlrepox13C10	36	8 - 146	11/17/18 01:25	
S_Oxychlordane-13C10	31	5 - 144	11/17/18 01:25	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 16:15
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-1to2-102118	**Units:**	ug/Kg
Lab Code:	K1810302-029	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.11	0.069	1	11/17/18 01:42	10/31/18	
2,4'-DDE	**0.43**	0.11	0.086	1	11/17/18 01:42	10/31/18	
2,4'-DDT	ND U	0.11	0.11	1	11/17/18 01:42	10/31/18	
4,4'-DDD	**1.8**	0.11	0.038	1	11/17/18 01:42	10/31/18	
4,4'-DDE	**4.6**	0.11	0.076	1	11/17/18 01:42	10/31/18	
4,4'-DDT	ND U	0.11	0.051	1	11/17/18 01:42	10/31/18	
Aldrin	ND U	0.11	0.086	1	11/17/18 01:42	10/31/18	
alpha-Chlordane	**0.15 J**	0.22	0.067	1	11/17/18 01:42	10/31/18	
cis-Nonachlor	**0.19**	0.11	0.11	1	11/17/18 01:42	10/31/18	
Dieldrin	ND U	0.22	0.084	1	11/17/18 01:42	10/31/18	
gamma-BHC (Lindane)	**0.13**	0.11	0.034	1	11/17/18 01:42	10/31/18	
gamma-Chlordane	**0.45**	0.22	0.070	1	11/17/18 01:42	10/31/18	
Heptachlor	ND U	0.11	0.043	1	11/17/18 01:42	10/31/18	
Oxychlordane	ND U	0.22	0.15	1	11/17/18 01:42	10/31/18	
trans-Nonachlor	**0.24**	0.22	0.063	1	11/17/18 01:42	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	49	5 - 120	11/17/18 01:42	
S_4,4'-DDT-d4	95	13 - 200	11/17/18 01:42	
S_Aldrin-13C12	35	10 - 143	11/17/18 01:42	
S_Endrin-13C12	49	20 - 157	11/17/18 01:42	
S_GBHCD6	36	5 - 124	11/17/18 01:42	
S_Heptachlor-13C10	52	10 - 177	11/17/18 01:42	
S_Heptachlrepox13C10	38	8 - 146	11/17/18 01:42	
S_Oxychlordane-13C10	35	5 - 144	11/17/18 01:42	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1815430-04	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.063	0.063	1	11/16/18 22:46	10/31/18	
2,4'-DDE	ND U	0.079	0.079	1	11/16/18 22:46	10/31/18	
2,4'-DDT	ND U	0.094	0.094	1	11/16/18 22:46	10/31/18	
4,4'-DDD	ND U	0.049	0.035	1	11/16/18 22:46	10/31/18	
4,4'-DDE	ND U	0.070	0.070	1	11/16/18 22:46	10/31/18	
4,4'-DDT	ND U	0.049	0.047	1	11/16/18 22:46	10/31/18	
Aldrin	ND U	0.079	0.079	1	11/16/18 22:46	10/31/18	
alpha-Chlordane	ND U	0.098	0.062	1	11/16/18 22:46	10/31/18	
cis-Nonachlor	ND U	0.097	0.097	1	11/16/18 22:46	10/31/18	
Dieldrin	ND U	0.20	0.077	1	11/16/18 22:46	10/31/18	
gamma-BHC (Lindane)	ND U	0.049	0.031	1	11/16/18 22:46	10/31/18	
gamma-Chlordane	ND U	0.098	0.064	1	11/16/18 22:46	10/31/18	
Heptachlor	ND U	0.049	0.039	1	11/16/18 22:46	10/31/18	
Oxychlordane	ND U	0.20	0.13	1	11/16/18 22:46	10/31/18	
trans-Nonachlor	ND U	0.098	0.058	1	11/16/18 22:46	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	69	5 - 120	11/16/18 22:46	
S_4,4'-DDT-d4	92	13 - 200	11/16/18 22:46	
S_Aldrin-13C12	46	10 - 143	11/16/18 22:46	
S_Endrin-13C12	61	20 - 157	11/16/18 22:46	
S_GBHCD6	45	5 - 124	11/16/18 22:46	
S_Heptachlor-13C10	59	10 - 177	11/16/18 22:46	
S_Heptachlrepox13C10	49	8 - 146	11/16/18 22:46	
S_Oxychlordane-13C10	49	5 - 144	11/16/18 22:46	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1815510-04	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.063	0.063	1	11/16/18 16:36	10/31/18	
2,4'-DDE	ND U	0.079	0.079	1	11/16/18 16:36	10/31/18	
2,4'-DDT	ND U	0.094	0.094	1	11/16/18 16:36	10/31/18	
4,4'-DDD	ND U	0.049	0.035	1	11/16/18 16:36	10/31/18	
4,4'-DDE	ND U	0.070	0.070	1	11/16/18 16:36	10/31/18	
4,4'-DDT	ND U	0.049	0.047	1	11/16/18 16:36	10/31/18	
Aldrin	ND U	0.079	0.079	1	11/16/18 16:36	10/31/18	
alpha-Chlordane	ND U	0.098	0.062	1	11/16/18 16:36	10/31/18	
cis-Nonachlor	ND U	0.097	0.097	1	11/16/18 16:36	10/31/18	
Dieldrin	ND U	0.20	0.077	1	11/16/18 16:36	10/31/18	
gamma-BHC (Lindane)	ND U	0.049	0.031	1	11/16/18 16:36	10/31/18	
gamma-Chlordane	ND U	0.098	0.064	1	11/16/18 16:36	10/31/18	
Heptachlor	ND U	0.049	0.039	1	11/16/18 16:36	10/31/18	
Oxychlordane	ND U	0.20	0.13	1	11/16/18 16:36	10/31/18	
trans-Nonachlor	ND U	0.098	0.058	1	11/16/18 16:36	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	69	5 - 120	11/16/18 16:36	
S_4,4'-DDT-d4	75	13 - 200	11/16/18 16:36	
S_Aldrin-13C12	63	10 - 143	11/16/18 16:36	
S_Endrin-13C12	78	20 - 157	11/16/18 16:36	
S_GBHCD6	63	5 - 124	11/16/18 16:36	
S_Heptachlor-13C10	62	10 - 177	11/16/18 16:36	
S_Heptachlrepox13C10	64	8 - 146	11/16/18 16:36	
S_Oxychlordane-13C10	63	5 - 144	11/16/18 16:36	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1816244-04	**Basis:**	Dry

Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4'-DDD	ND U	0.063	0.063	1	11/26/18 20:29	11/7/18	
2,4'-DDE	ND U	0.079	0.079	1	11/26/18 20:29	11/7/18	
2,4'-DDT	ND U	0.094	0.094	1	11/26/18 20:29	11/7/18	
4,4'-DDD	ND U	0.050	0.035	1	11/26/18 20:29	11/7/18	
4,4'-DDE	ND U	0.070	0.070	1	11/26/18 20:29	11/7/18	
4,4'-DDT	ND U	0.050	0.047	1	11/26/18 20:29	11/7/18	
Aldrin	ND U	0.079	0.079	1	11/26/18 20:29	11/7/18	
alpha-Chlordane	ND U	0.099	0.062	1	11/26/18 20:29	11/7/18	
cis-Nonachlor	ND U	0.097	0.097	1	11/26/18 20:29	11/7/18	
Dieldrin	ND U	0.20	0.077	1	11/26/18 20:29	11/7/18	
gamma-BHC (Lindane)	ND U	0.050	0.031	1	11/26/18 20:29	11/7/18	
gamma-Chlordane	ND U	0.099	0.064	1	11/26/18 20:29	11/7/18	
Heptachlor	ND U	0.050	0.039	1	11/26/18 20:29	11/7/18	
Oxychlordane	ND U	0.20	0.13	1	11/26/18 20:29	11/7/18	
trans-Nonachlor	ND U	0.099	0.058	1	11/26/18 20:29	11/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	88	5 - 120	11/26/18 20:29	
S_4,4'-DDT-d4	107	13 - 200	11/26/18 20:29	
S_Aldrin-13C12	61	10 - 143	11/26/18 20:29	
S_Endrin-13C12	86	20 - 157	11/26/18 20:29	
S_GBHCD6	65	5 - 124	11/26/18 20:29	
S_Heptachlor-13C10	86	10 - 177	11/26/18 20:29	
S_Heptachlrepox13C10	70	8 - 146	11/26/18 20:29	
S_Oxychlordane-13C10	69	5 - 144	11/26/18 20:29	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Extraction Method: EPA 3541

Sample Name	Lab Code	S_4,4'DDD-d4 5-120	S_4,4'-DDT-d4 13-200	S_Aldrin-13C12 10-143
A1-0to30-102018	K1810302-016	84	99	58
D6-SC-64to88-102118	K1810302-022	82	120	51
D6-SC-40to64-102118	K1810302-023	36	83	27
H3-SC-99to114-102118	K1810302-024	73	98	48
D6-SC-88to108-102118	K1810302-025	60	80	46
H3-SC-46to63-102118	K1810302-026	66	112	42
D6-SC-0to1-102118	K1810302-027	70	100	44
H3-SC-1to2-102118	K1810302-028	50	132	37
D6-SC-1to2-102118	K1810302-029	49	95	35
Method Blank	KQ1815430-04	69	92	46
Method Blank	KQ1815510-04	69	75	63
Method Blank	KQ1816244-04	88	107	61
Lab Control Sample	KQ1815430-03	70	88	46
Lab Control Sample	KQ1815510-03	79	88	67
Lab Control Sample	KQ1816244-03	89	102	67
D6-SC-40to64-102118	KQ1815430-01	51	88	35
D6-SC-40to64-102118	KQ1815430-02	51	92	37
A1-0to30-102018	KQ1816244-01	85	102	69
A1-0to30-102018	KQ1816244-02	85	102	69

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Extraction Method: EPA 3541

Sample Name	Lab Code	S_Endrin-13C12 20-157	S_GBHCD6 5-124	S_Heptachlor-13C10 10-177
A1-0to30-102018	K1810302-016	79	61	78
D6-SC-64to88-102118	K1810302-022	78	58	75
D6-SC-40to64-102118	K1810302-023	40	30	42
H3-SC-99to114-102118	K1810302-024	71	49	66
D6-SC-88to108-102118	K1810302-025	58	44	52
H3-SC-46to63-102118	K1810302-026	65	46	64
D6-SC-0to1-102118	K1810302-027	67	50	69
H3-SC-1to2-102118	K1810302-028	59	37	57
D6-SC-1to2-102118	K1810302-029	49	36	52
Method Blank	KQ1815430-04	61	45	59
Method Blank	KQ1815510-04	78	63	62
Method Blank	KQ1816244-04	86	65	86
Lab Control Sample	KQ1815430-03	64	45	58
Lab Control Sample	KQ1815510-03	81	66	70
Lab Control Sample	KQ1816244-03	92	75	91
D6-SC-40to64-102118	KQ1815430-01	54	37	55
D6-SC-40to64-102118	KQ1815430-02	52	38	56
A1-0to30-102018	KQ1816244-01	88	73	90
A1-0to30-102018	KQ1816244-02	88	73	90

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP
Extraction Method: EPA 3541

Sample Name	Lab Code	S_Heptachlrepox13C10 8-146	S_Oxychlordane-13C10 5-144
A1-0to30-102018	K1810302-016	65	63
D6-SC-64to88-102118	K1810302-022	59	58
D6-SC-40to64-102118	K1810302-023	32	30
H3-SC-99to114-102118	K1810302-024	53	52
D6-SC-88to108-102118	K1810302-025	48	47
H3-SC-46to63-102118	K1810302-026	47	47
D6-SC-0to1-102118	K1810302-027	50	48
H3-SC-1to2-102118	K1810302-028	36	31
D6-SC-1to2-102118	K1810302-029	38	35
Method Blank	KQ1815430-04	49	49
Method Blank	KQ1815510-04	64	63
Method Blank	KQ1816244-04	70	69
Lab Control Sample	KQ1815430-03	47	48
Lab Control Sample	KQ1815510-03	66	65
Lab Control Sample	KQ1816244-03	76	72
D6-SC-40to64-102118	KQ1815430-01	40	38
D6-SC-40to64-102118	KQ1815430-02	41	38
A1-0to30-102018	KQ1816244-01	75	73
A1-0to30-102018	KQ1816244-02	75	73

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**11/16/18 16:18

Internal Standard Area and RT SUMMARY
Organochlorine Pesticides by GC/MS/MS

File ID: Y:\MS42\data\111618\111618F018.D **Lab Code:**KQ1816988-01
Instrument ID: K-MS-42 **Analysis Lot:**615706
Analysis Method: ALS SOP **Signal ID:**1

		Pyrene-d10	
		Area	**RT**
	Result ==>	10,374,820	9.725
	Upper Limit ==>	20,749,640	10.23
	Lower Limit ==>	5,187,410	9.23
Associated Analyses			
Method Blank	KQ1815510-04	7945179.059	9.725
Lab Control Sample	KQ1815510-03	8864969.716	9.725
D6-SC-88to108-102118	K1810302-025	10021362.05	9.725
Method Blank	KQ1815430-04	12395829.1	9.725
Lab Control Sample	KQ1815430-03	15498090.9	9.729
D6-SC-40to64-102118MS	KQ1815430-01	10784629.87	9.749
D6-SC-40to64-102118DMS	KQ1815430-02	10320433.58	9.756
D6-SC-64to88-102118	K1810302-022	12221847.46	9.731
D6-SC-40to64-102118	K1810302-023	10620181.75	9.750
H3-SC-99to114-102118	K1810302-024	12266669.94	9.732
H3-SC-46to63-102118	K1810302-026	12657461.06	9.739
D6-SC-0to1-102118	K1810302-027	12278376.04	9.736
H3-SC-1to2-102118	K1810302-028	8081765.134	9.763
D6-SC-1to2-102118	K1810302-029	10696292.14	9.750

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**11/26/18 11:48

Internal Standard Area and RT SUMMARY
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS42\Data\112618\112618F003.D **Lab Code:**KQ1817669-01
Instrument ID: K-MS-42 **Analysis Lot:**617367
Analysis Method: ALS SOP **Signal ID:**1

		Pyrene-d10	
		Area	**RT**
	Result ==>	7,371,425	9.764
	Upper Limit ==>	14,742,849	10.26
	Lower Limit ==>	3,685,712	9.26
Associated Analyses			
Method Blank	KQ1816244-04	10437348.58	9.752
Lab Control Sample	KQ1816244-03	8282225.553	9.750
A1-0to30-102018MS	KQ1816244-01	8149401.545	9.750
A1-0to30-102018DMS	KQ1816244-02	8149401.545	9.750
A1-0to30-102018	K1810302-016	10080709.65	9.750

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
		Date Analyzed:	11/16/18
		Date Extracted:	10/31/18

Duplicate Matrix Spike Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	D6-SC-40to64-102118	**Units:**	ug/Kg
Lab Code:	K1810302-023	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	EPA 3541		

		Matrix Spike KQ1815430-01			**Duplicate Matrix Spike** KQ1815430-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4'-DDD	ND U	2.40	1.81	133	2.19	1.80	122	32-169	9	40
2,4'-DDE	1.2	2.63	1.81	77	2.64	1.80	79	43-155	<1	40
2,4'-DDT	ND U	1.44	1.81	79	1.45	1.80	81	55-161	1	40
4,4'-DDD	4.1	5.42	1.81	74	5.58	1.80	84	10-190	3	40
4,4'-DDE	8.9	9.11	1.81	10 #	8.91	1.80	0 #	35-162	2	40
4,4'-DDT	ND U	1.26	1.81	69	1.38	1.80	77	24-183	9	40
Aldrin	ND U	60.2 E	1.81	3327 *	61.1 E	1.80	3402 *	52-151	1	40
alpha-Chlordane	0.14 J	1.92	1.81	98	1.86	1.80	96	31-156	3	40
cis-Nonachlor	ND U	1.51	1.81	84	1.46	1.80	81	27-144	4	40
Dieldrin	ND U	1.38	1.81	76	1.97	1.80	110	28-150	35	40
gamma-BHC (Lindane)	ND U	1.38	1.81	76	1.35	1.80	75	64-135	2	40
gamma-Chlordane	0.46	2.23	1.81	98	2.23	1.80	98	31-158	<1	40
Heptachlor	ND U	1.75	1.81	97	1.79	1.80	100	76-117	3	40
Oxychlordane	ND U	1.46	1.81	81	1.36	1.80	75	53-144	7	40
trans-Nonachlor	ND U	1.67	1.81	92	1.62	1.80	90	35-153	3	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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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
		Date Analyzed:	11/26/18
		Date Extracted:	11/7/18

Duplicate Matrix Spike Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	A1-0to30-102018	**Units:**	ug/Kg
Lab Code:	K1810302-016	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	EPA 3541		

		Matrix Spike KQ1816244-01			**Duplicate Matrix Spike** KQ1816244-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4'-DDD	ND U	1.76	1.82	97	1.76	1.82	97	32-169	<1	40
2,4'-DDE	ND U	1.61	1.82	88	1.61	1.82	88	43-155	<1	40
2,4'-DDT	ND U	1.50	1.82	82	1.65	1.82	90	55-161	10	40
4,4'-DDD	ND U	1.96	1.82	107	1.78	1.82	98	10-190	10	40
4,4'-DDE	ND U	1.41	1.82	77	1.41	1.82	77	35-162	<1	40
4,4'-DDT	ND U	1.71	1.82	94	1.71	1.82	94	24-183	<1	40
Aldrin	ND U	1.80	1.82	99	1.80	1.82	99	52-151	<1	40
alpha-Chlordane	ND U	1.93	1.82	106	1.93	1.82	106	31-156	<1	40
cis-Nonachlor	ND U	1.86	1.82	102	1.86	1.82	102	27-144	<1	40
Dieldrin	ND U	1.46	1.82	80	1.46	1.82	80	28-150	<1	40
gamma-BHC (Lindane)	ND U	1.88	1.82	103	1.88	1.82	103	64-135	<1	40
gamma-Chlordane	ND U	1.82	1.82	100	1.82	1.82	100	31-158	<1	40
Heptachlor	ND U	1.91	1.82	105	1.91	1.82	105	76-117	<1	40
Oxychlordane	ND U	1.78	1.82	98	1.78	1.82	98	53-144	<1	40
trans-Nonachlor	ND U	1.47	1.82	81	1.47	1.82	81	35-153	<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.

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	EPA 3541	**Basis:**	Dry
		Analysis Lot:	615706

Lab Control Sample
KQ1815430-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2,4'-DDD	1.55	2.00	77	73-122
2,4'-DDE	1.45	2.00	72	54-145
2,4'-DDT	1.77	2.00	89	77-118
4,4'-DDD	2.08	2.00	104	74-117
4,4'-DDE	1.39	2.00	69	66-132
4,4'-DDT	1.79	2.00	90	78-116
Aldrin	1.93	2.00	96	74-122
alpha-Chlordane	1.96	2.00	98	74-130
cis-Nonachlor	1.96	2.00	98	69-134
Dieldrin	1.50	2.00	75	62-131
gamma-BHC (Lindane)	1.91	2.00	96	79-116
gamma-Chlordane	1.99	2.00	99	76-128
Heptachlor	2.07	2.00	103	81-114
Oxychlordane	1.94	2.00	97	59-141
trans-Nonachlor	1.90	2.00	95	76-124

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	EPA 3541	**Basis:**	Dry
		Analysis Lot:	615706

Lab Control Sample
KQ1815510-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2,4'-DDD	1.86	2.00	93	73-122
2,4'-DDE	1.85	2.00	92	54-145
2,4'-DDT	1.88	2.00	94	77-118
4,4'-DDD	2.00	2.00	100	74-117
4,4'-DDE	1.70	2.00	85	66-132
4,4'-DDT	1.86	2.00	93	78-116
Aldrin	2.02	2.00	101	74-122
alpha-Chlordane	1.99	2.00	99	74-130
cis-Nonachlor	2.04	2.00	102	69-134
Dieldrin	1.68	2.00	84	62-131
gamma-BHC (Lindane)	1.88	2.00	94	79-116
gamma-Chlordane	2.06	2.00	103	76-128
Heptachlor	1.93	2.00	96	81-114
Oxychlordane	1.95	2.00	98	59-141
trans-Nonachlor	1.91	2.00	96	76-124

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/26/18
Sample Matrix:	Sediment	**Date Extracted:**	11/07/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	EPA 3541	**Basis:**	Dry
		Analysis Lot:	617367

Lab Control Sample
KQ1816244-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2,4'-DDD	1.91	2.00	95	73-122
2,4'-DDE	1.76	2.00	88	54-145
2,4'-DDT	1.72	2.00	86	77-118
4,4'-DDD	2.21	2.00	111	74-117
4,4'-DDE	1.53	2.00	76	66-132
4,4'-DDT	1.97	2.00	99	78-116
Aldrin	2.11	2.00	106	74-122
alpha-Chlordane	2.23	2.00	111	74-130
cis-Nonachlor	2.15	2.00	107	69-134
Dieldrin	1.56	2.00	78	62-131
gamma-BHC (Lindane)	2.00	2.00	100	79-116
gamma-Chlordane	2.12	2.00	106	76-128
Heptachlor	2.09	2.00	105	81-114
Oxychlordane	2.04	2.00	102	59-141
trans-Nonachlor	1.65	2.00	83	76-124

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18 16:36
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MS-42
Lab Code:	KQ1815510-04	**File ID:**	Y:\MS42\data\111618\111618F019.D
Analysis Method:	ALS SOP	**Analysis Lot:**	615706
Prep Method:	EPA 3541	**Extraction Lot:**	325017

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1815510-03	Y:\MS42\data\111618\111618F020.D	11/16/18 16:53
D6-SC-88to108-102118	K1810302-025	Y:\MS42\data\111618\111618F023.D	11/16/18 17:46

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18 22:46
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MS-42
Lab Code:	KQ1815430-04	**File ID:**	Y:\MS42\data\111618\111618F040.D
Analysis Method:	ALS SOP	**Analysis Lot:**	615706
Prep Method:	EPA 3541	**Extraction Lot:**	324902

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1815430-03	Y:\MS42\data\111618\111618F041.D	11/16/18 23:04
D6-SC-40to64-102118MS	KQ1815430-01	Y:\MS42\data\111618\111618F042.D	11/16/18 23:21
D6-SC-40to64-102118DMS	KQ1815430-02	Y:\MS42\data\111618\111618F043.D	11/16/18 23:39
D6-SC-64to88-102118	K1810302-022	Y:\MS42\data\111618\111618F044.D	11/16/18 23:56
D6-SC-40to64-102118	K1810302-023	Y:\MS42\data\111618\111618F045.D	11/17/18 00:14
H3-SC-99to114-102118	K1810302-024	Y:\MS42\data\111618\111618F046.D	11/17/18 00:32
H3-SC-46to63-102118	K1810302-026	Y:\MS42\data\111618\111618F047.D	11/17/18 00:49
D6-SC-0to1-102118	K1810302-027	Y:\MS42\data\111618\111618F048.D	11/17/18 01:07
H3-SC-1to2-102118	K1810302-028	Y:\MS42\data\111618\111618F049.D	11/17/18 01:25
D6-SC-1to2-102118	K1810302-029	Y:\MS42\data\111618\111618F050.D	11/17/18 01:42

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18 16:36
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MS-42
Lab Code:	KQ1815510-04	**File ID:**	Y:\MS42\data\111618\111618F019.D
Analysis Method:	ALS SOP	**Analysis Lot:**	615706
Prep Method:	EPA 3541	**Extraction Lot:**	325017

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1815510-03	Y:\MS42\data\111618\111618F020.D	11/16/18 16:53
D6-SC-88to108-102118	K1810302-025	Y:\MS42\data\111618\111618F023.D	11/16/18 17:46

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18 22:46
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MS-42
Lab Code:	KQ1815430-04	**File ID:**	Y:\MS42\data\111618\111618F040.D
Analysis Method:	ALS SOP	**Analysis Lot:**	615706
Prep Method:	EPA 3541	**Extraction Lot:**	324902

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1815430-03	Y:\MS42\data\111618\111618F041.D	11/16/18 23:04
D6-SC-40to64-102118MS	KQ1815430-01	Y:\MS42\data\111618\111618F042.D	11/16/18 23:21
D6-SC-40to64-102118DMS	KQ1815430-02	Y:\MS42\data\111618\111618F043.D	11/16/18 23:39
D6-SC-64to88-102118	K1810302-022	Y:\MS42\data\111618\111618F044.D	11/16/18 23:56
D6-SC-40to64-102118	K1810302-023	Y:\MS42\data\111618\111618F045.D	11/17/18 00:14
H3-SC-99to114-102118	K1810302-024	Y:\MS42\data\111618\111618F046.D	11/17/18 00:32
H3-SC-46to63-102118	K1810302-026	Y:\MS42\data\111618\111618F047.D	11/17/18 00:49
D6-SC-0to1-102118	K1810302-027	Y:\MS42\data\111618\111618F048.D	11/17/18 01:07
H3-SC-1to2-102118	K1810302-028	Y:\MS42\data\111618\111618F049.D	11/17/18 01:25
D6-SC-1to2-102118	K1810302-029	Y:\MS42\data\111618\111618F050.D	11/17/18 01:42

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/26/18 20:29
Sample Matrix:	Sediment	**Date Extracted:**	11/07/18

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MS-42
Lab Code:	KQ1816244-04	**File ID:**	J:\MS42\Data\112618\112618F031.D
Analysis Method:	ALS SOP	**Analysis Lot:**	617367
Prep Method:	EPA 3541	**Extraction Lot:**	325840

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1816244-03	J:\MS42\Data\112618\112618F032.D	11/26/18 20:46
A1-0to30-102018MS	KQ1816244-01	J:\MS42\Data\112618\112618F033.D	11/26/18 21:04
A1-0to30-102018DMS	KQ1816244-02	J:\MS42\Data\112618\112618F034.D	11/26/18 21:22
A1-0to30-102018	K1810302-016	J:\MS42\Data\112618\112618F036.D	11/26/18 21:57

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18 16:53
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-42
Lab Code:	KQ1815510-03	**File ID:**	Y:\MS42\data\111618\111618F020.D
Analysis Method:	ALS SOP	**Analysis Lot:**	615706
Prep Method:	EPA 3541	**Extraction Lot:**	325017

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1815510-04	Y:\MS42\data\111618\111618F019.D	11/16/18 16:36
D6-SC-88to108-102118	K1810302-025	Y:\MS42\data\111618\111618F023.D	11/16/18 17:46

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18 23:04
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-42
Lab Code:	KQ1815430-03	**File ID:**	Y:\MS42\data\111618\111618F041.D
Analysis Method:	ALS SOP	**Analysis Lot:**	615706
Prep Method:	EPA 3541	**Extraction Lot:**	324902

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1815430-04	Y:\MS42\data\111618\111618F040.D	11/16/18 22:46
D6-SC-40to64-102118MS	KQ1815430-01	Y:\MS42\data\111618\111618F042.D	11/16/18 23:21
D6-SC-40to64-102118DMS	KQ1815430-02	Y:\MS42\data\111618\111618F043.D	11/16/18 23:39
D6-SC-64to88-102118	K1810302-022	Y:\MS42\data\111618\111618F044.D	11/16/18 23:56
D6-SC-40to64-102118	K1810302-023	Y:\MS42\data\111618\111618F045.D	11/17/18 00:14
H3-SC-99to114-102118	K1810302-024	Y:\MS42\data\111618\111618F046.D	11/17/18 00:32
H3-SC-46to63-102118	K1810302-026	Y:\MS42\data\111618\111618F047.D	11/17/18 00:49
D6-SC-0to1-102118	K1810302-027	Y:\MS42\data\111618\111618F048.D	11/17/18 01:07
H3-SC-1to2-102118	K1810302-028	Y:\MS42\data\111618\111618F049.D	11/17/18 01:25
D6-SC-1to2-102118	K1810302-029	Y:\MS42\data\111618\111618F050.D	11/17/18 01:42

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18 16:53
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-42
Lab Code:	KQ1815510-03	**File ID:**	Y:\MS42\data\111618\111618F020.D
Analysis Method:	ALS SOP	**Analysis Lot:**	615706
Prep Method:	EPA 3541	**Extraction Lot:**	325017

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1815510-04	Y:\MS42\data\111618\111618F019.D	11/16/18 16:36
D6-SC-88to108-102118	K1810302-025	Y:\MS42\data\111618\111618F023.D	11/16/18 17:46

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18 23:04
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-42
Lab Code:	KQ1815430-03	**File ID:**	Y:\MS42\data\111618\111618F041.D
Analysis Method:	ALS SOP	**Analysis Lot:**	615706
Prep Method:	EPA 3541	**Extraction Lot:**	324902

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1815430-04	Y:\MS42\data\111618\111618F040.D	11/16/18 22:46
D6-SC-40to64-102118MS	KQ1815430-01	Y:\MS42\data\111618\111618F042.D	11/16/18 23:21
D6-SC-40to64-102118DMS	KQ1815430-02	Y:\MS42\data\111618\111618F043.D	11/16/18 23:39
D6-SC-64to88-102118	K1810302-022	Y:\MS42\data\111618\111618F044.D	11/16/18 23:56
D6-SC-40to64-102118	K1810302-023	Y:\MS42\data\111618\111618F045.D	11/17/18 00:14
H3-SC-99to114-102118	K1810302-024	Y:\MS42\data\111618\111618F046.D	11/17/18 00:32
H3-SC-46to63-102118	K1810302-026	Y:\MS42\data\111618\111618F047.D	11/17/18 00:49
D6-SC-0to1-102118	K1810302-027	Y:\MS42\data\111618\111618F048.D	11/17/18 01:07
H3-SC-1to2-102118	K1810302-028	Y:\MS42\data\111618\111618F049.D	11/17/18 01:25
D6-SC-1to2-102118	K1810302-029	Y:\MS42\data\111618\111618F050.D	11/17/18 01:42

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/26/18 20:46
Sample Matrix:	Sediment	**Date Extracted:**	11/07/18

Lab Control Sample Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-42
Lab Code:	KQ1816244-03	**File ID:**	J:\MS42\Data\112618\112618F032.D
Analysis Method:	ALS SOP	**Analysis Lot:**	617367
Prep Method:	EPA 3541	**Extraction Lot:**	325840

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1816244-04	J:\MS42\Data\112618\112618F031.D	11/26/18 20:29
A1-0to30-102018MS	KQ1816244-01	J:\MS42\Data\112618\112618F033.D	11/26/18 21:04
A1-0to30-102018DMS	KQ1816244-02	J:\MS42\Data\112618\112618F034.D	11/26/18 21:22
A1-0to30-102018	K1810302-016	J:\MS42\Data\112618\112618F036.D	11/26/18 21:57

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**11/16/18 16:18

Tune Summary
Organochlorine Pesticides by GC/MS/MS

File ID: Y:\MS42\data\111618\111618F018.D **Analytical Method:** ALS SOP
Instrument ID: K-MS-42 **Analysis Lot:** 615706

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1816988-01	Y:\MS42\data\111618\111618F018.D	11/16/18 16:18	
Method Blank	KQ1815510-04	Y:\MS42\data\111618\111618F019.D	11/16/18 16:36	
Lab Control Sample	KQ1815510-03	Y:\MS42\data\111618\111618F020.D	11/16/18 16:53	
D6-SC-88to108-102118	K1810302-025	Y:\MS42\data\111618\111618F023.D	11/16/18 17:46	
Method Blank	KQ1815430-04	Y:\MS42\data\111618\111618F040.D	11/16/18 22:46	
Lab Control Sample	KQ1815430-03	Y:\MS42\data\111618\111618F041.D	11/16/18 23:04	
D6-SC-40to64-102118	KQ1815430-01	Y:\MS42\data\111618\111618F042.D	11/16/18 23:21	
D6-SC-40to64-102118	KQ1815430-02	Y:\MS42\data\111618\111618F043.D	11/16/18 23:39	
D6-SC-64to88-102118	K1810302-022	Y:\MS42\data\111618\111618F044.D	11/16/18 23:56	
D6-SC-40to64-102118	K1810302-023	Y:\MS42\data\111618\111618F045.D	11/17/18 00:14	
H3-SC-99to114-102118	K1810302-024	Y:\MS42\data\111618\111618F046.D	11/17/18 00:32	
H3-SC-46to63-102118	K1810302-026	Y:\MS42\data\111618\111618F047.D	11/17/18 00:49	
D6-SC-0to1-102118	K1810302-027	Y:\MS42\data\111618\111618F048.D	11/17/18 01:07	
H3-SC-1to2-102118	K1810302-028	Y:\MS42\data\111618\111618F049.D	11/17/18 01:25	
D6-SC-1to2-102118	K1810302-029	Y:\MS42\data\111618\111618F050.D	11/17/18 01:42	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**11/26/18 11:48

Tune Summary
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS42\Data\112618\112618F003.D **Analytical Method:** ALS SOP
Instrument ID: K-MS-42 **Analysis Lot:** 617367

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1817669-01	J:\MS42\Data\112618\112618F003.D	11/26/18 11:48	
Method Blank	KQ1816244-04	J:\MS42\Data\112618\112618F031.D	11/26/18 20:29	
Lab Control Sample	KQ1816244-03	J:\MS42\Data\112618\112618F032.D	11/26/18 20:46	
A1-0to30-102018	KQ1816244-01	J:\MS42\Data\112618\112618F033.D	11/26/18 21:04	
A1-0to30-102018	KQ1816244-02	J:\MS42\Data\112618\112618F034.D	11/26/18 21:22	
A1-0to30-102018	K1810302-016	J:\MS42\Data\112618\112618F036.D	11/26/18 21:57	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/16/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900105 **Signal ID:** 1
Instrument ID: K-MS-42

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900105-01	OC PEST ICAL 0.5ng/mL SVM59-48A	Y:\MS42\data\111618\111618F007.D	11/16/2018 13:04
02	KC1900105-02	OC PEST ICAL 1ng/mL SVM59-48B	Y:\MS42\data\111618\111618F008.D	11/16/2018 13:22
03	KC1900105-03	OC PEST ICAL 2ng/mL SVM59-48C	Y:\MS42\data\111618\111618F009.D	11/16/2018 13:40
04	KC1900105-04	OC PEST ICAL5ng/mL SVM59-48D	Y:\MS42\data\111618\111618F010.D	11/16/2018 13:57
05	KC1900105-05	OC PEST ICAL 10ng/mL SVM59-48E	Y:\MS42\data\111618\111618F011.D	11/16/2018 14:15
06	KC1900105-06	OC PEST ICAL 20ng/mL SVM59-48F	Y:\MS42\data\111618\111618F012.D	11/16/2018 14:32
07	KC1900105-07	OC PEST ICAL 40ng/mL SVM59-48G	Y:\MS42\data\111618\111618F013.D	11/16/2018 14:50
08	KC1900105-08	OC PEST ICAL 60ng/mL SVM59-48H	Y:\MS42\data\111618\111618F014.D	11/16/2018 15:08
09	KC1900105-09	OC PEST ICAL 80ng/mL SVM59-48I	Y:\MS42\data\111618\111618F015.D	11/16/2018 15:25
10	KC1900105-10	OC PEST ICAL 100ng/mL SVM59-48J	Y:\MS42\data\111618\111618F016.D	11/16/2018 15:43

Analyte

2,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.261	02	1	1.224	03	2	1.178	04	5	1.079
05	10	0.9427	06	20	1.017	07	40	1.047	08	60	1.03
09	80	1.021	10	100	0.9601						

2,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.112	02	1	1.066	03	2	0.9964	04	5	0.9684
05	10	0.9857	06	20	0.9682	07	40	0.8315	08	60	0.868
09	80	0.8943	10	100	0.8158						

2,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.569	02	1	2.415	03	2	2.223	04	5	2.091
05	10	2.002	06	20	2.313	07	40	2.153	08	60	2.109
09	80	2.217	10	100	2.327						

4,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.962	02	1	1.748	03	2	1.715	04	5	1.582
05	10	1.611	06	20	1.612	07	40	1.491	08	60	1.499
09	80	1.442	10	100	1.485						

4,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.062	02	1	1.011	03	2	0.9602	04	5	0.8859
05	10	0.7818	06	20	0.8616	07	40	0.8292	08	60	0.8033
09	80	0.8039	10	100	0.7151						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/16/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900105 **Signal ID:** 1
Instrument ID: K-MS-42

Analyte

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.262	02	1	1.153	03	2	1.199	04	5	1.117
05	10	1.136	06	20	1.174	07	40	1.085	08	60	1.118
09	80	1.161	10	100	1.165						

Aldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	4.305	02	1	2.563	03	2	1.61	04	5	0.9942
05	10	0.8166	06	20	0.7263	07	40	0.632	08	60	0.6534
09	80	0.6433	10	100	0.6223						

Dieldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.619	02	1	1.579	03	2	1.599	04	5	1.513
05	10	1.404	06	20	1.488	07	40	1.434	08	60	1.533
09	80	1.582	10	100	1.503						

Heptachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.394	02	1	1.262	03	2	1.253	04	5	1.114
05	10	1.096	06	20	1.124	07	40	1.092	08	60	1.097
09	80	1.103	10	100	1.057						

Oxychlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	3.238	02	1	2.791	03	2	2.867	04	5	2.599
05	10	2.71	06	20	2.603	07	40	2.523	08	60	2.543
09	80	2.605	10	100	2.563						

S_4,4'-DDT-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	1.492	02	5	1.453	03	5	1.504	04	5	1.524
05	5	1.622	06	5	1.576	07	5	1.658	08	5	1.721
09	5	1.688	10	5	1.631						

S_4,4'DDD-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	3.157	02	5	3.283	03	5	3.287	04	5	3.32
05	5	3.165	06	5	3.478	07	5	3.703	08	5	3.817
09	5	4.136	10	5	4.17						

S_Aldrin-13C12

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.5193	02	20	0.5077	03	20	0.4804	04	20	0.5141
05	20	0.5112	06	20	0.5702	07	20	0.5257	08	20	0.5312
09	20	0.5958	10	20	0.5126						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/16/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900105 **Signal ID:** 1
Instrument ID: K-MS-42

Analyte

S_Endrin-13C12

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.177	02	20	0.183	03	20	0.1731	04	20	0.176
05	20	0.1718	06	20	0.1917	07	20	0.1865	08	20	0.1858
09	20	0.1969	10	20	0.1858						

S_GBHCD6

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	1.328	02	20	1.305	03	20	1.255	04	20	1.351
05	20	1.443	06	20	1.563	07	20	1.356	08	20	1.409
09	20	1.596	10	20	1.343						

S_Heptachlor-13C10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.543	02	20	0.5492	03	20	0.5195	04	20	0.5578
05	20	0.591	06	20	0.6313	07	20	0.5827	08	20	0.5948
09	20	0.6094	10	20	0.5895						

S_Heptachlrepox13C10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.168	02	20	0.1782	03	20	0.1684	04	20	0.1782
05	20	0.1798	06	20	0.2042	07	20	0.1783	08	20	0.1871
09	20	0.2101	10	20	0.1857						

S_Oxychlordane-13C10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.3485	02	20	0.363	03	20	0.3367	04	20	0.363
05	20	0.3664	06	20	0.413	07	20	0.3629	08	20	0.3782
09	20	0.4199	10	20	0.3833						

alpha-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.866	02	1	2.479	03	2	2.573	04	5	2.305
05	10	2.332	06	20	2.321	07	40	2.261	08	60	2.338
09	80	2.314	10	100	2.286						

cis-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.6615	02	1	0.5948	03	2	0.6225	04	5	0.5659
05	10	0.5567	06	20	0.5674	07	40	0.5856	08	60	0.5834
09	80	0.5695	10	100	0.5621						

gamma-BHC (Lindane)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.362	02	1	2.223	03	2	2.138	04	5	2.023
05	10	2.017	06	20	2.066	07	40	1.951	08	60	2.021
09	80	2.032	10	100	2.087						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/16/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900105 **Signal ID:** 1
Instrument ID: K-MS-42

Analyte

gamma-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.111	02	1	0.9846	03	2	1.046	04	5	0.9322
05	10	0.9264	06	20	0.9043	07	40	0.9128	08	60	0.9219
09	80	0.9581	10	100	0.9388						

trans-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.73	02	1	1.64	03	2	1.592	04	5	1.404
05	10	1.556	06	20	1.449	07	40	1.55	08	60	1.461
09	80	1.584	10	100	1.529						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/16/2018

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900105 **Signal ID:** 1
Instrument ID: K-MS-42

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
2,4'-DDD	TRG	Average RF	% RSD	10.1	≤20	1.076	0.01
2,4'-DDE	TRG	Average RF	% RSD	10.3	≤20	0.9506	0.01
2,4'-DDT	TRG	Average RF	% RSD	7.5	≤20	2.242	0.01
4,4'-DDD	TRG	Average RF	% RSD	9.8	≤20	1.615	0.01
4,4'-DDE	TRG	Average RF	% RSD	12.5	≤20	0.8714	0.01
4,4'-DDT	TRG	Average RF	% RSD	4.3	≤20	1.157	0.01
Aldrin	TRG	Quadratic	COD	0.9993	≥	1.357	0.01
Dieldrin	TRG	Average RF	% RSD	4.7	≤20	1.526	0.01
Heptachlor	TRG	Average RF	% RSD	9.3	≤20	1.159	0.01
Oxychlordane	TRG	Average RF	% RSD	8.1	≤20	2.704	0.01
S_4,4'-DDT-d4	SURR	Average RF	% RSD	5.7	≤	1.587	0.01
S_4,4'DDD-d4	SURR	Average RF	% RSD	10.8	≤	3.552	0.01
S_Aldrin-13C12	SURR	Average RF	% RSD	6.3	≤	0.5268	0.01
S_Endrin-13C12	SURR	Average RF	% RSD	4.5	≤	0.1828	0.01
S_GBHCD6	SURR	Average RF	% RSD	7.9	≤	1.395	0.01
S_Heptachlor-13C10	SURR	Average RF	% RSD	5.9	≤	0.5768	0.01
S_Heptachlrepox13C10	SURR	Average RF	% RSD	7.5	≤	0.1838	0.01
S_Oxychlordane-13C10	SURR	Average RF	% RSD	7.0	≤	0.3735	0.01
alpha-Chlordane	TRG	Average RF	% RSD	7.8	≤20	2.408	0.01
cis-Nonachlor	TRG	Average RF	% RSD	5.6	≤20	0.5869	0.01
gamma-BHC (Lindane)	TRG	Average RF	% RSD	5.8	≤20	2.092	0.01
gamma-Chlordane	TRG	Average RF	% RSD	6.9	≤20	0.9637	0.01
trans-Nonachlor	TRG	Average RF	% RSD	6.2	≤20	1.549	0.01

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/16/2018

Initial Calibration Verification Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900105 **Signal ID:** 1
Instrument ID: K-MS-42

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1900105-11	OC PEST ICV 20ng/mL SVM59-48K	Y:\MS42\data\111618\111618F018.D	11/16/2018 16:18

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
2,4'-DDD	20.0	20.6	1.076E0	1.11E0	3.16	±25	Average RF
2,4'-DDE	20.0	20.5	9.506E-1	9.742E-1	2.48	±25	Average RF
2,4'-DDT	20.0	17.8	2.242E0	2.0E0	-10.783	±25	Average RF
4,4'-DDD	20.0	20.1	1.615E0	1.62E0	0.320	±25	Average RF
4,4'-DDE	20.0	20.7	8.714E-1	9.034E-1	3.68	±25	Average RF
4,4'-DDT	20.0	19.1	1.157E0	1.104E0	-4.551	±25	Average RF
Aldrin	20.0	19.4	1.357E0	6.941E-1	-2.945	±25	Quadratic
alpha-Chlordane	20.0	18.6	2.408E0	2.243E0	-6.832	±25	Average RF
cis-Nonachlor	20.0	16.9	5.869E-1	4.95E-1	-15.672	±25	Average RF
Dieldrin	20.0	19.2	1.526E0	1.462E0	-4.168	±25	Average RF
gamma-BHC (Lindane)	20.0	19.3	2.092E0	2.019E0	-3.491	±25	Average RF
gamma-Chlordane	20.0	19.0	9.637E-1	9.15E-1	-5.056	±25	Average RF
Heptachlor	20.0	19.1	1.159E0	1.106E0	-4.610	±25	Average RF
Oxychlordane	20.0	19.6	2.704E0	2.65E0	-1.998	±25	Average RF
trans-Nonachlor	20.0	17.7	1.549E0	1.367E0	-11.742	±25	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	Rec.	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	4.73	3.552E0	3.363E0	94.6	50-200	Average RF
S_4,4'-DDT-d4	5.00	4.71	1.587E0	1.494E0	94.2	50-200	Average RF
S_Aldrin-13C12	20.0	19.7	5.268E-1	5.179E-1	98.5	50-200	Average RF
S_Endrin-13C12	20.0	19.4	1.828E-1	1.772E-1	97.0	50-200	Average RF
S_GBHCD6	20.0	20.0	1.395E0	1.391E0	100	50-200	Average RF
S_Heptachlor-13C10	20.0	19.2	5.768E-1	5.534E-1	96.0	50-200	Average RF
S_Heptachlrepox13C10	20.0	20.6	1.838E-1	1.894E-1	103	50-200	Average RF
S_Oxychlordane-13C10	20.0	20.8	3.735E-1	3.892E-1	104	50-200	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/16/18 16:18

Continuing Calibration Verification (CCV) Summary
Organochlorine Pesticides by GC/MS/MS

Analysis Method:	ALS SOP	**Calibration Date:**	11/16/2018
File ID:	Y:\MS42\data\111618\111618F018.D	**Calibration ID:**	KC1900105
Signal ID:	1	**Analysis Lot:**	615706
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2,4'-DDD	20.0	20.6	1.0759	1.1099	3.2	NA	±25	Average RF
2,4'-DDE	20.0	20.5	0.9506	0.9742	2.5	NA	±25	Average RF
2,4'-DDT	20.0	17.8	2.242	2.0002	-10.8	NA	±25	Average RF
4,4'-DDD	20.0	20.1	1.6147	1.6199	0.3	NA	±25	Average RF
4,4'-DDE	20.0	20.7	0.8714	0.9034	3.7	NA	±25	Average RF
4,4'-DDT	20.0	19.1	1.157	1.1043	-4.6	NA	±25	Average RF
Aldrin	20.0	19.4	1.3566	0.6941	NA	-2.9	±25	Quadratic
alpha-Chlordane	20.0	18.6	2.4076	2.2431	-6.8	NA	±25	Average RF
cis-Nonachlor	20.0	16.9	0.5869	0.495	-15.7	NA	±25	Average RF
Dieldrin	20.0	19.2	1.5255	1.4619	-4.2	NA	±25	Average RF
gamma-BHC (Lindane)	20.0	19.3	2.092	2.019	-3.5	NA	±25	Average RF
gamma-Chlordane	20.0	19.0	0.9637	0.915	-5.1	NA	±25	Average RF
Heptachlor	20.0	19.1	1.1592	1.1058	-4.6	NA	±25	Average RF
Oxychlordane	20.0	19.6	2.7041	2.65	-2.0	NA	±25	Average RF
trans-Nonachlor	20.0	17.7	1.5494	1.3675	-11.7	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	Rec.	% Drift	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	4.73	3.5517	3.3625	94.7	NA	50-200	Average RF
S_4,4'-DDT-d4	5.00	4.71	1.5869	1.4944	94.2	NA	50-200	Average RF
S_Aldrin-13C12	20.0	19.7	0.5268	0.5179	98.3	NA	50-200	Average RF
S_Endrin-13C12	20.0	19.4	0.1828	0.1772	97.0	NA	50-200	Average RF
S_GBHCD6	20.0	20.0	1.3949	1.3914	100	NA	50-200	Average RF
S_Heptachlor-13C10	20.0	19.2	0.5768	0.5534	95.9	NA	50-200	Average RF
S_Heptachlrepox13C10	20.0	20.6	0.1838	0.1894	103	NA	50-200	Average RF
S_Oxychlordane-13C10	20.0	20.8	0.3735	0.3892	104	NA	50-200	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/26/18 11:48

Continuing Calibration Verification (CCV) Summary
Organochlorine Pesticides by GC/MS/MS

Analysis Method:	ALS SOP	**Calibration Date:**	11/16/2018
File ID:	J:\MS42\Data\112618\112618F003.D	**Calibration ID:**	KC1900105
Signal ID:	1	**Analysis Lot:**	617367
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2,4'-DDD	20.0	16.5	1.0759	0.8879	-17.5	NA	±25	Average RF
2,4'-DDE	20.0	19.0	0.9506	0.9044	-4.9	NA	±25	Average RF
2,4'-DDT	20.0	14.0	2.242	1.5668	-30.1*	NA	±25	Average RF
4,4'-DDD	20.0	19.0	1.6147	1.5314	-5.2	NA	±25	Average RF
4,4'-DDE	20.0	16.1	0.8714	0.7	-19.7	NA	±25	Average RF
4,4'-DDT	20.0	18.2	1.157	1.0522	-9.1	NA	±25	Average RF
Aldrin	20.0	19.7	1.3566	0.7042	NA	-1.3	±25	Quadratic
alpha-Chlordane	20.0	18.0	2.4076	2.1668	-10.0	NA	±25	Average RF
cis-Nonachlor	20.0	17.4	0.5869	0.5096	-13.2	NA	±25	Average RF
Dieldrin	20.0	16.8	1.5255	1.2783	-16.2	NA	±25	Average RF
gamma-BHC (Lindane)	20.0	18.3	2.092	1.9159	-8.4	NA	±25	Average RF
gamma-Chlordane	20.0	18.6	0.9637	0.8945	-7.2	NA	±25	Average RF
Heptachlor	20.0	19.0	1.1592	1.1041	-4.8	NA	±25	Average RF
Oxychlordane	20.0	18.7	2.7041	2.5231	-6.7	NA	±25	Average RF
trans-Nonachlor	20.0	16.0	1.5494	1.2428	-19.8	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	Rec.	% Drift	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	5.12	3.5517	3.6338	102	NA	50-200	Average RF
S_4,4'-DDT-d4	5.00	5.60	1.5869	1.7761	112	NA	50-200	Average RF
S_Aldrin-13C12	20.0	22.0	0.5268	0.58	110	NA	50-200	Average RF
S_Endrin-13C12	20.0	22.2	0.1828	0.2026	111	NA	50-200	Average RF
S_GBHCD6	20.0	23.7	1.3949	1.6496	118	NA	50-200	Average RF
S_Heptachlor-13C10	20.0	24.3	0.5768	0.6999	121	NA	50-200	Average RF
S_Heptachlrepox13C10	20.0	22.3	0.1838	0.2046	111	NA	50-200	Average RF
S_Oxychlordane-13C10	20.0	22.1	0.3735	0.4129	111	NA	50-200	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Analysis Lot:**615706
Instrument ID:K-MS-42

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
Y:\MS42\data\111618\111618F018.D	Continuing Calibration Verification	KQ1816988-01	11/16/2018	16:18	
Y:\MS42\data\111618\111618F019.D	Method Blank	KQ1815510-04	11/16/2018	16:36	
Y:\MS42\data\111618\111618F020.D	Lab Control Sample	KQ1815510-03	11/16/2018	16:53	
Y:\MS42\data\111618\111618F021.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	17:11	
Y:\MS42\data\111618\111618F022.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	17:29	
Y:\MS42\data\111618\111618F023.D	D6-SC-88to108-102118	K1810302-025	11/16/2018	17:46	
Y:\MS42\data\111618\111618F024.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	18:04	
Y:\MS42\data\111618\111618F025.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	18:22	
Y:\MS42\data\111618\111618F026.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	18:39	
Y:\MS42\data\111618\111618F027.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	18:57	
	ZZZZZZZ	ZZZZZZZ	11/16/2018	19:14	
Y:\MS42\data\111618\111618F028.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	19:14	
Y:\MS42\data\111618\111618F029.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	19:32	
Y:\MS42\data\111618\111618F030.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	19:50	
Y:\MS42\data\111618\111618F031.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	20:07	
Y:\MS42\data\111618\111618F032.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	20:25	
Y:\MS42\data\111618\111618F033.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	20:42	
Y:\MS42\data\111618\111618F034.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	21:00	
Y:\MS42\data\111618\111618F035.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	21:18	
Y:\MS42\data\111618\111618F036.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	21:35	
Y:\MS42\data\111618\111618F037.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	21:53	
Y:\MS42\data\111618\111618F038.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	22:11	
Y:\MS42\data\111618\111618F039.D	ZZZZZZZ	ZZZZZZZ	11/16/2018	22:28	
Y:\MS42\data\111618\111618F040.D	Method Blank	KQ1815430-04	11/16/2018	22:46	
Y:\MS42\data\111618\111618F041.D	Lab Control Sample	KQ1815430-03	11/16/2018	23:04	
Y:\MS42\data\111618\111618F042.D	D6-SC-40to64-102118 MS	KQ1815430-01	11/16/2018	23:21	
Y:\MS42\data\111618\111618F043.D	D6-SC-40to64-102118 DMS	KQ1815430-02	11/16/2018	23:39	
Y:\MS42\data\111618\111618F044.D	D6-SC-64to88-102118	K1810302-022	11/16/2018	23:56	
Y:\MS42\data\111618\111618F045.D	D6-SC-40to64-102118	K1810302-023	11/17/2018	00:14	
Y:\MS42\data\111618\111618F046.D	H3-SC-99to114-102118	K1810302-024	11/17/2018	00:32	
Y:\MS42\data\111618\111618F047.D	H3-SC-46to63-102118	K1810302-026	11/17/2018	00:49	
Y:\MS42\data\111618\111618F048.D	D6-SC-0to1-102118	K1810302-027	11/17/2018	01:07	
Y:\MS42\data\111618\111618F049.D	H3-SC-1to2-102118	K1810302-028	11/17/2018	01:25	
Y:\MS42\data\111618\111618F050.D	D6-SC-1to2-102118	K1810302-029	11/17/2018	01:42	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Analysis Lot:**617367
Instrument ID:K-MS-42

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS42\Data\112618\112618F003.D	Continuing Calibration Verification	KQ1817669-01	11/26/2018	11:48	
J:\MS42\Data\112618\112618F003.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	11:48	
J:\MS42\Data\112618\112618F004.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	12:33	
J:\MS42\Data\112618\112618F005.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	12:51	
J:\MS42\Data\112618\112618F006.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	13:08	
J:\MS42\Data\112618\112618F007.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	13:26	
J:\MS42\Data\112618\112618F008.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	13:44	
J:\MS42\Data\112618\112618F009.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	14:01	
J:\MS42\Data\112618\112618F010.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	14:19	
J:\MS42\Data\112618\112618F011.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	14:36	
J:\MS42\Data\112618\112618F012.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	14:54	
J:\MS42\Data\112618\112618F013.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	15:12	
J:\MS42\Data\112618\112618F014.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	15:29	
J:\MS42\Data\112618\112618F015.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	15:47	
J:\MS42\Data\112618\112618F016.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	16:05	
J:\MS42\Data\112618\112618F017.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	16:22	
J:\MS42\Data\112618\112618F018.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	16:40	
J:\MS42\Data\112618\112618F019.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	16:57	
J:\MS42\Data\112618\112618F020.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	17:15	
J:\MS42\Data\112618\112618F021.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	17:33	
J:\MS42\Data\112618\112618F022.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	17:50	
J:\MS42\Data\112618\112618F023.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	18:08	
J:\MS42\Data\112618\112618F024.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	18:25	
J:\MS42\Data\112618\112618F025.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	18:43	
J:\MS42\Data\112618\112618F026.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	19:01	
J:\MS42\Data\112618\112618F027.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	19:18	
J:\MS42\Data\112618\112618F028.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	19:36	
J:\MS42\Data\112618\112618F029.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	19:54	
J:\MS42\Data\112618\112618F030.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	20:11	
J:\MS42\Data\112618\112618F031.D	Method Blank	KQ1816244-04	11/26/2018	20:29	
J:\MS42\Data\112618\112618F032.D	Lab Control Sample	KQ1816244-03	11/26/2018	20:46	
J:\MS42\Data\112618\112618F033.D	A1-0to30-102018 MS	KQ1816244-01	11/26/2018	21:04	
J:\MS42\Data\112618\112618F034.D	A1-0to30-102018 DMS	KQ1816244-02	11/26/2018	21:22	
J:\MS42\Data\112618\112618F035.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	21:39	
J:\MS42\Data\112618\112618F036.D	A1-0to30-102018	K1810302-016	11/26/2018	21:57	
J:\MS42\Data\112618\112618F037.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	22:15	
J:\MS42\Data\112618\112618F039.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	22:50	
J:\MS42\Data\112618\112618F039.D	ZZZZZZZ	ZZZZZZZ	11/26/2018	22:50	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Organochlorine Pesticides by GC/MS/MS

Prep Method: EPA 3541 **Extraction Lot:** 325840
Analytical Method: ALS SOP **Extraction Date:** 11/07/18 11:10

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
A1-0to30-102018	K1810302-016	10/20/18	10/22/18	20.021 g	1 mL	54.7
Matrix Spike	KQ1816244-01MS	10/20/18	10/22/18	20.054 g	1 mL	54.7
Duplicate Matrix Spike	KQ1816244-02DMS	10/20/18	10/22/18	20.057 g	1 mL	54.7
Lab Control Sample	KQ1816244-03LCS	NA	NA	10 g	1 mL	
Method Blank	KQ1816244-04MB	NA	NA	20.1660 g	1 mL	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Organochlorine Pesticides by GC/MS/MS

Prep Method: EPA 3541 **Extraction Lot:** 324902
Analytical Method: ALS SOP **Extraction Date:** 10/31/18 12:14

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
D6-SC-64to88-102118	K1810302-022	10/21/18	10/22/18	20.271 g	1 mL	66.0
D6-SC-40to64-102118	K1810302-023	10/21/18	10/22/18	20.061 g	1 mL	54.7
H3-SC-99to114-102118	K1810302-024	10/21/18	10/22/18	20.101 g	1 mL	69.9
H3-SC-46to63-102118	K1810302-026	10/21/18	10/22/18	20.219 g	1 mL	67.8
D6-SC-0to1-102118	K1810302-027	10/21/18	10/22/18	20.197 g	1 mL	42.9
H3-SC-1to2-102118	K1810302-028	10/21/18	10/22/18	20.001 g	1 mL	52.0
D6-SC-1to2-102118	K1810302-029	10/21/18	10/22/18	20.181 g	1 mL	45.9
Matrix Spike	KQ1815430-01MS	10/21/18	10/22/18	20.212 g	1 mL	54.7
Duplicate Matrix Spike	KQ1815430-02DMS	10/21/18	10/22/18	20.361 g	1 mL	54.7
Lab Control Sample	KQ1815430-03LCS	NA	NA	10 g	1 mL	
Method Blank	KQ1815430-04MB	NA	NA	20.3640 g	1 mL	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Organochlorine Pesticides by GC/MS/MS

Prep Method: EPA 3541 **Extraction Lot:** 325017
Analytical Method: ALS SOP **Extraction Date:** 10/31/18 17:12

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
D6-SC-88to108-102118	K1810302-025	10/21/18	10/22/18	20.049 g	1 mL	71.5
Lab Control Sample	KQ1815510-03LCS	NA	NA	10 g	1 mL	
Method Blank	KQ1815510-04MB	NA	NA	20.3810 g	1 mL	

Polynuclear Aromatic Hydrocarbons

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons

Sample Name	Lab Code	Date Collected	Date Received
A1-0to30-102018	K1810302-016	10/20/2018	10/22/2018
D6-SC-64to88-102118	K1810302-022	10/21/2018	10/22/2018
D6-SC-40to64-102118	K1810302-023	10/21/2018	10/22/2018
H3-SC-99to114-102118	K1810302-024	10/21/2018	10/22/2018
D6-SC-88to108-102118	K1810302-025	10/21/2018	10/22/2018
H3-SC-46to63-102118	K1810302-026	10/21/2018	10/22/2018
D6-SC-0to1-102118	K1810302-027	10/21/2018	10/22/2018
H3-SC-1to2-102118	K1810302-028	10/21/2018	10/22/2018
D6-SC-1to2-102118	K1810302-029	10/21/2018	10/22/2018
D6-SC-64to88-102118MS	KWG1805647-1	10/21/2018	10/22/2018
D6-SC-64to88-102118DMS	KWG1805647-2	10/21/2018	10/22/2018

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/2018
Sample Matrix:	Sediment	**Date Received:**	10/22/2018

Polynuclear Aromatic Hydrocarbons

Sample Name:	A1-0to30-102018	**Units:**	ug/Kg
Lab Code:	K1810302-016	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.25**	J	0.92	0.089	1	11/07/18	11/13/18	KWG1805796	
2-Methylnaphthalene	**0.16**	J	0.92	0.047	1	11/07/18	11/13/18	KWG1805796	
Acenaphthylene	**0.16**	JX	0.46	0.029	1	11/07/18	11/13/18	KWG1805796	
Acenaphthene	**0.055**	J	0.46	0.032	1	11/07/18	11/13/18	KWG1805796	
Dibenzofuran	**0.097**	J	0.46	0.022	1	11/07/18	11/13/18	KWG1805796	
Fluorene	**0.083**	J	0.46	0.039	1	11/07/18	11/13/18	KWG1805796	
Phenanthrene	**0.41**	J	0.46	0.033	1	11/07/18	11/13/18	KWG1805796	
Anthracene	**0.045**	J	0.46	0.026	1	11/07/18	11/13/18	KWG1805796	
Fluoranthene	**0.24**	J	0.46	0.032	1	11/07/18	11/13/18	KWG1805796	
Pyrene	**0.22**	J	0.46	0.032	1	11/07/18	11/13/18	KWG1805796	
Benz(a)anthracene	**0.089**	J	0.46	0.033	1	11/07/18	11/13/18	KWG1805796	
Chrysene	**0.070**	J	0.46	0.027	1	11/07/18	11/13/18	KWG1805796	
Benzo(b)fluoranthene†	**0.12**	J	0.46	0.057	1	11/07/18	11/13/18	KWG1805796	
Benzo(k)fluoranthene	ND	U	0.46	0.045	1	11/07/18	11/13/18	KWG1805796	
Benzo(a)pyrene	ND	U	0.46	0.036	1	11/07/18	11/13/18	KWG1805796	
Indeno(1,2,3-cd)pyrene	ND	U	0.46	0.064	1	11/07/18	11/13/18	KWG1805796	
Dibenz(a,h)anthracene	ND	U	0.46	0.058	1	11/07/18	11/13/18	KWG1805796	
Benzo(g,h,i)perylene	**0.17**	J	0.46	0.059	1	11/07/18	11/13/18	KWG1805796	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	69	26-102	11/13/18	Acceptable
Fluoranthene-d10	65	23-110	11/13/18	Acceptable
Terphenyl-d14	76	27-115	11/13/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/2018
Sample Matrix:	Sediment	**Date Received:**	10/22/2018

Polynuclear Aromatic Hydrocarbons

Sample Name:	D6-SC-64to88-102118	**Units:**	ug/Kg
Lab Code:	K1810302-022	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**2.7**		0.76	0.089	1	11/01/18	11/06/18	KWG1805647	
2-Methylnaphthalene	**1.9**		0.76	0.047	1	11/01/18	11/06/18	KWG1805647	
Acenaphthylene	**1.4**		0.38	0.029	1	11/01/18	11/06/18	KWG1805647	
Acenaphthene	**2.1**		0.38	0.032	1	11/01/18	11/06/18	KWG1805647	
Dibenzofuran	**0.93**		0.38	0.022	1	11/01/18	11/06/18	KWG1805647	
Fluorene	**1.7**		0.38	0.039	1	11/01/18	11/06/18	KWG1805647	
Phenanthrene	**21**		0.38	0.033	1	11/01/18	11/06/18	KWG1805647	
Anthracene	**3.3**		0.38	0.026	1	11/01/18	11/06/18	KWG1805647	
Fluoranthene	**26**		0.38	0.032	1	11/01/18	11/06/18	KWG1805647	
Pyrene	**28**		0.38	0.032	1	11/01/18	11/06/18	KWG1805647	
Benz(a)anthracene	**12**		0.38	0.033	1	11/01/18	11/06/18	KWG1805647	
Chrysene	**15**		0.38	0.027	1	11/01/18	11/06/18	KWG1805647	
Benzo(b)fluoranthene†	**15**		0.38	0.057	1	11/01/18	11/06/18	KWG1805647	
Benzo(k)fluoranthene	**5.7**		0.38	0.045	1	11/01/18	11/06/18	KWG1805647	
Benzo(a)pyrene	**15**		0.38	0.036	1	11/01/18	11/06/18	KWG1805647	
Indeno(1,2,3-cd)pyrene	**9.7**		0.38	0.064	1	11/01/18	11/06/18	KWG1805647	
Dibenz(a,h)anthracene	**2.2**		0.38	0.058	1	11/01/18	11/06/18	KWG1805647	
Benzo(g,h,i)perylene	**10**		0.38	0.059	1	11/01/18	11/06/18	KWG1805647	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	64	26-102	11/06/18	Acceptable
Fluoranthene-d10	74	23-110	11/06/18	Acceptable
Terphenyl-d14	73	27-115	11/06/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/2018
Sample Matrix:	Sediment	**Date Received:**	10/22/2018

Polynuclear Aromatic Hydrocarbons

Sample Name:	D6-SC-40to64-102118	**Units:**	ug/Kg
Lab Code:	K1810302-023	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**29**	D	4.6	0.45	5	11/01/18	11/06/18	KWG1805647	
2-Methylnaphthalene	**20**	D	4.6	0.24	5	11/01/18	11/06/18	KWG1805647	
Acenaphthylene	**19**	D	2.3	0.15	5	11/01/18	11/06/18	KWG1805647	
Acenaphthene	**20**	D	2.3	0.16	5	11/01/18	11/06/18	KWG1805647	
Dibenzofuran	**12**	D	2.3	0.11	5	11/01/18	11/06/18	KWG1805647	
Fluorene	**18**	D	2.3	0.20	5	11/01/18	11/06/18	KWG1805647	
Phenanthrene	**220**	D	2.3	0.17	5	11/01/18	11/06/18	KWG1805647	
Anthracene	**38**	D	2.3	0.13	5	11/01/18	11/06/18	KWG1805647	
Fluoranthene	**280**	D	2.3	0.16	5	11/01/18	11/06/18	KWG1805647	
Pyrene	**320**	D	2.3	0.16	5	11/01/18	11/06/18	KWG1805647	
Benz(a)anthracene	**120**	D	2.3	0.17	5	11/01/18	11/06/18	KWG1805647	
Chrysene	**160**	D	2.3	0.14	5	11/01/18	11/06/18	KWG1805647	
Benzo(b)fluoranthene†	**170**	D	2.3	0.29	5	11/01/18	11/06/18	KWG1805647	
Benzo(k)fluoranthene	**54**	D	2.3	0.23	5	11/01/18	11/06/18	KWG1805647	
Benzo(a)pyrene	**140**	D	2.3	0.18	5	11/01/18	11/06/18	KWG1805647	
Indeno(1,2,3-cd)pyrene	**120**	D	2.3	0.32	5	11/01/18	11/06/18	KWG1805647	
Dibenz(a,h)anthracene	**23**	D	2.3	0.29	5	11/01/18	11/06/18	KWG1805647	
Benzo(g,h,i)perylene	**130**	D	2.3	0.30	5	11/01/18	11/06/18	KWG1805647	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	78	26-102	11/06/18	Acceptable
Fluoranthene-d10	88	23-110	11/06/18	Acceptable
Terphenyl-d14	83	27-115	11/06/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/2018
Sample Matrix:	Sediment	**Date Received:**	10/22/2018

Polynuclear Aromatic Hydrocarbons

Sample Name:	H3-SC-99to114-102118	**Units:**	ug/Kg
Lab Code:	K1810302-024	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**2.0**		0.72	0.089	1	11/01/18	11/06/18	KWG1805647	
2-Methylnaphthalene	**0.73**		0.72	0.047	1	11/01/18	11/06/18	KWG1805647	
Acenaphthylene	**0.70**		0.36	0.029	1	11/01/18	11/06/18	KWG1805647	
Acenaphthene	**0.29**	J	0.36	0.032	1	11/01/18	11/06/18	KWG1805647	
Dibenzofuran	**0.40**		0.36	0.022	1	11/01/18	11/06/18	KWG1805647	
Fluorene	**0.38**		0.36	0.039	1	11/01/18	11/06/18	KWG1805647	
Phenanthrene	**2.4**		0.36	0.033	1	11/01/18	11/06/18	KWG1805647	
Anthracene	**0.47**		0.36	0.026	1	11/01/18	11/06/18	KWG1805647	
Fluoranthene	**2.7**		0.36	0.032	1	11/01/18	11/06/18	KWG1805647	
Pyrene	**3.4**		0.36	0.032	1	11/01/18	11/06/18	KWG1805647	
Benz(a)anthracene	**0.97**	X	0.36	0.033	1	11/01/18	11/06/18	KWG1805647	
Chrysene	**1.2**		0.36	0.027	1	11/01/18	11/06/18	KWG1805647	
Benzo(b)fluoranthene†	**2.0**		0.36	0.057	1	11/01/18	11/06/18	KWG1805647	
Benzo(k)fluoranthene	**0.53**		0.36	0.045	1	11/01/18	11/06/18	KWG1805647	
Benzo(a)pyrene	**1.6**		0.36	0.036	1	11/01/18	11/06/18	KWG1805647	
Indeno(1,2,3-cd)pyrene	**1.5**		0.36	0.064	1	11/01/18	11/06/18	KWG1805647	
Dibenz(a,h)anthracene	**0.14**	J	0.36	0.058	1	11/01/18	11/06/18	KWG1805647	
Benzo(g,h,i)perylene	**1.8**		0.36	0.059	1	11/01/18	11/06/18	KWG1805647	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	67	26-102	11/06/18	Acceptable
Fluoranthene-d10	72	23-110	11/06/18	Acceptable
Terphenyl-d14	75	27-115	11/06/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/2018
Sample Matrix:	Sediment	**Date Received:**	10/22/2018

Polynuclear Aromatic Hydrocarbons

Sample Name:	D6-SC-88to108-102118	**Units:**	ug/Kg
Lab Code:	K1810302-025	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.71**		0.70	0.089	1	11/01/18	11/07/18	KWG1805648	
2-Methylnaphthalene	**0.45**	J	0.70	0.047	1	11/01/18	11/07/18	KWG1805648	
Acenaphthylene	**0.41**		0.35	0.029	1	11/01/18	11/07/18	KWG1805648	
Acenaphthene	**0.39**		0.35	0.032	1	11/01/18	11/07/18	KWG1805648	
Dibenzofuran	**0.29**	J	0.35	0.022	1	11/01/18	11/07/18	KWG1805648	
Fluorene	**0.34**	J	0.35	0.039	1	11/01/18	11/07/18	KWG1805648	
Phenanthrene	**3.1**		0.35	0.033	1	11/01/18	11/07/18	KWG1805648	
Anthracene	**0.52**		0.35	0.026	1	11/01/18	11/07/18	KWG1805648	
Fluoranthene	**3.5**		0.35	0.032	1	11/01/18	11/07/18	KWG1805648	
Pyrene	**4.2**		0.35	0.032	1	11/01/18	11/07/18	KWG1805648	
Benz(a)anthracene	**1.5**		0.35	0.033	1	11/01/18	11/07/18	KWG1805648	
Chrysene	**2.0**		0.35	0.027	1	11/01/18	11/07/18	KWG1805648	
Benzo(b)fluoranthene†	**2.5**		0.35	0.057	1	11/01/18	11/07/18	KWG1805648	
Benzo(k)fluoranthene	**0.80**		0.35	0.045	1	11/01/18	11/07/18	KWG1805648	
Benzo(a)pyrene	**2.0**		0.35	0.036	1	11/01/18	11/07/18	KWG1805648	
Indeno(1,2,3-cd)pyrene	**1.5**		0.35	0.064	1	11/01/18	11/07/18	KWG1805648	
Dibenz(a,h)anthracene	**0.28**	J	0.35	0.058	1	11/01/18	11/07/18	KWG1805648	
Benzo(g,h,i)perylene	**1.7**		0.35	0.059	1	11/01/18	11/07/18	KWG1805648	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	61	26-102	11/07/18	Acceptable
Fluoranthene-d10	69	23-110	11/07/18	Acceptable
Terphenyl-d14	72	27-115	11/07/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/2018
Sample Matrix:	Sediment	**Date Received:**	10/22/2018

Polynuclear Aromatic Hydrocarbons

Sample Name:	H3-SC-46to63-102118	**Units:**	ug/Kg
Lab Code:	K1810302-026	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**18**		0.74	0.089	1	11/01/18	11/06/18	KWG1805647	
2-Methylnaphthalene	**8.3**		0.74	0.047	1	11/01/18	11/06/18	KWG1805647	
Acenaphthylene	**13**		0.37	0.029	1	11/01/18	11/06/18	KWG1805647	
Acenaphthene	**5.1**		0.37	0.032	1	11/01/18	11/06/18	KWG1805647	
Dibenzofuran	**3.3**		0.37	0.022	1	11/01/18	11/06/18	KWG1805647	
Fluorene	**7.5**		0.37	0.039	1	11/01/18	11/06/18	KWG1805647	
Phenanthrene	**84**		0.37	0.033	1	11/01/18	11/06/18	KWG1805647	
Anthracene	**22**		0.37	0.026	1	11/01/18	11/06/18	KWG1805647	
Fluoranthene	**170**	D	3.7	0.32	10	11/01/18	11/07/18	KWG1805647	
Pyrene	**200**	D	3.7	0.32	10	11/01/18	11/07/18	KWG1805647	
Benz(a)anthracene	**79**	D	3.7	0.33	10	11/01/18	11/07/18	KWG1805647	
Chrysene	**89**	D	3.7	0.27	10	11/01/18	11/07/18	KWG1805647	
Benzo(b)fluoranthene†	**99**	D	3.7	0.57	10	11/01/18	11/07/18	KWG1805647	
Benzo(k)fluoranthene	**38**	D	3.7	0.45	10	11/01/18	11/07/18	KWG1805647	
Benzo(a)pyrene	**100**	D	3.7	0.36	10	11/01/18	11/07/18	KWG1805647	
Indeno(1,2,3-cd)pyrene	**78**	D	3.7	0.64	10	11/01/18	11/07/18	KWG1805647	
Dibenz(a,h)anthracene	**11**	D	3.7	0.58	10	11/01/18	11/07/18	KWG1805647	
Benzo(g,h,i)perylene	**88**	D	3.7	0.59	10	11/01/18	11/07/18	KWG1805647	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	67	26-102	11/06/18	Acceptable
Fluoranthene-d10	79	23-110	11/07/18	Acceptable
Terphenyl-d14	80	27-115	11/07/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/2018
Sample Matrix:	Sediment	**Date Received:**	10/22/2018

Polynuclear Aromatic Hydrocarbons

Sample Name:	D6-SC-0to1-102118	**Units:**	ug/Kg
Lab Code:	K1810302-027	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**17**	D	5.9	0.52	5	11/01/18	11/06/18	KWG1805647	
2-Methylnaphthalene	**7.9**	D	5.9	0.28	5	11/01/18	11/06/18	KWG1805647	
Acenaphthylene	**13**	D	3.0	0.17	5	11/01/18	11/06/18	KWG1805647	
Acenaphthene	**13**	D	3.0	0.19	5	11/01/18	11/06/18	KWG1805647	
Dibenzofuran	**7.6**	D	3.0	0.13	5	11/01/18	11/06/18	KWG1805647	
Fluorene	**14**	D	3.0	0.23	5	11/01/18	11/06/18	KWG1805647	
Phenanthrene	**100**	D	3.0	0.20	5	11/01/18	11/06/18	KWG1805647	
Anthracene	**30**	D	3.0	0.16	5	11/01/18	11/06/18	KWG1805647	
Fluoranthene	**270**	D	3.0	0.19	5	11/01/18	11/06/18	KWG1805647	
Pyrene	**250**	D	3.0	0.19	5	11/01/18	11/06/18	KWG1805647	
Benz(a)anthracene	**110**	D	3.0	0.20	5	11/01/18	11/06/18	KWG1805647	
Chrysene	**230**	D	3.0	0.16	5	11/01/18	11/06/18	KWG1805647	
Benzo(b)fluoranthene†	**210**	D	3.0	0.34	5	11/01/18	11/06/18	KWG1805647	
Benzo(k)fluoranthene	**66**	D	3.0	0.27	5	11/01/18	11/06/18	KWG1805647	
Benzo(a)pyrene	**120**	D	3.0	0.21	5	11/01/18	11/06/18	KWG1805647	
Indeno(1,2,3-cd)pyrene	**110**	D	3.0	0.38	5	11/01/18	11/06/18	KWG1805647	
Dibenz(a,h)anthracene	**25**	D	3.0	0.34	5	11/01/18	11/06/18	KWG1805647	
Benzo(g,h,i)perylene	**110**	D	3.0	0.35	5	11/01/18	11/06/18	KWG1805647	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	71	26-102	11/06/18	Acceptable
Fluoranthene-d10	77	23-110	11/06/18	Acceptable
Terphenyl-d14	79	27-115	11/06/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/2018
Sample Matrix:	Sediment	**Date Received:**	10/22/2018

Polynuclear Aromatic Hydrocarbons

Sample Name:	H3-SC-1to2-102118	**Units:**	ug/Kg
Lab Code:	K1810302-028	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**81**	D	9.6	0.89	10	11/01/18	11/06/18	KWG1805647	
2-Methylnaphthalene	**39**	D	9.6	0.47	10	11/01/18	11/06/18	KWG1805647	
Acenaphthylene	**29**	D	4.8	0.29	10	11/01/18	11/06/18	KWG1805647	
Acenaphthene	**78**	D	4.8	0.32	10	11/01/18	11/06/18	KWG1805647	
Dibenzofuran	**31**	D	4.8	0.22	10	11/01/18	11/06/18	KWG1805647	
Fluorene	**52**	D	4.8	0.39	10	11/01/18	11/06/18	KWG1805647	
Phenanthrene	**450**	D	4.8	0.33	10	11/01/18	11/06/18	KWG1805647	
Anthracene	**74**	D	4.8	0.26	10	11/01/18	11/06/18	KWG1805647	
Fluoranthene	**610**	D	4.8	0.32	10	11/01/18	11/06/18	KWG1805647	
Pyrene	**670**	D	4.8	0.32	10	11/01/18	11/06/18	KWG1805647	
Benz(a)anthracene	**250**	D	4.8	0.33	10	11/01/18	11/06/18	KWG1805647	
Chrysene	**360**	D	4.8	0.27	10	11/01/18	11/06/18	KWG1805647	
Benzo(b)fluoranthene†	**370**	D	4.8	0.57	10	11/01/18	11/06/18	KWG1805647	
Benzo(k)fluoranthene	**130**	D	4.8	0.45	10	11/01/18	11/06/18	KWG1805647	
Benzo(a)pyrene	**300**	D	4.8	0.36	10	11/01/18	11/06/18	KWG1805647	
Indeno(1,2,3-cd)pyrene	**250**	D	4.8	0.64	10	11/01/18	11/06/18	KWG1805647	
Dibenz(a,h)anthracene	**50**	D	4.8	0.58	10	11/01/18	11/06/18	KWG1805647	
Benzo(g,h,i)perylene	**250**	D	4.8	0.59	10	11/01/18	11/06/18	KWG1805647	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	81	26-102	11/06/18	Acceptable
Fluoranthene-d10	91	23-110	11/06/18	Acceptable
Terphenyl-d14	86	27-115	11/06/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/2018
Sample Matrix:	Sediment	**Date Received:**	10/22/2018

Polynuclear Aromatic Hydrocarbons

Sample Name:	D6-SC-1to2-102118	**Units:**	ug/Kg
Lab Code:	K1810302-029	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**46**	D	11	0.97	10	11/01/18	11/06/18	KWG1805647	
2-Methylnaphthalene	**40**	D	11	0.51	10	11/01/18	11/06/18	KWG1805647	
Acenaphthylene	**31**	D	5.4	0.32	10	11/01/18	11/06/18	KWG1805647	
Acenaphthene	**54**	D	5.4	0.35	10	11/01/18	11/06/18	KWG1805647	
Dibenzofuran	**21**	D	5.4	0.24	10	11/01/18	11/06/18	KWG1805647	
Fluorene	**36**	D	5.4	0.43	10	11/01/18	11/06/18	KWG1805647	
Phenanthrene	**430**	D	5.4	0.36	10	11/01/18	11/06/18	KWG1805647	
Anthracene	**74**	D	5.4	0.29	10	11/01/18	11/06/18	KWG1805647	
Fluoranthene	**560**	D	5.4	0.35	10	11/01/18	11/06/18	KWG1805647	
Pyrene	**590**	D	5.4	0.35	10	11/01/18	11/06/18	KWG1805647	
Benz(a)anthracene	**230**	D	5.4	0.36	10	11/01/18	11/06/18	KWG1805647	
Chrysene	**330**	D	5.4	0.30	10	11/01/18	11/06/18	KWG1805647	
Benzo(b)fluoranthene†	**360**	D	5.4	0.62	10	11/01/18	11/06/18	KWG1805647	
Benzo(k)fluoranthene	**120**	D	5.4	0.49	10	11/01/18	11/06/18	KWG1805647	
Benzo(a)pyrene	**280**	D	5.4	0.39	10	11/01/18	11/06/18	KWG1805647	
Indeno(1,2,3-cd)pyrene	**210**	D	5.4	0.70	10	11/01/18	11/06/18	KWG1805647	
Dibenz(a,h)anthracene	**51**	D	5.4	0.63	10	11/01/18	11/06/18	KWG1805647	
Benzo(g,h,i)perylene	**220**	D	5.4	0.64	10	11/01/18	11/06/18	KWG1805647	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	83	26-102	11/06/18	Acceptable
Fluoranthene-d10	93	23-110	11/06/18	Acceptable
Terphenyl-d14	91	27-115	11/06/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1805647-4	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.50	0.089	1	11/01/18	11/06/18	KWG1805647	
2-Methylnaphthalene	ND	U	0.50	0.047	1	11/01/18	11/06/18	KWG1805647	
Acenaphthylene	ND	U	0.25	0.029	1	11/01/18	11/06/18	KWG1805647	
Acenaphthene	ND	U	0.25	0.032	1	11/01/18	11/06/18	KWG1805647	
Dibenzofuran	ND	U	0.25	0.022	1	11/01/18	11/06/18	KWG1805647	
Fluorene	ND	U	0.25	0.039	1	11/01/18	11/06/18	KWG1805647	
Phenanthrene	ND	U	0.25	0.033	1	11/01/18	11/06/18	KWG1805647	
Anthracene	ND	U	0.25	0.026	1	11/01/18	11/06/18	KWG1805647	
Fluoranthene	ND	U	0.25	0.032	1	11/01/18	11/06/18	KWG1805647	
Pyrene	ND	U	0.25	0.032	1	11/01/18	11/06/18	KWG1805647	
Benz(a)anthracene	ND	U	0.25	0.033	1	11/01/18	11/06/18	KWG1805647	
Chrysene	ND	U	0.25	0.027	1	11/01/18	11/06/18	KWG1805647	
Benzo(b)fluoranthene†	ND	U	0.25	0.057	1	11/01/18	11/06/18	KWG1805647	
Benzo(k)fluoranthene	ND	U	0.25	0.045	1	11/01/18	11/06/18	KWG1805647	
Benzo(a)pyrene	ND	U	0.25	0.036	1	11/01/18	11/06/18	KWG1805647	
Indeno(1,2,3-cd)pyrene	ND	U	0.25	0.064	1	11/01/18	11/06/18	KWG1805647	
Dibenz(a,h)anthracene	ND	U	0.25	0.058	1	11/01/18	11/06/18	KWG1805647	
Benzo(g,h,i)perylene	ND	U	0.25	0.059	1	11/01/18	11/06/18	KWG1805647	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	26-102	11/06/18	Acceptable
Fluoranthene-d10	74	23-110	11/06/18	Acceptable
Terphenyl-d14	82	27-115	11/06/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1805648-4	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.50	0.089	1	11/01/18	11/07/18	KWG1805648	
2-Methylnaphthalene	ND	U	0.50	0.047	1	11/01/18	11/07/18	KWG1805648	
Acenaphthylene	ND	U	0.25	0.029	1	11/01/18	11/07/18	KWG1805648	
Acenaphthene	ND	U	0.25	0.032	1	11/01/18	11/07/18	KWG1805648	
Dibenzofuran	ND	U	0.25	0.022	1	11/01/18	11/07/18	KWG1805648	
Fluorene	ND	U	0.25	0.039	1	11/01/18	11/07/18	KWG1805648	
Phenanthrene	ND	U	0.25	0.033	1	11/01/18	11/07/18	KWG1805648	
Anthracene	ND	U	0.25	0.026	1	11/01/18	11/07/18	KWG1805648	
Fluoranthene	ND	U	0.25	0.032	1	11/01/18	11/07/18	KWG1805648	
Pyrene	ND	U	0.25	0.032	1	11/01/18	11/07/18	KWG1805648	
Benz(a)anthracene	ND	U	0.25	0.033	1	11/01/18	11/07/18	KWG1805648	
Chrysene	ND	U	0.25	0.027	1	11/01/18	11/07/18	KWG1805648	
Benzo(b)fluoranthene†	ND	U	0.25	0.057	1	11/01/18	11/07/18	KWG1805648	
Benzo(k)fluoranthene	ND	U	0.25	0.045	1	11/01/18	11/07/18	KWG1805648	
Benzo(a)pyrene	ND	U	0.25	0.036	1	11/01/18	11/07/18	KWG1805648	
Indeno(1,2,3-cd)pyrene	ND	U	0.25	0.064	1	11/01/18	11/07/18	KWG1805648	
Dibenz(a,h)anthracene	ND	U	0.25	0.058	1	11/01/18	11/07/18	KWG1805648	
Benzo(g,h,i)perylene	ND	U	0.25	0.059	1	11/01/18	11/07/18	KWG1805648	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	76	26-102	11/07/18	Acceptable
Fluoranthene-d10	71	23-110	11/07/18	Acceptable
Terphenyl-d14	85	27-115	11/07/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1805796-6	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	0.50	0.089	1	11/07/18	11/14/18	KWG1805796	
2-Methylnaphthalene	ND	U	0.50	0.047	1	11/07/18	11/14/18	KWG1805796	
Acenaphthylene	ND	U	0.25	0.029	1	11/07/18	11/14/18	KWG1805796	
Acenaphthene	ND	U	0.25	0.032	1	11/07/18	11/14/18	KWG1805796	
Dibenzofuran	ND	U	0.25	0.022	1	11/07/18	11/14/18	KWG1805796	
Fluorene	ND	U	0.25	0.039	1	11/07/18	11/14/18	KWG1805796	
Phenanthrene	ND	U	0.25	0.033	1	11/07/18	11/14/18	KWG1805796	
Anthracene	ND	U	0.25	0.026	1	11/07/18	11/14/18	KWG1805796	
Fluoranthene	ND	U	0.25	0.032	1	11/07/18	11/14/18	KWG1805796	
Pyrene	ND	U	0.25	0.032	1	11/07/18	11/14/18	KWG1805796	
Benz(a)anthracene	**0.035**	J	0.25	0.033	1	11/07/18	11/14/18	KWG1805796	
Chrysene	ND	U	0.25	0.027	1	11/07/18	11/14/18	KWG1805796	
Benzo(b)fluoranthene†	ND	U	0.25	0.057	1	11/07/18	11/14/18	KWG1805796	
Benzo(k)fluoranthene	ND	U	0.25	0.045	1	11/07/18	11/14/18	KWG1805796	
Benzo(a)pyrene	ND	U	0.25	0.036	1	11/07/18	11/14/18	KWG1805796	
Indeno(1,2,3-cd)pyrene	ND	U	0.25	0.064	1	11/07/18	11/14/18	KWG1805796	
Dibenz(a,h)anthracene	ND	U	0.25	0.058	1	11/07/18	11/14/18	KWG1805796	
Benzo(g,h,i)perylene	ND	U	0.25	0.059	1	11/07/18	11/14/18	KWG1805796	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	72	26-102	11/14/18	Acceptable
Fluoranthene-d10	67	23-110	11/14/18	Acceptable
Terphenyl-d14	75	27-115	11/14/18	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

QA/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

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

Sample Name	Lab Code	Sur1	Sur2	Sur3
A1-0to30-102018	K1810302-016	69	65	76
D6-SC-64to88-102118	K1810302-022	64	74	73
D6-SC-40to64-102118	K1810302-023	78 D	88 D	83 D
H3-SC-99to114-102118	K1810302-024	67	72	75
D6-SC-88to108-102118	K1810302-025	61	69	72
H3-SC-46to63-102118	K1810302-026	67	79 D	80 D
D6-SC-0to1-102118	K1810302-027	71 D	77 D	79 D
H3-SC-1to2-102118	K1810302-028	81 D	91 D	86 D
D6-SC-1to2-102118	K1810302-029	83 D	93 D	91 D
Method Blank	KWG1805647-4	77	74	82
Method Blank	KWG1805648-4	76	71	85
Method Blank	KWG1805796-6	72	67	75
D6-SC-64to88-102118MS	KWG1805647-1	59	63	62
D6-SC-64to88-102118DMS	KWG1805647-2	66	76	75
Lab Control Sample	KWG1805647-3	69	72	80
Lab Control Sample	KWG1805648-3	67	67	79
Lab Control Sample	KWG1805796-5	78	79	87

Surrogate Recovery Control Limits (%)

Sur1	=	Fluorene-d10	26-102
Sur2	=	Fluoranthene-d10	23-110
Sur3	=	Terphenyl-d14	27-115

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: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/06/2018
Time Analyzed: 05:35

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\110618\1106F002.D
Instrument ID: MS14
Analysis Method: 8270D SIM

Lab Code: KWG1806026-2
Analysis Lot: KWG1806026

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	65,709	4.76	29,101	6.32	61,986	7.56
	Upper Limit ==>	131,418	5.26	58,202	6.82	123,972	8.06
	Lower Limit ==>	32,855	4.26	14,551	5.82	30,993	7.06
	ICAL Result ==>	60,855	4.80	25,959	6.35	53,916	7.59
Associated Analyses							
Method Blank	KWG1805647-4	65,972	4.75	30,783	6.32	64,291	7.56
Lab Control Sample	KWG1805647-3	65,546	4.75	28,835	6.32	60,321	7.56
D6-SC-64to88-102118MS	KWG1805647-1	62,327	4.75	28,259	6.32	58,242	7.56
D6-SC-64to88-102118DMS	KWG1805647-2	77,390	4.77	34,034	6.32	69,590	7.56
D6-SC-64to88-102118	K1810302-022	64,779	4.76	31,116	6.32	62,562	7.56
H3-SC-99to114-102118	K1810302-024	76,113	4.77	35,381	6.32	69,817	7.56
H3-SC-46to63-102118	K1810302-026	69,352	4.76	32,994	6.32	68,766	7.56
D6-SC-40to64-102118	K1810302-023	67,296	4.76	32,506	6.32	69,642	7.57
D6-SC-0to1-102118	K1810302-027	69,062	4.76	32,521	6.32	67,622	7.56
H3-SC-1to2-102118	K1810302-028	69,825	4.76	32,597	6.32	70,272	7.57
D6-SC-1to2-102118	K1810302-029	70,610	4.76	31,230	6.32	68,450	7.56

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

QA/QC Report

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/06/2018
Time Analyzed: 05:35

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\110618\1106F002.D
Instrument ID: MS14
Analysis Method: 8270D SIM

Lab Code: KWG1806026-2
Analysis Lot: KWG1806026

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	76,116	10.11	89,350	13.27
	Upper Limit ==>	152,232	10.61	178,700	13.77
	Lower Limit ==>	38,058	9.61	44,675	12.77
	ICAL Result ==>	68,964	10.15	73,742	13.30
Associated Analyses					
Method Blank	KWG1805647-4	71,910	10.10	77,915	13.26
Lab Control Sample	KWG1805647-3	67,170	10.11	75,180	13.27
D6-SC-64to88-102118MS	KWG1805647-1	76,306	10.12	90,998	13.35
D6-SC-64to88-102118DMS	KWG1805647-2	93,895	10.13	104,092	13.37
D6-SC-64to88-102118	K1810302-022	84,977	10.12	94,970	13.36
H3-SC-99to114-102118	K1810302-024	90,602	10.11	101,246	13.31
H3-SC-46to63-102118	K1810302-026	0*	0.00	0*	0.00
D6-SC-40to64-102118	K1810302-023	94,309	10.16	99,845	13.45
D6-SC-0to1-102118	K1810302-027	87,908	10.13	99,389	13.36
H3-SC-1to2-102118	K1810302-028	91,298	10.15	99,613	13.41
D6-SC-1to2-102118	K1810302-029	88,853	10.14	96,486	13.39

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

QA/QC Report

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/07/2018
Time Analyzed: 05:26

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\110718\1107F002.D
Instrument ID: MS14
Analysis Method: 8270D SIM

Lab Code: KWG1806028-2
Analysis Lot: KWG1806028

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	68,316	4.76	31,023	6.32	63,263	7.56
	Upper Limit ==>	136,632	5.26	62,046	6.82	126,526	8.06
	Lower Limit ==>	34,158	4.26	15,512	5.82	31,632	7.06
	ICAL Result ==>	60,855	4.80	25,959	6.35	53,916	7.59
Associated Analyses							
Method Blank	KWG1805648-4	66,217	4.77	30,623	6.32	62,346	7.56
Lab Control Sample	KWG1805648-3	67,640	4.77	28,738	6.32	58,606	7.56
D6-SC-88to108-102118	K1810302-025	65,217	4.76	31,966	6.32	65,358	7.56
H3-SC-46to63-102118DL	K1810302-026	66,314	4.76	32,688	6.32	64,217	7.56

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

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/07/2018
		Time Analyzed:	05:26

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS14\DATA\110718\1107F002.D	**Lab Code:**	KWG1806028-2
Instrument ID:	MS14	**Analysis Lot:**	KWG1806028
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	75,807	10.11	86,791	13.28
	Upper Limit ==>	151,614	10.61	173,582	13.78
	Lower Limit ==>	37,904	9.61	43,396	12.78
	ICAL Result ==>	68,964	10.15	73,742	13.30
Associated Analyses					
Method Blank	KWG1805648-4	65,001	10.11	70,697	13.28
Lab Control Sample	KWG1805648-3	62,189	10.11	68,354	13.28
D6-SC-88to108-102118	K1810302-025	81,980	10.11	92,591	13.31
H3-SC-46to63-102118DL	K1810302-026	84,552	10.12	93,683	13.32

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

QA/QC Report

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/13/2018
Time Analyzed: 05:23

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\111318\1113F002.D
Instrument ID: MS14
Analysis Method: 8270D SIM

Lab Code: KWG1806206-2
Analysis Lot: KWG1806206

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	68,170	4.75	31,155	6.31	63,370	7.54
	Upper Limit ==>	136,340	5.25	62,310	6.81	126,740	8.04
	Lower Limit ==>	34,085	4.25	15,578	5.81	31,685	7.04
	ICAL Result ==>	60,855	4.80	25,959	6.35	53,916	7.59
Associated Analyses							
A1-0to30-102018	K1810302-016	60,499	4.75	34,026	6.31	73,523	7.55

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

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/13/2018
Time Analyzed: 05:23

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\111318\1113F002.D
Instrument ID: MS14
Analysis Method: 8270D SIM

Lab Code: KWG1806206-2
Analysis Lot: KWG1806206

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	87,204	10.09	94,936	13.25
	Upper Limit ==>	174,408	10.59	189,872	13.75
	Lower Limit ==>	43,602	9.59	47,468	12.75
	ICAL Result ==>	68,964	10.15	73,742	13.30
Associated Analyses					
A1-0to30-102018	K1810302-016	74,466	10.10	81,808	13.29

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

QA/QC Report

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/14/2018
Time Analyzed: 06:17

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\111418\1114F002.D
Instrument ID: MS14
Analysis Method: 8270D SIM

Lab Code: KWG1806235-2
Analysis Lot: KWG1806235

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	58,386	4.75	27,245	6.31	66,920	7.55
	Upper Limit ==>	116,772	5.25	54,490	6.81	133,840	8.05
	Lower Limit ==>	29,193	4.25	13,623	5.81	33,460	7.05
	ICAL Result ==>	60,855	4.80	25,959	6.35	53,916	7.59
Associated Analyses							
Method Blank	KWG1805796-6	59,123	4.74	31,330	6.31	73,826	7.55
Lab Control Sample	KWG1805796-5	60,453	4.75	29,887	6.31	65,739	7.55

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

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/14/2018
		Time Analyzed:	06:17

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS14\DATA\111418\1114F002.D	**Lab Code:**	KWG1806235-2
Instrument ID:	MS14	**Analysis Lot:**	KWG1806235
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	75,302	10.10	83,299	13.29
	Upper Limit ==>	150,604	10.60	166,598	13.79
	Lower Limit ==>	37,651	9.60	41,650	12.79
	ICAL Result ==>	68,964	10.15	73,742	13.30
Associated Analyses					
Method Blank	KWG1805796-6	83,472	10.10	90,973	13.28
Lab Control Sample	KWG1805796-5	75,453	10.10	83,033	13.29

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

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/01/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/06/2018

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	D6-SC-64to88-102118	**Units:**	ug/Kg
Lab Code:	K1810302-022	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1805647

		D6-SC-64to88-102118MS KWG1805647-1 Matrix Spike			D6-SC-64to88-102118DMS KWG1805647-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	2.7	39.1	75.4	48 *	43.9	75.6	55 *	70-130	12	40
2-Methylnaphthalene	1.9	38.3	75.4	48 *	42.9	75.6	54 *	70-130	11	40
Acenaphthylene	1.4	42.9	75.4	55 *	48.8	75.6	63 *	70-130	13	40
Acenaphthene	2.1	42.7	75.4	54 *	48.1	75.6	61 *	70-130	12	40
Dibenzofuran	0.93	41.6	75.4	54 *	47.2	75.6	61 *	70-130	13	40
Fluorene	1.7	45.4	75.4	58 *	50.6	75.6	65 *	70-130	11	40
Phenanthrene	21	59.3	75.4	50 *	67.9	75.6	62 *	70-130	14	40
Anthracene	3.3	50.7	75.4	63 *	58.1	75.6	73	70-130	14	40
Fluoranthene	26	59.5	75.4	44 *	73.0	75.6	62 *	70-130	20	40
Pyrene	28	60.1	75.4	43 *	71.6	75.6	58 *	70-130	17	40
Benz(a)anthracene	12	55.0	75.4	58 *	63.3	75.6	68 *	70-130	14	40
Chrysene	15	56.4	75.4	55 *	65.3	75.6	67 *	70-130	15	40
Benzo(b)fluoranthene	15	56.2	75.4	54 *	66.1	75.6	67 *	70-130	16	40
Benzo(k)fluoranthene	5.7	49.7	75.4	58 *	58.6	75.6	70	70-130	16	40
Benzo(a)pyrene	15	61.4	75.4	62 *	71.2	75.6	75	70-130	15	40
Indeno(1,2,3-cd)pyrene	9.7	59.7	75.4	66 *	67.5	75.6	77	70-130	12	40
Dibenz(a,h)anthracene	2.2	52.7	75.4	67 *	59.9	75.6	76	70-130	13	40
Benzo(g,h,i)perylene	10	53.9	75.4	58 *	60.9	75.6	67 *	70-130	12	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:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/01/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/06/2018

Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1805647

Lab Control Sample
KWG1805647-3
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Naphthalene	61.4	100	61	48-77
2-Methylnaphthalene	61.3	100	61	52-85
Acenaphthylene	68.9	100	69	51-80
Acenaphthene	67.1	100	67	51-82
Dibenzofuran	66.6	100	67	14-125
Fluorene	68.0	100	68	52-83
Phenanthrene	67.3	100	67	48-85
Anthracene	72.5	100	72	56-87
Fluoranthene	66.9	100	67	45-96
Pyrene	72.7	100	73	59-98
Benz(a)anthracene	80.9	100	81	65-97
Chrysene	77.2	100	77	63-100
Benzo(b)fluoranthene	84.5	100	85	63-99
Benzo(k)fluoranthene	79.2	100	79	62-99
Benzo(a)pyrene	82.7	100	83	64-103
Indeno(1,2,3-cd)pyrene	86.1	100	86	61-105
Dibenz(a,h)anthracene	80.2	100	80	56-104
Benzo(g,h,i)perylene	79.1	100	79	56-101

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.

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/01/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/07/2018

Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1805648

Lab Control Sample
KWG1805648-3
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Naphthalene	61.6	100	62	48-77
2-Methylnaphthalene	60.8	100	61	52-85
Acenaphthylene	68.5	100	69	51-80
Acenaphthene	66.5	100	66	51-82
Dibenzofuran	66.1	100	66	14-125
Fluorene	66.6	100	67	52-83
Phenanthrene	66.0	100	66	48-85
Anthracene	70.9	100	71	56-87
Fluoranthene	63.8	100	64	45-96
Pyrene	72.5	100	72	59-98
Benz(a)anthracene	78.8	100	79	65-97
Chrysene	75.3	100	75	63-100
Benzo(b)fluoranthene	81.6	100	82	63-99
Benzo(k)fluoranthene	77.1	100	77	62-99
Benzo(a)pyrene	80.9	100	81	64-103
Indeno(1,2,3-cd)pyrene	86.9	100	87	61-105
Dibenz(a,h)anthracene	85.2	100	85	56-104
Benzo(g,h,i)perylene	80.0	100	80	56-101

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.

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/07/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/14/2018

Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1805796

Lab Control Sample
KWG1805796-5
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Naphthalene	63.7	100	64	48-77
2-Methylnaphthalene	67.3	100	67	52-85
Acenaphthylene	68.6	100	69	51-80
Acenaphthene	68.4	100	68	51-82
Dibenzofuran	67.8	100	68	14-125
Fluorene	72.0	100	72	52-83
Phenanthrene	68.9	100	69	48-85
Anthracene	74.2	100	74	56-87
Fluoranthene	68.9	100	69	45-96
Pyrene	73.4	100	73	59-98
Benz(a)anthracene	82.2	100	82	65-97
Chrysene	79.0	100	79	63-100
Benzo(b)fluoranthene	84.4	100	84	63-99
Benzo(k)fluoranthene	81.1	100	81	62-99
Benzo(a)pyrene	85.3	100	85	64-103
Indeno(1,2,3-cd)pyrene	85.9	100	86	61-105
Dibenz(a,h)anthracene	82.2	100	82	56-104
Benzo(g,h,i)perylene	73.4	100	73	56-101

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.

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/01/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/06/2018
		Time Analyzed:	07:30

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS14
Lab Code:	KWG1805647-4	**File ID:**	J:\MS14\DATA\110618\1106F006.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1805647

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1805647-3	J:\MS14\DATA\110618\1106F007.D	11/06/18	07:59
D6-SC-64to88-102118MS	KWG1805647-1	J:\MS14\DATA\110618\1106F008.D	11/06/18	08:27
D6-SC-64to88-102118DMS	KWG1805647-2	J:\MS14\DATA\110618\1106F009.D	11/06/18	08:56
D6-SC-64to88-102118	K1810302-022	J:\MS14\DATA\110618\1106F010.D	11/06/18	09:25
H3-SC-99to114-102118	K1810302-024	J:\MS14\DATA\110618\1106F011.D	11/06/18	09:53
H3-SC-46to63-102118	K1810302-026	J:\MS14\DATA\110618\1106F012.D	11/06/18	10:22
D6-SC-40to64-102118	K1810302-023	J:\MS14\DATA\110618\1106F022.D	11/06/18	15:10
D6-SC-0to1-102118	K1810302-027	J:\MS14\DATA\110618\1106F023.D	11/06/18	15:39
H3-SC-1to2-102118	K1810302-028	J:\MS14\DATA\110618\1106F024.D	11/06/18	16:08
D6-SC-1to2-102118	K1810302-029	J:\MS14\DATA\110618\1106F025.D	11/06/18	16:37
H3-SC-46to63-102118	K1810302-026	J:\MS14\DATA\110718\1107F008.D	11/07/18	08:27

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/01/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/07/2018
		Time Analyzed:	05:56

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS14
Lab Code:	KWG1805648-4	**File ID:**	J:\MS14\DATA\110718\1107F003.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1805648

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1805648-3	J:\MS14\DATA\110718\1107F004.D	11/07/18	06:26
D6-SC-88to108-102118	K1810302-025	J:\MS14\DATA\110718\1107F006.D	11/07/18	07:26

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/07/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/14/2018
		Time Analyzed:	06:42

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS14
Lab Code:	KWG1805796-6	**File ID:**	J:\MS14\DATA\111418\1114F003.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1805796

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
A1-0to30-102018	K1810302-016	J:\MS14\DATA\111318\1113F026.D	11/13/18	15:32
Lab Control Sample	KWG1805796-5	J:\MS14\DATA\111418\1114F004.D	11/14/18	07:08

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/01/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/06/2018
		Time Analyzed:	07:59

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS14
Lab Code:	KWG1805647-3	**File ID:**	J:\MS14\DATA\110618\1106F007.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1805647

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1805647-4	J:\MS14\DATA\110618\1106F006.D	11/06/18	07:30
D6-SC-64to88-102118MS	KWG1805647-1	J:\MS14\DATA\110618\1106F008.D	11/06/18	08:27
D6-SC-64to88-102118DMS	KWG1805647-2	J:\MS14\DATA\110618\1106F009.D	11/06/18	08:56
D6-SC-64to88-102118	K1810302-022	J:\MS14\DATA\110618\1106F010.D	11/06/18	09:25
H3-SC-99to114-102118	K1810302-024	J:\MS14\DATA\110618\1106F011.D	11/06/18	09:53
H3-SC-46to63-102118	K1810302-026	J:\MS14\DATA\110618\1106F012.D	11/06/18	10:22
D6-SC-40to64-102118	K1810302-023	J:\MS14\DATA\110618\1106F022.D	11/06/18	15:10
D6-SC-0to1-102118	K1810302-027	J:\MS14\DATA\110618\1106F023.D	11/06/18	15:39
H3-SC-1to2-102118	K1810302-028	J:\MS14\DATA\110618\1106F024.D	11/06/18	16:08
D6-SC-1to2-102118	K1810302-029	J:\MS14\DATA\110618\1106F025.D	11/06/18	16:37
H3-SC-46to63-102118	K1810302-026	J:\MS14\DATA\110718\1107F008.D	11/07/18	08:27

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/01/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/07/2018
		Time Analyzed:	06:26

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS14
Lab Code:	KWG1805648-3	**File ID:**	J:\MS14\DATA\110718\1107F004.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1805648

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1805648-4	J:\MS14\DATA\110718\1107F003.D	11/07/18	05:56
D6-SC-88to108-102118	K1810302-025	J:\MS14\DATA\110718\1107F006.D	11/07/18	07:26

QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/07/2018
Sample Matrix:	Sediment	**Date Analyzed:**	11/14/2018
		Time Analyzed:	07:08

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS14
Lab Code:	KWG1805796-5	**File ID:**	J:\MS14\DATA\111418\1114F004.D
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1805796

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
A1-0to30-102018	K1810302-016	J:\MS14\DATA\111318\1113F026.D	11/13/18	15:32
Method Blank	KWG1805796-6	J:\MS14\DATA\111418\1114F003.D	11/14/18	06:42

QA/QC Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/06/2018
Time Analyzed: 05:06

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\110618\1106F001.D
Instrument ID: MS14
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1806026

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	41.1	96829	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	42.3	99561	PASS
70	69	0	2	0.8	792	PASS
127	198	10	80	48.1	113298	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	43.7	235477	PASS
199	198	5	9	6.7	15817	PASS
275	198	10	60	36.8	86610	PASS
365	442	1	50	2.7	14505	PASS
441	443	0	100	73.5	78210	PASS
442	442	100	100	100.0	539029	PASS
443	442	15	24	19.7	106368	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1806026-2	J:\MS14\DATA\110618\1106F002.D	11/06/2018	05:35	
Method Blank	KWG1805647-4	J:\MS14\DATA\110618\1106F006.D	11/06/2018	07:30	
Lab Control Sample	KWG1805647-3	J:\MS14\DATA\110618\1106F007.D	11/06/2018	07:59	
D6-SC-64to88-102118MS	KWG1805647-1	J:\MS14\DATA\110618\1106F008.D	11/06/2018	08:27	
D6-SC-64to88-102118DMS	KWG1805647-2	J:\MS14\DATA\110618\1106F009.D	11/06/2018	08:56	
D6-SC-64to88-102118	K1810302-022	J:\MS14\DATA\110618\1106F010.D	11/06/2018	09:25	
H3-SC-99to114-102118	K1810302-024	J:\MS14\DATA\110618\1106F011.D	11/06/2018	09:53	
H3-SC-46to63-102118	K1810302-026	J:\MS14\DATA\110618\1106F012.D	11/06/2018	10:22	
D6-SC-40to64-102118	K1810302-023	J:\MS14\DATA\110618\1106F022.D	11/06/2018	15:10	
D6-SC-0to1-102118	K1810302-027	J:\MS14\DATA\110618\1106F023.D	11/06/2018	15:39	
H3-SC-1to2-102118	K1810302-028	J:\MS14\DATA\110618\1106F024.D	11/06/2018	16:08	
D6-SC-1to2-102118	K1810302-029	J:\MS14\DATA\110618\1106F025.D	11/06/2018	16:37	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

ALS Group USA, Corp. dba ALS Environmental

QA/QC Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/07/2018
Time Analyzed: 04:55

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\110718\1107F001.D
Instrument ID: MS14
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1806028

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	40.7	98834	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	42.4	103141	PASS
70	69	0	2	0.8	832	PASS
127	198	10	80	47.9	116466	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	44.4	243029	PASS
199	198	5	9	7.1	17181	PASS
275	198	10	60	37.9	92040	PASS
365	442	1	50	2.8	15565	PASS
441	443	0	100	75.3	79482	PASS
442	442	100	100	100.0	547541	PASS
443	442	15	24	19.3	105498	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1806028-2	J:\MS14\DATA\110718\1107F002.D	11/07/2018	05:26	
Method Blank	KWG1805648-4	J:\MS14\DATA\110718\1107F003.D	11/07/2018	05:56	
Lab Control Sample	KWG1805648-3	J:\MS14\DATA\110718\1107F004.D	11/07/2018	06:26	
D6-SC-88to108-102118	K1810302-025	J:\MS14\DATA\110718\1107F006.D	11/07/2018	07:26	
H3-SC-46to63-102118	K1810302-026	J:\MS14\DATA\110718\1107F008.D	11/07/2018	08:27	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

QA/QC Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/13/2018
Time Analyzed: 04:58

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\111318\1113F001.D
Instrument ID: MS14
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1806206

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	42.8	164981	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	42.5	163966	PASS
70	69	0	2	0.7	1087	PASS
127	198	10	80	50.1	193189	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	47.0	385685	PASS
199	198	5	9	6.6	25589	PASS
275	198	10	60	36.8	142002	PASS
365	442	1	50	3.1	25504	PASS
441	443	0	100	77.0	119946	PASS
442	442	100	100	100.0	821312	PASS
443	442	15	24	19.0	155837	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1806206-2	J:\MS14\DATA\111318\1113F002.D	11/13/2018	05:23	
A1-0to30-102018	K1810302-016	J:\MS14\DATA\111318\1113F026.D	11/13/2018	15:32	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

QA/QC Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Date Analyzed: 11/14/2018
Time Analyzed: 05:51

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS14\DATA\111418\1114F001.D
Instrument ID: MS14
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1806235

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	46.5	157589	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	46.9	158868	PASS
70	69	0	2	0.7	1054	PASS
127	198	10	80	51.6	174890	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	48.5	339050	PASS
199	198	5	9	6.8	22890	PASS
275	198	10	60	35.0	118562	PASS
365	442	1	50	3.4	24040	PASS
441	443	0	100	75.3	101050	PASS
442	442	100	100	100.0	698368	PASS
443	442	15	24	19.2	134280	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1806235-2	J:\MS14\DATA\111418\1114F002.D	11/14/2018	06:17	
Method Blank	KWG1805796-6	J:\MS14\DATA\111418\1114F003.D	11/14/2018	06:42	
Lab Control Sample	KWG1805796-5	J:\MS14\DATA\111418\1114F004.D	11/14/2018	07:08	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Calibration Date:** 07/11/2018

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL15779 **Column:** MS
Instrument ID: MS14

Level ID	File ID	Level ID	File ID
A	J:\MS14\DATA\071118\0711F003.D	G	J:\MS14\DATA\071118\0711F009.D
B	J:\MS14\DATA\071118\0711F004.D	H	J:\MS14\DATA\071118\0711F010.D
C	J:\MS14\DATA\071118\0711F005.D	I	J:\MS14\DATA\071118\0711F011.D
D	J:\MS14\DATA\071118\0711F006.D	J	J:\MS14\DATA\071118\0711F012.D
E	J:\MS14\DATA\071118\0711F007.D		
F	J:\MS14\DATA\071118\0711F008.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	1.42	B	4.0	1.31	C	8.0	1.19	D	20	1.15	E	100	1.13
	F	200	1.11	G	400	1.09	H	1000	1.06	I	1600	1.03	J	2000	1.07
2-Methylnaphthalene	A	2.0	0.789	B	4.0	0.741	C	8.0	0.734	D	20	0.715	E	100	0.718
	F	200	0.692	G	400	0.662	H	1000	0.650	I	1600	0.627	J	2000	0.635
Acenaphthylene	A	2.0	2.52	B	4.0	2.35	C	8.0	2.29	D	20	2.33	E	100	2.37
	F	200	2.41	G	400	2.42	H	1000	2.41	I	1600	2.43	J	2000	2.34
Acenaphthene	A	2.0	1.44	B	4.0	1.38	C	8.0	1.33	D	20	1.38	E	100	1.38
	F	200	1.39	G	400	1.38	H	1000	1.35	I	1600	1.38	J	2000	1.32
Dibenzofuran	A	2.0	2.25	B	4.0	2.12	C	8.0	2.21	D	20	2.09	E	100	2.22
	F	200	2.29	G	400	2.24	H	1000	2.22	I	1600	2.24	J	2000	2.11
Fluorene	A	2.0	1.81	B	4.0	1.68	C	8.0	1.62	D	20	1.64	E	100	1.70
	F	200	1.68	G	400	1.67	H	1000	1.60	I	1600	1.63	J	2000	1.56
Phenanthrene	A	2.0	1.33	B	4.0	1.33	C	8.0	1.25	D	20	1.23	E	100	1.25
	F	200	1.25	G	400	1.22	H	1000	1.23	I	1600	1.22	J	2000	1.16
Anthracene	A	2.0	1.20	B	4.0	1.17	C	8.0	1.17	D	20	1.14	E	100	1.21
	F	200	1.22	G	400	1.22	H	1000	1.22	I	1600	1.21	J	2000	1.17
Fluoranthene	A	2.0	1.50	B	4.0	1.44	C	8.0	1.44	D	20	1.41	E	100	1.54
	F	200	1.60	G	400	1.58	H	1000	1.63	I	1600	1.65	J	2000	1.62
Pyrene	A	2.0	1.49	B	4.0	1.46	C	8.0	1.38	D	20	1.37	E	100	1.34
	F	200	1.29	G	400	1.32	H	1000	1.33	I	1600	1.39	J	2000	1.36
Benz(a)anthracene	A	2.0	1.50	B	4.0	1.32	C	8.0	1.26	D	20	1.19	E	100	1.20
	F	200	1.23	G	400	1.27	H	1000	1.32	I	1600	1.34	J	2000	1.31
Chrysene	A	2.0	1.23	B	4.0	1.21	C	8.0	1.23	D	20	1.20	E	100	1.24
	F	200	1.25	G	400	1.25	H	1000	1.26	I	1600	1.28	J	2000	1.24
Benzo(b)fluoranthene	A	2.0	1.19	B	4.0	1.16	C	8.0	1.15	D	20	1.16	E	100	1.20
	F	200	1.26	G	400	1.30	H	1000	1.34	I	1600	1.32	J	2000	1.27
Benzo(k)fluoranthene	A	2.0	1.16	B	4.0	1.17	C	8.0	1.13	D	20	1.19	E	100	1.23
	F	200	1.26	G	400	1.29	H	1000	1.29	I	1600	1.29	J	2000	1.25

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

† SPCC Compound **‡ CCC Compound**

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Calibration Date:** 07/11/2018

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL15779 **Column:** MS
Instrument ID: MS14

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benzo(a)pyrene	A	2.0	1.09	B	4.0	1.01	C	8.0	1.03	D	20	1.04	E	100	1.05
	F	200	1.07	G	400	1.11	H	1000	1.15	I	1600	1.16	J	2000	1.12
Indeno(1,2,3-cd)pyrene	A	2.0	1.23	B	4.0	1.10	C	8.0	1.06	D	20	1.06	E	100	1.07
	F	200	1.08	G	400	1.05	H	1000	1.01	I	1600	0.996	J	2000	0.959
Dibenz(a,h)anthracene	A	2.0	1.12	B	4.0	1.10	C	8.0	1.09	D	20	1.17	E	100	1.12
	F	200	1.10	G	400	1.07	H	1000	1.02	I	1600	1.00	J	2000	0.971
Benzo(g,h,i)perylene	A	2.0	1.44	B	4.0	1.37	C	8.0	1.31	D	20	1.34	E	100	1.28
	F	200	1.27	G	400	1.21	H	1000	1.12	I	1600	1.07	J	2000	1.04
Fluorene-d10				B	4.0	1.49	C	8.0	1.33	D	20	1.28	E	100	1.25
	F	200	1.24	G	400	1.25	H	1000	1.21	I	1600	1.24	J	2000	1.20
Fluoranthene-d10	A	2.0	1.18	B	4.0	1.19	C	8.0	1.15	D	20	1.11	E	100	1.20
	F	200	1.26	G	400	1.31	H	1000	1.40	I	1600	1.42	J	2000	1.39
Terphenyl-d14				B	4.0	1.05	C	8.0	0.934	D	20	0.867	E	100	0.832
	F	200	0.823	G	400	0.835	H	1000	0.837	I	1600	0.830	J	2000	0.801

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

† SPCC Compound **‡ CCC Compound**

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Calibration Date:** 07/11/2018

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL15779 **Column:** MS
Instrument ID: MS14

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Naphthalene	MS	AverageRF	% RSD	10.7		≤ 20	1.15		0.70
2-Methylnaphthalene	MS	AverageRF	% RSD	7.5		≤ 20	0.696		0.40
Acenaphthylene	MS	AverageRF	% RSD	2.7		≤ 20	2.39		0.90
Acenaphthene	MS	AverageRF	% RSD	2.3		≤ 20	1.37		0.90
Dibenzofuran	MS	AverageRF	% RSD	3.1		≤ 20	2.20		0.80
Fluorene	MS	AverageRF	% RSD	4.1		≤ 20	1.66		0.90
Phenanthrene	MS	AverageRF	% RSD	4.1		≤ 20	1.25		0.70
Anthracene	MS	AverageRF	% RSD	2.4		≤ 20	1.19		0.70
Fluoranthene	MS	AverageRF	% RSD	5.8		≤ 20	1.54		0.60
Pyrene	MS	AverageRF	% RSD	4.5		≤ 20	1.37		0.60
Benz(a)anthracene	MS	AverageRF	% RSD	6.8		≤ 20	1.29		0.80
Chrysene	MS	AverageRF	% RSD	1.9		≤ 20	1.24		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	5.7		≤ 20	1.24		0.70
Benzo(k)fluoranthene	MS	AverageRF	% RSD	4.7		≤ 20	1.23		0.70
Benzo(a)pyrene	MS	AverageRF	% RSD	4.7		≤ 20	1.08		0.70
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	6.9		≤ 20	1.06		0.50
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	5.7		≤ 20	1.08		0.40
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	10.7		≤ 20	1.24		0.50
Fluorene-d10	SURR	AverageRF	% RSD	6.9		≤ 20	1.28		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	9.0		≤ 20	1.26		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	8.9		≤ 20	0.867		0.01

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

† SPCC Compound **‡ CCC Compound**

QA/QC Results

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Service Request: K1810302
Calibration Date: 07/11/2018
Date Analyzed: 07/11/2018

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL15779
Units: ng/ml

File ID: J:\MS14\DATA\071118\0711F013.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	370	1.15	1.06	-8	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	390	0.696	0.683	-2	NA	± 30 %	AverageRF
Acenaphthylene	400	390	2.39	2.33	-2	NA	± 30 %	AverageRF
Acenaphthene	400	380	1.37	1.32	-4	NA	± 30 %	AverageRF
Dibenzofuran	400	370	2.20	2.05	-7	NA	± 30 %	AverageRF
Fluorene	400	390	1.66	1.60	-4	NA	± 30 %	AverageRF
Phenanthrene	400	380	1.25	1.19	-4	NA	± 30 %	AverageRF
Anthracene	400	400	1.19	1.18	-1	NA	± 30 %	AverageRF
Fluoranthene	400	410	1.54	1.60	4	NA	± 30 %	AverageRF
Pyrene	400	350	1.37	1.21	-12	NA	± 30 %	AverageRF
Benz(a)anthracene	400	380	1.29	1.22	-6	NA	± 30 %	AverageRF
Chrysene	400	390	1.24	1.20	-3	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	410	1.24	1.27	2	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	420	1.23	1.28	4	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	400	1.08	1.08	0	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	1.06	0.993	-7	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	380	1.08	1.03	-4	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	370	1.24	1.14	-9	NA	± 30 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:** 11/06/2018

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard **Calibration Date:** 07/11/2018
Analysis Method: 8270D SIM **Calibration ID:** CAL15779
Analysis Lot: KWG1806026
Units: ng/ml

File ID: J:\MS14\DATA\110618\1106F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.70	1.15	1.11	-4	NA	± 20	AverageRF
2-Methylnaphthalene	400	390	0.40	0.696	0.672	-3	NA	± 20	AverageRF
Acenaphthylene	400	420	0.90	2.39	2.50	5	NA	± 20	AverageRF
Acenaphthene	400	410	0.90	1.37	1.40	2	NA	± 20	AverageRF
Dibenzofuran	400	420	0.80	2.20	2.32	6	NA	± 20	AverageRF
Fluorene	400	420	0.90	1.66	1.73	5	NA	± 20	AverageRF
Phenanthrene	400	400	0.70	1.25	1.23	-1	NA	± 20	AverageRF
Anthracene	400	360	0.70	1.19	1.09	-9	NA	± 20	AverageRF
Fluoranthene	400	390	0.60	1.54	1.51	-2	NA	± 20	AverageRF
Pyrene	400	380	0.60	1.37	1.31	-5	NA	± 20	AverageRF
Benz(a)anthracene	400	410	0.80	1.29	1.34	4	NA	± 20	AverageRF
Chrysene	400	400	0.70	1.24	1.24	0	NA	± 20	AverageRF
Benzo(b)fluoranthene	400	410	0.70	1.24	1.28	4	NA	± 20	AverageRF
Benzo(k)fluoranthene	400	400	0.70	1.23	1.22	-1	NA	± 20	AverageRF
Benzo(a)pyrene	400	440	0.70	1.08	1.19	10	NA	± 20	AverageRF
Indeno(1,2,3-cd)pyrene	400	460	0.50	1.06	1.23	16	NA	± 20	AverageRF
Dibenz(a,h)anthracene	400	440	0.40	1.08	1.18	10	NA	± 20	AverageRF
Benzo(g,h,i)perylene	400	420	0.50	1.24	1.32	6	NA	± 20	AverageRF
Fluorene-d10	400	380	0.01	1.28	1.23	-4	NA	± 20	AverageRF
Fluoranthene-d10	400	380	0.01	1.26	1.19	-6	NA	± 20	AverageRF
Terphenyl-d14	400	380	0.01	0.867	0.826	-5	NA	± 20	AverageRF

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

† SPCC Compound **‡ CCC Compound**

QA/QC Results

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:** 11/07/2018

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard **Calibration Date:** 07/11/2018
Analysis Method: 8270D SIM **Calibration ID:** CAL15779
Analysis Lot: KWG1806028
Units: ng/ml

File ID: J:\MS14\DATA\110718\1107F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	380	0.70	1.15	1.10	-5	NA	± 20	AverageRF
2-Methylnaphthalene	400	390	0.40	0.696	0.682	-2	NA	± 20	AverageRF
Acenaphthylene	400	410	0.90	2.39	2.46	3	NA	± 20	AverageRF
Acenaphthene	400	400	0.90	1.37	1.38	1	NA	± 20	AverageRF
Dibenzofuran	400	410	0.80	2.20	2.25	2	NA	± 20	AverageRF
Fluorene	400	400	0.90	1.66	1.66	0	NA	± 20	AverageRF
Phenanthrene	400	390	0.70	1.25	1.23	-2	NA	± 20	AverageRF
Anthracene	400	360	0.70	1.19	1.06	-11	NA	± 20	AverageRF
Fluoranthene	400	380	0.60	1.54	1.46	-5	NA	± 20	AverageRF
Pyrene	400	380	0.60	1.37	1.29	-6	NA	± 20	AverageRF
Benz(a)anthracene	400	410	0.80	1.29	1.33	2	NA	± 20	AverageRF
Chrysene	400	400	0.70	1.24	1.24	0	NA	± 20	AverageRF
Benzo(b)fluoranthene	400	420	0.70	1.24	1.29	4	NA	± 20	AverageRF
Benzo(k)fluoranthene	400	400	0.70	1.23	1.21	-1	NA	± 20	AverageRF
Benzo(a)pyrene	400	440	0.70	1.08	1.20	11	NA	± 20	AverageRF
Indeno(1,2,3-cd)pyrene	400	460	0.50	1.06	1.22	15	NA	± 20	AverageRF
Dibenz(a,h)anthracene	400	440	0.40	1.08	1.18	10	NA	± 20	AverageRF
Benzo(g,h,i)perylene	400	430	0.50	1.24	1.32	6	NA	± 20	AverageRF
Fluorene-d10	400	370	0.01	1.28	1.19	-7	NA	± 20	AverageRF
Fluoranthene-d10	400	370	0.01	1.26	1.15	-9	NA	± 20	AverageRF
Terphenyl-d14	400	380	0.01	0.867	0.815	-6	NA	± 20	AverageRF

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

† SPCC Compound **‡ CCC Compound**

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:** 11/13/2018

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard **Calibration Date:** 07/11/2018
Analysis Method: 8270D SIM **Calibration ID:** CAL15779
Analysis Lot: KWG1806206
Units: ng/ml

File ID: J:\MS14\DATA\111318\1113F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	350	0.70	1.15	1.00	-13	NA	± 20	AverageRF
2-Methylnaphthalene	400	360	0.40	0.696	0.623	-10	NA	± 20	AverageRF
Acenaphthylene	400	360	0.90	2.39	2.17	-9	NA	± 20	AverageRF
Acenaphthene	400	360	0.90	1.37	1.23	-10	NA	± 20	AverageRF
Dibenzofuran	400	350	0.80	2.20	1.91	-13	NA	± 20	AverageRF
Fluorene	400	350	0.90	1.66	1.46	-12	NA	± 20	AverageRF
Phenanthrene	400	350	0.70	1.25	1.09	-12	NA	± 20	AverageRF
Anthracene	400	370	0.70	1.19	1.10	-8	NA	± 20	AverageRF
Fluoranthene	400	390	0.60	1.54	1.50	-2	NA	± 20	AverageRF
Pyrene	400	350	0.60	1.37	1.18	-14	NA	± 20	AverageRF
Benz(a)anthracene	400	370	0.80	1.29	1.19	-8	NA	± 20	AverageRF
Chrysene	400	360	0.70	1.24	1.10	-11	NA	± 20	AverageRF
Benzo(b)fluoranthene	400	380	0.70	1.24	1.18	-5	NA	± 20	AverageRF
Benzo(k)fluoranthene	400	370	0.70	1.23	1.13	-8	NA	± 20	AverageRF
Benzo(a)pyrene	400	390	0.70	1.08	1.05	-3	NA	± 20	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	0.50	1.06	0.985	-7	NA	± 20	AverageRF
Dibenz(a,h)anthracene	400	370	0.40	1.08	0.990	-8	NA	± 20	AverageRF
Benzo(g,h,i)perylene	400	330	0.50	1.24	1.02	-18	NA	± 20	AverageRF
Fluorene-d10	400	390	0.01	1.28	1.26	-2	NA	± 20	AverageRF
Fluoranthene-d10	400	460	0.01	1.26	1.45	15	NA	± 20	AverageRF
Terphenyl-d14	400	400	0.01	0.867	0.858	-1	NA	± 20	AverageRF

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

† SPCC Compound **‡ CCC Compound**

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:** 11/14/2018

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard **Calibration Date:** 07/11/2018
Analysis Method: 8270D SIM **Calibration ID:** CAL15779
Analysis Lot: KWG1806235
Units: ng/ml

File ID: J:\MS14\DATA\111418\1114F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	350	0.70	1.15	0.996	-14	NA	± 20	AverageRF
2-Methylnaphthalene	400	350	0.40	0.696	0.609	-13	NA	± 20	AverageRF
Acenaphthylene	400	360	0.90	2.39	2.13	-11	NA	± 20	AverageRF
Acenaphthene	400	360	0.90	1.37	1.22	-11	NA	± 20	AverageRF
Dibenzofuran	400	360	0.80	2.20	1.96	-11	NA	± 20	AverageRF
Fluorene	400	390	0.90	1.66	1.63	-2	NA	± 20	AverageRF
Phenanthrene	400	340	0.70	1.25	1.07	-14	NA	± 20	AverageRF
Anthracene	400	360	0.70	1.19	1.07	-11	NA	± 20	AverageRF
Fluoranthene	400	330	0.60	1.54	1.27	-17	NA	± 20	AverageRF
Pyrene	400	350	0.60	1.37	1.19	-13	NA	± 20	AverageRF
Benz(a)anthracene	400	360	0.80	1.29	1.17	-10	NA	± 20	AverageRF
Chrysene	400	350	0.70	1.24	1.10	-11	NA	± 20	AverageRF
Benzo(b)fluoranthene	400	380	0.70	1.24	1.18	-5	NA	± 20	AverageRF
Benzo(k)fluoranthene	400	370	0.70	1.23	1.12	-8	NA	± 20	AverageRF
Benzo(a)pyrene	400	380	0.70	1.08	1.04	-4	NA	± 20	AverageRF
Indeno(1,2,3-cd)pyrene	400	360	0.50	1.06	0.966	-9	NA	± 20	AverageRF
Dibenz(a,h)anthracene	400	360	0.40	1.08	0.969	-10	NA	± 20	AverageRF
Benzo(g,h,i)perylene	400	320	0.50	1.24	1.01	-19	NA	± 20	AverageRF
Fluorene-d10	400	440	0.01	1.28	1.41	10	NA	± 20	AverageRF
Fluoranthene-d10	400	390	0.01	1.26	1.21	-4	NA	± 20	AverageRF
Terphenyl-d14	400	400	0.01	0.867	0.868	0	NA	± 20	AverageRF

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

† SPCC Compound **‡ CCC Compound**

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QA/QC Results

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1806026
Instrument ID: MS14

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1106F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1806026-1	11/6/2018	05:06		11/6/2018	05:26
1106F002.D	Continuing Calibration Verification	KWG1806026-2	11/6/2018	05:35		11/6/2018	05:54
1106F003.D	ZZZZZZ	ZZZZZZ	11/6/2018	06:04		11/6/2018	06:23
1106F004.D	ZZZZZZ	ZZZZZZ	11/6/2018	06:33		11/6/2018	06:52
1106F005.D	ZZZZZZ	ZZZZZZ	11/6/2018	07:01		11/6/2018	07:20
1106F006.D	Method Blank	KWG1805647-4	11/6/2018	07:30		11/6/2018	07:49
1106F007.D	Lab Control Sample	KWG1805647-3	11/6/2018	07:59		11/6/2018	08:18
1106F008.D	D6-SC-64to88-102118MS	KWG1805647-1	11/6/2018	08:27		11/6/2018	08:46
1106F009.D	D6-SC-64to88-102118DMS	KWG1805647-2	11/6/2018	08:56		11/6/2018	09:15
1106F010.D	D6-SC-64to88-102118	K1810302-022	11/6/2018	09:25		11/6/2018	09:44
1106F011.D	H3-SC-99to114-102118	K1810302-024	11/6/2018	09:53		11/6/2018	10:12
1106F012.D	H3-SC-46to63-102118	K1810302-026	11/6/2018	10:22		11/6/2018	10:41
1106F013.D	ZZZZZZ	ZZZZZZ	11/6/2018	10:51		11/6/2018	11:10
1106F014.D	ZZZZZZ	ZZZZZZ	11/6/2018	11:20		11/6/2018	11:39
1106F015.D	ZZZZZZ	ZZZZZZ	11/6/2018	11:49		11/6/2018	12:08
1106F016.D	ZZZZZZ	ZZZZZZ	11/6/2018	12:18		11/6/2018	12:37
1106F017.D	ZZZZZZ	ZZZZZZ	11/6/2018	12:46		11/6/2018	13:05
1106F018.D	ZZZZZZ	ZZZZZZ	11/6/2018	13:15		11/6/2018	13:34
1106F019.D	ZZZZZZ	ZZZZZZ	11/6/2018	13:44		11/6/2018	14:03
1106F020.D	ZZZZZZ	ZZZZZZ	11/6/2018	14:13		11/6/2018	14:32
1106F021.D	ZZZZZZ	ZZZZZZ	11/6/2018	14:42		11/6/2018	15:01
1106F022.D	D6-SC-40to64-102118	K1810302-023	11/6/2018	15:10		11/6/2018	15:29
1106F023.D	D6-SC-0to1-102118	K1810302-027	11/6/2018	15:39		11/6/2018	15:58
1106F024.D	H3-SC-1to2-102118	K1810302-028	11/6/2018	16:08		11/6/2018	16:27
1106F025.D	D6-SC-1to2-102118	K1810302-029	11/6/2018	16:37		11/6/2018	16:56

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1806028
Instrument ID: MS14

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1107F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1806028-1	11/7/2018	04:55		11/7/2018	05:15
1107F002.D	Continuing Calibration Verification	KWG1806028-2	11/7/2018	05:26		11/7/2018	05:45
1107F003.D	Method Blank	KWG1805648-4	11/7/2018	05:56		11/7/2018	06:15
1107F004.D	Lab Control Sample	KWG1805648-3	11/7/2018	06:26		11/7/2018	06:45
1107F005.D	ZZZZZZ	ZZZZZZ	11/7/2018	06:56		11/7/2018	07:15
1107F006.D	D6-SC-88to108-102118	K1810302-025	11/7/2018	07:26		11/7/2018	07:45
1107F007.D	ZZZZZZ	ZZZZZZ	11/7/2018	07:56		11/7/2018	08:15
1107F008.D	H3-SC-46to63-102118	K1810302-026	11/7/2018	08:27		11/7/2018	08:46
1107F009.D	ZZZZZZ	ZZZZZZ	11/7/2018	08:58		11/7/2018	09:17
1107F010.D	ZZZZZZ	ZZZZZZ	11/7/2018	09:28		11/7/2018	09:47
1107F011.D	ZZZZZZ	ZZZZZZ	11/7/2018	09:59		11/7/2018	10:18
1107F012.D	ZZZZZZ	ZZZZZZ	11/7/2018	10:29		11/7/2018	10:48
1107F013.D	ZZZZZZ	ZZZZZZ	11/7/2018	10:59		11/7/2018	11:18
1107F014.D	ZZZZZZ	ZZZZZZ	11/7/2018	11:30		11/7/2018	11:49
1107F015.D	ZZZZZZ	ZZZZZZ	11/7/2018	12:00		11/7/2018	12:19
1107F016.D	ZZZZZZ	ZZZZZZ	11/7/2018	12:31		11/7/2018	12:50
1107F017.D	ZZZZZZ	ZZZZZZ	11/7/2018	13:01		11/7/2018	13:20
1107F018.D	ZZZZZZ	ZZZZZZ	11/7/2018	13:32		11/7/2018	13:51
1107F019.D	ZZZZZZ	ZZZZZZ	11/7/2018	14:02		11/7/2018	14:21
1107F020.D	ZZZZZZ	ZZZZZZ	11/7/2018	14:32		11/7/2018	14:51
1107F021.D	ZZZZZZ	ZZZZZZ	11/7/2018	15:03		11/7/2018	15:22
1107F022.D	ZZZZZZ	ZZZZZZ	11/7/2018	15:33		11/7/2018	15:52
1107F023.D	ZZZZZZ	ZZZZZZ	11/7/2018	16:03		11/7/2018	16:22
1107F024.D	ZZZZZZ	ZZZZZZ	11/7/2018	16:33		11/7/2018	16:52

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1806206
Instrument ID: MS14

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1113F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1806206-1	11/13/2018	04:58		11/13/2018	05:18
1113F002.D	Continuing Calibration Verification	KWG1806206-2	11/13/2018	05:23		11/13/2018	05:42
1113F003.D	ZZZZZZ	ZZZZZZ	11/13/2018	05:48		11/13/2018	06:07
1113F004.D	ZZZZZZ	ZZZZZZ	11/13/2018	06:13		11/13/2018	06:32
1113F005.D	ZZZZZZ	ZZZZZZ	11/13/2018	06:38		11/13/2018	06:57
1113F006.D	ZZZZZZ	ZZZZZZ	11/13/2018	07:03		11/13/2018	07:22
1113F009.D	ZZZZZZ	ZZZZZZ	11/13/2018	08:19		11/13/2018	08:38
1113F010.D	ZZZZZZ	ZZZZZZ	11/13/2018	08:44		11/13/2018	09:03
1113F011.D	ZZZZZZ	ZZZZZZ	11/13/2018	09:09		11/13/2018	09:28
1113F012.D	ZZZZZZ	ZZZZZZ	11/13/2018	09:35		11/13/2018	09:54
1113F013.D	ZZZZZZ	ZZZZZZ	11/13/2018	10:00		11/13/2018	10:19
1113F014.D	ZZZZZZ	ZZZZZZ	11/13/2018	10:25		11/13/2018	10:44
1113F015.D	ZZZZZZ	ZZZZZZ	11/13/2018	10:51		11/13/2018	11:10
1113F016.D	ZZZZZZ	ZZZZZZ	11/13/2018	11:16		11/13/2018	11:35
1113F017.D	ZZZZZZ	ZZZZZZ	11/13/2018	11:42		11/13/2018	12:01
1113F018.D	ZZZZZZ	ZZZZZZ	11/13/2018	12:07		11/13/2018	12:26
1113F019.D	ZZZZZZ	ZZZZZZ	11/13/2018	12:33		11/13/2018	12:52
1113F020.D	ZZZZZZ	ZZZZZZ	11/13/2018	12:58		11/13/2018	13:17
1113F021.D	ZZZZZZ	ZZZZZZ	11/13/2018	13:24		11/13/2018	13:43
1113F022.D	ZZZZZZ	ZZZZZZ	11/13/2018	13:49		11/13/2018	14:08
1113F023.D	ZZZZZZ	ZZZZZZ	11/13/2018	14:15		11/13/2018	14:34
1113F024.D	ZZZZZZ	ZZZZZZ	11/13/2018	14:41		11/13/2018	15:00
1113F025.D	ZZZZZZ	ZZZZZZ	11/13/2018	15:06		11/13/2018	15:25
1113F026.D	A1-0to30-102018	K1810302-016	11/13/2018	15:32		11/13/2018	15:51

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

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QA/QC Results

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1806235
Instrument ID: MS14

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1114F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1806235-1	11/14/2018	05:51		11/14/2018	06:11
1114F002.D	Continuing Calibration Verification	KWG1806235-2	11/14/2018	06:17		11/14/2018	06:36
1114F003.D	Method Blank	KWG1805796-6	11/14/2018	06:42		11/14/2018	07:01
1114F004.D	Lab Control Sample	KWG1805796-5	11/14/2018	07:08		11/14/2018	07:27
1114F005.D	ZZZZZZ	ZZZZZZ	11/14/2018	07:33		11/14/2018	07:52
1114F006.D	ZZZZZZ	ZZZZZZ	11/14/2018	07:58		11/14/2018	08:17
1114F007.D	ZZZZZZ	ZZZZZZ	11/14/2018	08:23		11/14/2018	08:42
1114F008.D	ZZZZZZ	ZZZZZZ	11/14/2018	08:48		11/14/2018	09:07
1114F009.D	ZZZZZZ	ZZZZZZ	11/14/2018	09:14		11/14/2018	09:33
1114F010.D	ZZZZZZ	ZZZZZZ	11/14/2018	09:40		11/14/2018	09:59
1114F011.D	ZZZZZZ	ZZZZZZ	11/14/2018	10:05		11/14/2018	10:24
1114F012.D	ZZZZZZ	ZZZZZZ	11/14/2018	10:30		11/14/2018	10:49
1114F013.D	ZZZZZZ	ZZZZZZ	11/14/2018	10:56		11/14/2018	11:15
1114F014.D	ZZZZZZ	ZZZZZZ	11/14/2018	11:21		11/14/2018	11:40
1114F015.D	ZZZZZZ	ZZZZZZ	11/14/2018	11:46		11/14/2018	12:05
1114F016.D	ZZZZZZ	ZZZZZZ	11/14/2018	12:12		11/14/2018	12:31
1114F017.D	ZZZZZZ	ZZZZZZ	11/14/2018	12:39		11/14/2018	12:58
1114F018.D	ZZZZZZ	ZZZZZZ	11/14/2018	13:05		11/14/2018	13:24
1114F019.D	ZZZZZZ	ZZZZZZ	11/14/2018	13:31		11/14/2018	13:50
1114F020.D	ZZZZZZ	ZZZZZZ	11/14/2018	13:57		11/14/2018	14:16
1114F021.D	ZZZZZZ	ZZZZZZ	11/14/2018	14:25		11/14/2018	14:44
1114F022.D	ZZZZZZ	ZZZZZZ	11/14/2018	14:51		11/14/2018	15:10
1114F023.D	ZZZZZZ	ZZZZZZ	11/14/2018	15:17		11/14/2018	15:36
1114F024.D	ZZZZZZ	ZZZZZZ	11/14/2018	15:43		11/14/2018	16:02
1114F025.D	ZZZZZZ	ZZZZZZ	11/14/2018	16:09		11/14/2018	16:28
1114F026.D	ZZZZZZ	ZZZZZZ	11/14/2018	16:35		11/14/2018	16:54
1114F027.D	ZZZZZZ	ZZZZZZ	11/14/2018	17:01		11/14/2018	17:20
1114F028.D	ZZZZZZ	ZZZZZZ	11/14/2018	17:27		11/14/2018	17:46

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Extracted:** 11/01/2018
Sample Matrix: Sediment

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541 **Extraction Lot:** KWG1805647
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
D6-SC-64to88-102118	K1810302-022	10/21/18	10/22/18	40.237g	2mL	66	
D6-SC-40to64-102118	K1810302-023	10/21/18	10/22/18	40.117g	2mL	54.7	
H3-SC-99to114-102118	K1810302-024	10/21/18	10/22/18	40.111g	2mL	69.9	
H3-SC-46to63-102118	K1810302-026	10/21/18	10/22/18	40.236g	2mL	67.8	
H3-SC-46to63-102118DL	K1810302-026	10/21/18	10/22/18	40.236g	2mL	67.8	
D6-SC-0to1-102118	K1810302-027	10/21/18	10/22/18	40.092g	2mL	42.9	
H3-SC-1to2-102118	K1810302-028	10/21/18	10/22/18	40.131g	2mL	52	
D6-SC-1to2-102118	K1810302-029	10/21/18	10/22/18	40.362g	2mL	45.9	
Method Blank	KWG1805647-4	NA	NA	40.436g	2mL	NA	
D6-SC-64to88-102118MS	KWG1805647-1	10/21/18	10/22/18	40.185g	2mL	66	
D6-SC-64to88-102118DMS	KWG1805647-2	10/21/18	10/22/18	40.109g	2mL	66	
Lab Control Sample	KWG1805647-3	NA	NA	20.000g	2mL	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Extracted:**	11/01/2018
Sample Matrix:	Sediment		

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3541	**Extraction Lot:**	KWG1805648
Analysis Method:	8270D SIM	**Level:**	Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
D6-SC-88to108-102118	K1810302-025	10/21/18	10/22/18	40.018g	2mL	71.5	
Method Blank	KWG1805648-4	NA	NA	40.334g	2mL	NA	
Lab Control Sample	KWG1805648-3	NA	NA	20.000g	2mL	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Extracted:** 11/07/2018
Sample Matrix: Sediment

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541 **Extraction Lot:** KWG1805796
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
A1-0to30-102018	K1810302-016	10/20/18	10/22/18	40.044g	2mL	54.7	
Method Blank	KWG1805796-6	NA	NA	40.332g	2mL	NA	
Lab Control Sample	KWG1805796-5	NA	NA	20.000g	2mL	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Low Level Semivolatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/18 12:05
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	A1-0to30-102018	**Units:**	ug/Kg
Lab Code:	K1810302-016	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	**12 J**	91	8.9	1	11/14/18 16:18	11/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	64	30 - 102	11/14/18 16:18	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 17:40
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-64to88-102118	**Units:**	ug/Kg
Lab Code:	K1810302-022	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	**10 J**	76	8.9	1	11/17/18 23:38	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	59	30 - 102	11/17/18 23:38	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 16:50
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-40to64-102118	**Units:**	ug/Kg
Lab Code:	K1810302-023	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	**760**	91	8.9	1	11/18/18 00:07	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	59	30 - 102	11/18/18 00:07	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 14:30
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	H3-SC-99to114-102118	**Units:**	ug/Kg
Lab Code:	K1810302-024	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	ND U	71	8.9	1	11/17/18 23:10	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	58	30 - 102	11/17/18 23:10	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 17:50
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-88to108-102118	**Units:**	ug/Kg
Lab Code:	K1810302-025	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	ND U	70	8.9	1	11/18/18 00:35	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	62	30 - 102	11/18/18 00:35	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 12:50
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	H3-SC-46to63-102118	**Units:**	ug/Kg
Lab Code:	K1810302-026	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	**29 J**	74	8.9	1	11/18/18 01:03	11/1/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	61	30 - 102	11/18/18 01:03	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 16:00
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-0to1-102118	**Units:**	ug/Kg
Lab Code:	K1810302-027	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	**580**	120	11	1	11/18/18 01:31	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	61	30 - 102	11/18/18 01:31	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 11:55
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	H3-SC-1to2-102118	**Units:**	ug/Kg
Lab Code:	K1810302-028	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	**120**	96	8.9	1	11/18/18 01:59	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	52	30 - 102	11/18/18 01:59	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18 16:15
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	D6-SC-1to2-102118	**Units:**	ug/Kg
Lab Code:	K1810302-029	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	**5800**	1100	97	10	12/12/18 00:34	10/31/18	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	52	30 - 102	11/18/18 02:27	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1815427-04	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	ND U	50	8.9	1	11/17/18 21:17	10/31/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	65	30 - 102	11/17/18 21:17	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1815507-04	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	ND U	50	8.9	1	11/18/18 04:21	11/1/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	58	30 - 102	11/18/18 04:21	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ1816032-04	**Basis:**	Dry

Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Bis(2-ethylhexyl) Phthalate	ND U	50	8.9	1	11/14/18 12:03	11/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	67	30 - 102	11/14/18 12:03	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3541

Sample Name	Lab Code	p-Terphenyl-d14 30-102
A1-0to30-102018	K1810302-016	64
D6-SC-64to88-102118	K1810302-022	59
D6-SC-40to64-102118	K1810302-023	59
H3-SC-99to114-102118	K1810302-024	58
D6-SC-88to108-102118	K1810302-025	62
H3-SC-46to63-102118	K1810302-026	61
D6-SC-0to1-102118	K1810302-027	61
H3-SC-1to2-102118	K1810302-028	52
D6-SC-1to2-102118	K1810302-029	52
Method Blank	KQ1815427-04	65
Method Blank	KQ1815507-04	58
Method Blank	KQ1816032-04	67
Lab Control Sample	KQ1815427-03	60
Lab Control Sample	KQ1815507-03	69
Lab Control Sample	KQ1816032-03	66
H3-SC-99to114-102118	KQ1815427-01	63
H3-SC-99to114-102118	KQ1815427-02	59

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/14/18 09:22

Internal Standard Area and RT SUMMARY

Low Level Semivolatile Organic Compounds by GC/MS

File ID:	J:\MS29\DATA\111418\1114F002.D\	**Lab Code:**	KQ1816925-02
Instrument ID:	K-MS-29	**Analysis Lot:**	615539
Analysis Method:	8270D	**Signal ID:**	1

		Chrysene-d12	
		Area	**RT**
	Result ==>	182,932	15.64
	Upper Limit ==>	365,864	16.14
	Lower Limit ==>	91,466	15.14
Associated Analyses			
Method Blank	KQ1816032-04	206934	15.65
Lab Control Sample	KQ1816032-03	200343	15.64
A1-0to30-102018	K1810302-016	226239	15.64

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QA/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**11/17/18 16:07

Internal Standard Area and RT SUMMARY
Low Level Semivolatile Organic Compounds by GC/MS

File ID: J:\MS29\DATA\111718\1117F002.D\ **Lab Code:**KQ1816930-02
Instrument ID: K-MS-29 **Analysis Lot:**615546
Analysis Method: 8270D **Signal ID:**1

		Chrysene-d12	
		Area	**RT**
	Result ==>	184,564	15.65
	Upper Limit ==>	369,128	16.15
	Lower Limit ==>	92,282	15.15
Associated Analyses			
Method Blank	KQ1815427-04	201052	15.65
Lab Control Sample	KQ1815427-03	203115	15.65
H3-SC-99to114-102118MS	KQ1815427-01	244949	15.65
H3-SC-99to114-102118DMS	KQ1815427-02	250144	15.65
H3-SC-99to114-102118	K1810302-024	233660	15.65
D6-SC-64to88-102118	K1810302-022	242635	15.65
D6-SC-40to64-102118	K1810302-023	246594	15.67
D6-SC-88to108-102118	K1810302-025	216793	15.65
H3-SC-46to63-102118	K1810302-026	230947	15.67
D6-SC-0to1-102118	K1810302-027	227589	15.67
H3-SC-1to2-102118	K1810302-028	240665	15.71
D6-SC-1to2-102118	K1810302-029	237314	15.69

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QA/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**11/18/18 03:52

Internal Standard Area and RT SUMMARY
Low Level Semivolatile Organic Compounds by GC/MS

File ID: J:\MS29\DATA\111718\1117F027.D\ **Lab Code:**KQ1816931-02
Instrument ID: K-MS-29 **Analysis Lot:**615547
Analysis Method: 8270D **Signal ID:**1

		Chrysene-d12	
		Area	**RT**
	Result ==>	185,313	15.65
	Upper Limit ==>	370,626	16.15
	Lower Limit ==>	92,657	15.15
Associated Analyses			
Method Blank	KQ1815507-04	196256	15.65
Lab Control Sample	KQ1815507-03	186152	15.65

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QA/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**12/11/18 15:03

Internal Standard Area and RT SUMMARY
Low Level Semivolatile Organic Compounds by GC/MS

File ID: J:\MS29\DATA\121118\1211F002.D\ **Lab Code:**KQ1818460-02
Instrument ID: K-MS-29 **Analysis Lot:**619456
Analysis Method: 8270D **Signal ID:**1

		Chrysene-d12	
		Area	**RT**
	Result ==>	104,369	15.60
	Upper Limit ==>	208,738	16.10
	Lower Limit ==>	52,185	15.10
Associated Analyses			
D6-SC-1to2-102118	K1810302-029	115917	15.60

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/21/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
		Date Analyzed:	11/17/18
		Date Extracted:	10/31/18

Duplicate Matrix Spike Summary
Low Level Semivolatile Organic Compounds by GC/MS

Sample Name:	H3-SC-99to114-102118	**Units:**	ug/Kg
Lab Code:	K1810302-024	**Basis:**	Dry
Analysis Method:	8270D		
Prep Method:	EPA 3541		

		Matrix Spike			Duplicate Matrix Spike					
		KQ1815427-01			KQ1815427-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Bis(2-ethylhexyl) Phthalate	ND U	129	178	72	133	179	75	23-123	4	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:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/17/18
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Lab Control Sample Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Units:**	ug/Kg
Prep Method:	EPA 3541	**Basis:**	Dry
		Analysis Lot:	615546

Lab Control Sample
KQ1815427-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Bis(2-ethylhexyl) Phthalate	170	250	68	39-113

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/18/18
Sample Matrix:	Sediment	**Date Extracted:**	11/01/18

Lab Control Sample Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Units:**	ug/Kg
Prep Method:	EPA 3541	**Basis:**	Dry
		Analysis Lot:	615547

Lab Control Sample
KQ1815507-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Bis(2-ethylhexyl) Phthalate	188	250	75	39-113

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/14/18
Sample Matrix:	Sediment	**Date Extracted:**	11/07/18

Lab Control Sample Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Units:**	ug/Kg
Prep Method:	EPA 3541	**Basis:**	Dry
		Analysis Lot:	615539

Lab Control Sample
KQ1816032-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Bis(2-ethylhexyl) Phthalate	183	250	73	39-113

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/17/18 21:17
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Method Blank Summary
Low Level Semivolatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MS-29
Lab Code:	KQ1815427-04	**File ID:**	J:\MS29\DATA\111718\1117F013.D\
Analysis Method:	8270D	**Analysis Lot:**	615546,619456
Prep Method:	EPA 3541	**Extraction Lot:**	324899

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1815427-03	J:\MS29\DATA\111718\1117F014.D\	11/17/18 21:46
H3-SC-99to114-102118MS	KQ1815427-01	J:\MS29\DATA\111718\1117F015.D\	11/17/18 22:14
H3-SC-99to114-102118DMS	KQ1815427-02	J:\MS29\DATA\111718\1117F016.D\	11/17/18 22:42
H3-SC-99to114-102118	K1810302-024	J:\MS29\DATA\111718\1117F017.D\	11/17/18 23:10
D6-SC-64to88-102118	K1810302-022	J:\MS29\DATA\111718\1117F018.D\	11/17/18 23:38
D6-SC-40to64-102118	K1810302-023	J:\MS29\DATA\111718\1117F019.D\	11/18/18 00:07
D6-SC-88to108-102118	K1810302-025	J:\MS29\DATA\111718\1117F020.D\	11/18/18 00:35
D6-SC-0to1-102118	K1810302-027	J:\MS29\DATA\111718\1117F022.D\	11/18/18 01:31
H3-SC-1to2-102118	K1810302-028	J:\MS29\DATA\111718\1117F023.D\	11/18/18 01:59
D6-SC-1to2-102118	K1810302-029	J:\MS29\DATA\111718\1117F024.D\	11/18/18 02:27
D6-SC-1to2-102118	K1810302-029	J:\MS29\DATA\121118\1211F022.D\	12/12/18 00:34

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Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	NA
Sample Matrix:	Sediment	**Date Extracted:**	11/01/18

Method Blank Summary
Low Level Semivolatile Organic Compounds by GC/MS

Sample Name:		**Instrument ID:**	
Lab Code:		**File ID:**	
Analysis Method:	8270D	**Analysis Lot:**	615546,619456
Prep Method:	EPA 3541	**Extraction Lot:**	325014

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
H3-SC-46to63-102118	K1810302-026	J:\MS29\DATA\111718\1117F021.D\	11/18/18 01:03

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/18/18 04:21
Sample Matrix:	Sediment	**Date Extracted:**	11/01/18

Method Blank Summary
Low Level Semivolatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MS-29
Lab Code:	KQ1815507-04	**File ID:**	J:\MS29\DATA\111718\1117F028.D\
Analysis Method:	8270D	**Analysis Lot:**	615546,615547
Prep Method:	EPA 3541	**Extraction Lot:**	325014

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
H3-SC-46to63-102118	K1810302-026	J:\MS29\DATA\111718\1117F021.D\	11/18/18 01:03
Lab Control Sample	KQ1815507-03	J:\MS29\DATA\111718\1117F029.D\	11/18/18 04:49

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/14/18 12:03
Sample Matrix:	Sediment	**Date Extracted:**	11/07/18

Method Blank Summary
Low Level Semivolatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MS-29
Lab Code:	KQ1816032-04	**File ID:**	J:\MS29\DATA\111418\1114F004.D\
Analysis Method:	8270D	**Analysis Lot:**	615539
Prep Method:	EPA 3541	**Extraction Lot:**	325584

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1816032-03	J:\MS29\DATA\111418\1114F005.D\	11/14/18 12:31
A1-0to30-102018	K1810302-016	J:\MS29\DATA\111418\1114F013.D\	11/14/18 16:18

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/17/18 21:46
Sample Matrix:	Sediment	**Date Extracted:**	10/31/18

Lab Control Sample Summary
Low Level Semivolatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-29
Lab Code:	KQ1815427-03	**File ID:**	J:\MS29\DATA\111718\1117F014.D\
Analysis Method:	8270D	**Analysis Lot:**	615546,619456
Prep Method:	EPA 3541	**Extraction Lot:**	324899

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1815427-04	J:\MS29\DATA\111718\1117F013.D\	11/17/18 21:17
H3-SC-99to114-102118MS	KQ1815427-01	J:\MS29\DATA\111718\1117F015.D\	11/17/18 22:14
H3-SC-99to114-102118DMS	KQ1815427-02	J:\MS29\DATA\111718\1117F016.D\	11/17/18 22:42
H3-SC-99to114-102118	K1810302-024	J:\MS29\DATA\111718\1117F017.D\	11/17/18 23:10
D6-SC-64to88-102118	K1810302-022	J:\MS29\DATA\111718\1117F018.D\	11/17/18 23:38
D6-SC-40to64-102118	K1810302-023	J:\MS29\DATA\111718\1117F019.D\	11/18/18 00:07
D6-SC-88to108-102118	K1810302-025	J:\MS29\DATA\111718\1117F020.D\	11/18/18 00:35
D6-SC-0to1-102118	K1810302-027	J:\MS29\DATA\111718\1117F022.D\	11/18/18 01:31
H3-SC-1to2-102118	K1810302-028	J:\MS29\DATA\111718\1117F023.D\	11/18/18 01:59
D6-SC-1to2-102118	K1810302-029	J:\MS29\DATA\111718\1117F024.D\	11/18/18 02:27
D6-SC-1to2-102118	K1810302-029	J:\MS29\DATA\121118\1211F022.D\	12/12/18 00:34

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	NA
Sample Matrix:	Sediment	**Date Extracted:**	11/01/18

Lab Control Sample Summary
Low Level Semivolatile Organic Compounds by GC/MS

Sample Name:		**Instrument ID:**	
Lab Code:		**File ID:**	
Analysis Method:	8270D	**Analysis Lot:**	615546,619456
Prep Method:	EPA 3541	**Extraction Lot:**	325014

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
H3-SC-46to63-102118	K1810302-026	J:\MS29\DATA\111718\1117F021.D\	11/18/18 01:03

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/18/18 04:49
Sample Matrix:	Sediment	**Date Extracted:**	11/01/18

Lab Control Sample Summary
Low Level Semivolatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-29
Lab Code:	KQ1815507-03	**File ID:**	J:\MS29\DATA\111718\1117F029.D\
Analysis Method:	8270D	**Analysis Lot:**	615546,615547
Prep Method:	EPA 3541	**Extraction Lot:**	325014

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
H3-SC-46to63-102118	K1810302-026	J:\MS29\DATA\111718\1117F021.D\	11/18/18 01:03
Method Blank	KQ1815507-04	J:\MS29\DATA\111718\1117F028.D\	11/18/18 04:21

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/14/18 12:31
Sample Matrix:	Sediment	**Date Extracted:**	11/07/18

Lab Control Sample Summary
Low Level Semivolatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-29
Lab Code:	KQ1816032-03	**File ID:**	J:\MS29\DATA\111418\1114F005.D\
Analysis Method:	8270D	**Analysis Lot:**	615539
Prep Method:	EPA 3541	**Extraction Lot:**	325584

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1816032-04	J:\MS29\DATA\111418\1114F004.D\	11/14/18 12:03
A1-0to30-102018	K1810302-016	J:\MS29\DATA\111418\1114F013.D\	11/14/18 16:18

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**11/14/18 08:54

Tune Summary
Low Level Semivolatile Organic Compounds by GC/MS

File ID: J:\MS29\DATA\111418\1114F001.D\ **Analytical Method:** 8270D
Instrument ID: K-MS-29 **Analysis Lot:** 615539

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	36.61	422677	Pass
68	69	0	2	0.00	0	Pass
69	198	0	100	41.39	477923	Pass
70	69	0	2	0.45	2172	Pass
127	198	10	80	47.02	542890	Pass
197	198	0	2	0.00	0	Pass
198	442	30	100	74.35	1154560	Pass
199	198	5	9	6.67	77037	Pass
275	198	10	60	28.74	331776	Pass
365	442	1	50	2.00	31008	Pass
441	443	0.01	100	79.59	239752	Pass
442	442	30	100	100.00	1552917	Pass
443	442	15	24	19.40	301248	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1816925-02	J:\MS29\DATA\111418\1114F002.D\	11/14/18 09:22	
Method Blank	KQ1816032-04	J:\MS29\DATA\111418\1114F004.D\	11/14/18 12:03	
Lab Control Sample	KQ1816032-03	J:\MS29\DATA\111418\1114F005.D\	11/14/18 12:31	
A1-0to30-102018	K1810302-016	J:\MS29\DATA\111418\1114F013.D\	11/14/18 16:18	

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QC/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**11/17/18 15:39

Tune Summary
Low Level Semivolatile Organic Compounds by GC/MS

File ID: J:\MS29\DATA\111718\1117F001.D\ **Analytical Method:** 8270D
Instrument ID: K-MS-29 **Analysis Lot:** 615546

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	34.46	407978	Pass
68	69	0	2	0.00	0	Pass
69	198	0	100	39.22	464311	Pass
70	69	0	2	0.49	2281	Pass
127	198	10	80	45.83	542528	Pass
197	198	0	2	0.00	0	Pass
198	442	30	100	66.85	1183850	Pass
199	198	5	9	6.76	80048	Pass
275	198	10	60	29.83	353152	Pass
365	442	1	50	1.96	34752	Pass
441	443	0.01	100	79.69	272661	Pass
442	442	30	100	100.00	1771008	Pass
443	442	15	24	19.32	342165	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1816930-02	J:\MS29\DATA\111718\1117F002.D\	11/17/18 16:07	
Method Blank	KQ1815427-04	J:\MS29\DATA\111718\1117F013.D\	11/17/18 21:17	
Lab Control Sample	KQ1815427-03	J:\MS29\DATA\111718\1117F014.D\	11/17/18 21:46	
H3-SC-99to114-102118	KQ1815427-01	J:\MS29\DATA\111718\1117F015.D\	11/17/18 22:14	
H3-SC-99to114-102118	KQ1815427-02	J:\MS29\DATA\111718\1117F016.D\	11/17/18 22:42	
H3-SC-99to114-102118	K1810302-024	J:\MS29\DATA\111718\1117F017.D\	11/17/18 23:10	
D6-SC-64to88-102118	K1810302-022	J:\MS29\DATA\111718\1117F018.D\	11/17/18 23:38	
D6-SC-40to64-102118	K1810302-023	J:\MS29\DATA\111718\1117F019.D\	11/18/18 00:07	
D6-SC-88to108-102118	K1810302-025	J:\MS29\DATA\111718\1117F020.D\	11/18/18 00:35	
H3-SC-46to63-102118	K1810302-026	J:\MS29\DATA\111718\1117F021.D\	11/18/18 01:03	
D6-SC-0to1-102118	K1810302-027	J:\MS29\DATA\111718\1117F022.D\	11/18/18 01:31	
H3-SC-1to2-102118	K1810302-028	J:\MS29\DATA\111718\1117F023.D\	11/18/18 01:59	
D6-SC-1to2-102118	K1810302-029	J:\MS29\DATA\111718\1117F024.D\	11/18/18 02:27	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**11/18/18 03:24

Tune Summary
Low Level Semivolatile Organic Compounds by GC/MS

File ID: J:\MS29\DATA\111718\1117F026.D\ **Analytical Method:** 8270D
Instrument ID: K-MS-29 **Analysis Lot:** 615547

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	34.75	423232	Pass
68	69	0	2	0.00	0	Pass
69	198	0	100	40.01	487298	Pass
70	69	0	2	0.46	2242	Pass
127	198	10	80	46.04	560682	Pass
197	198	0	2	0.00	0	Pass
198	442	30	100	70.49	1217856	Pass
199	198	5	9	6.73	81954	Pass
275	198	10	60	29.11	354560	Pass
365	442	1	50	1.95	33650	Pass
441	443	0.01	100	78.15	263104	Pass
442	442	30	100	100.00	1727786	Pass
443	442	15	24	19.49	336682	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1816931-02	J:\MS29\DATA\111718\1117F027.D\	11/18/18 03:52	
Method Blank	KQ1815507-04	J:\MS29\DATA\111718\1117F028.D\	11/18/18 04:21	
Lab Control Sample	KQ1815507-03	J:\MS29\DATA\111718\1117F029.D\	11/18/18 04:49	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**12/11/18 14:34

Tune Summary
Low Level Semivolatile Organic Compounds by GC/MS

File ID: J:\MS29\DATA\121118\1211F001.D\ **Analytical Method:** 8270D
Instrument ID: K-MS-29 **Analysis Lot:** 619456

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	36.34	417732	Pass
68	69	0	2	0.00	0	Pass
69	198	0	100	38.94	447563	Pass
70	69	0	2	0.48	2130	Pass
127	198	10	80	44.95	516650	Pass
197	198	0	2	0.00	0	Pass
198	442	30	100	69.06	1149416	Pass
199	198	5	9	6.63	76210	Pass
275	198	10	60	30.81	354112	Pass
365	442	1	50	2.32	38610	Pass
441	443	0.01	100	84.11	269248	Pass
442	442	30	100	100.00	1664402	Pass
443	442	15	24	19.23	320106	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1818460-02	J:\MS29\DATA\121118\1211F002.D\	12/11/18 15:03	
D6-SC-1to2-102118	K1810302-029	J:\MS29\DATA\121118\1211F022.D\	12/12/18 00:34	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/6/2018

Initial Calibration Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1800516 **Signal ID:** 1
Instrument ID: K-MS-29

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800516-01	SVO_LL ICAL @ 0.05ppm | SVM59-69C	J:\MS29\DATA\110618A\1106A003.D	11/06/2018 14:33
02	KC1800516-02	SVO_LL ICAL @ 0.10ppm | SVM59-69D	J:\MS29\DATA\110618A\1106A004.D	11/06/2018 15:01
03	KC1800516-03	SVO_LL ICAL @ 0.20ppm | SVM59-69E	J:\MS29\DATA\110618A\1106A005.D	11/06/2018 15:30
04	KC1800516-04	SVO_LL ICAL @ 0.50ppm | SVM59-69F	J:\MS29\DATA\110618A\1106A006.D	11/06/2018 15:58
05	KC1800516-05	SVO_LL ICAL @ 1.0ppm | SVM59-69G	J:\MS29\DATA\110618A\1106A007.D	11/06/2018 16:27
06	KC1800516-06	SVO_LL ICAL @ 2.0ppm | SVM59-69H	J:\MS29\DATA\110618A\1106A008.D	11/06/2018 16:55
07	KC1800516-07	SVO_LL ICAL @ 3.0ppm | SVM59-69I	J:\MS29\DATA\110618A\1106A009.D	11/06/2018 17:23
08	KC1800516-08	SVO_LL ICAL @ 5.0ppm | SVM59-69J	J:\MS29\DATA\110618A\1106A010.D	11/06/2018 17:52
09	KC1800516-09	SVO_LL ICAL @ 7.0ppm | SVM59-69K	J:\MS29\DATA\110618A\1106A011.D	11/06/2018 18:20
10	KC1800516-10	SVO_LL ICAL @ 10ppm | SVM59-69L	J:\MS29\DATA\110618A\1106A012.D	11/06/2018 18:48

Analyte

Bis(2-ethylhexyl) Phthalate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	50.000	0.7365	02	100.000	0.7638	03	200.000	0.7799	04	500.000	0.7432
05	1000.000	0.8336	06	2000.000	0.8704	07	3000.000	0.9469	08	5000.000	0.9807
09	7000.000	0.9593	10	10000.000	0.8905						

p-Terphenyl-d14

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	200.000	1.093	04	500.000	0.9527	05	1000.000	0.9712	06	2000.000	0.9746
07	3000.000	1.037	08	5000.000	1.066	09	7000.000	1.024	10	10000.000	0.9392

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/6/2018

Initial Calibration Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1800516 **Signal ID:** 1
Instrument ID: K-MS-29

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Bis(2-ethylhexyl) Phthalate	TRG	Average RF	% RSD	10.9	≤20	0.8505	0.010
p-Terphenyl-d14	SURR	Average RF	% RSD	5.6	≤20	1.007	0.010

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/29/2018

Initial Calibration Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1800541 **Signal ID:** 1
Instrument ID: K-MS-29

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1800541-01	SVO_LL ICAL @ 0.05ppm | SVM59-69C	J:\MS29\DATA\112918\1129F003.D	11/29/2018 16:08
02	KC1800541-02	SVO_LL ICAL @ 0.10ppm | SVM59-69D	J:\MS29\DATA\112918\1129F004.D	11/29/2018 16:36
03	KC1800541-03	SVO_LL ICAL @ 0.20ppm | SVM59-69E	J:\MS29\DATA\112918\1129F005.D	11/29/2018 17:05
04	KC1800541-04	SVO_LL ICAL @ 0.50ppm | SVM59-69F	J:\MS29\DATA\112918\1129F006.D	11/29/2018 17:33
05	KC1800541-05	SVO_LL ICAL @ 1.0ppm | SVM59-69G	J:\MS29\DATA\112918\1129F007.D	11/29/2018 18:02
06	KC1800541-06	SVO_LL ICAL @ 2.0ppm | SVM59-69H	J:\MS29\DATA\112918\1129F008.D	11/29/2018 18:30
07	KC1800541-07	SVO_LL ICAL @ 3.0ppm | SVM59-69I	J:\MS29\DATA\112918\1129F009.D	11/29/2018 18:59
08	KC1800541-08	SVO_LL ICAL @ 5.0ppm | SVM59-69J	J:\MS29\DATA\112918\1129F010.D	11/29/2018 19:27
09	KC1800541-09	SVO_LL ICAL @ 7.0ppm | SVM59-69K	J:\MS29\DATA\112918\1129F011.D	11/29/2018 19:56
10	KC1800541-10	SVO_LL ICAL @ 10ppm | SVM59-69L	J:\MS29\DATA\112918\1129F012.D	11/29/2018 20:24

Analyte

Bis(2-ethylhexyl) Phthalate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	50.000	0.9326	02	100.000	0.8946	03	200.000	0.9411	04	500.000	0.9042
05	1000.000	0.9414	06	2000.000	1.015	07	3000.000	1.047	08	5000.000	1.058
09	7000.000	1.068	10	10000.000	1.036						

p-Terphenyl-d14

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
03	200.000	1.023	04	500.000	0.9821	05	1000.000	1.008	06	2000.000	0.9546
07	3000.000	1.002	08	5000.000	1.022	09	7000.000	1.053	10	10000.000	1.02

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/29/2018

Initial Calibration Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1800541 **Signal ID:** 1
Instrument ID: K-MS-29

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Bis(2-ethylhexyl) Phthalate	TRG	Average RF	% RSD	6.9	≤20	0.9838	0.010
p-Terphenyl-d14	SURR	Average RF	% RSD	2.9	≤20	1.008	0.010

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/6/2018

Initial Calibration Verification Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1800516 **Signal ID:** 1
Instrument ID: K-MS-29

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1800516-11	SVO_LL ICV @ 3.0ppm | SVM59-63B	J:\MS29\DATA\110618A\1106A013.D	11/06/2018 19:17

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	3000	2930	8.505E-1	8.32E-1	-2.173	±30	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
p-Terphenyl-d14	3000	2810	1.007E0	9.447E-1	-6.195	±30	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:** K1810302
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 11/29/2018

Initial Calibration Verification Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1800541 **Signal ID:** 1
Instrument ID: K-MS-29

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1800541-11	SVO_LL ICV @ 3.0ppm | SVM59-63B	J:\MS29\DATA\112918\1129F013.D	11/29/2018 20:53

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	3000	2750	9.838E-1	9.027E-1	-8.241	±30	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
p-Terphenyl-d14	3000	2660	1.008E0	8.93E-1	-11.405	±30	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/14/18 09:22

Continuing Calibration Verification (CCV) Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Calibration Date:**	11/6/2018
File ID:	J:\MS29\DATA\111418\1114F002.D\	**Calibration ID:**	KC1800516
Signal ID:	1	**Analysis Lot:**	615539
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	3000	3140	0.8505	0.8904	4.7	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
p-Terphenyl-d14	3000	2680	1.0071	0.9002	-10.6	NA	±20	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/17/18 16:07

Continuing Calibration Verification (CCV) Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Calibration Date:**	11/6/2018
File ID:	J:\MS29\DATA\111718\1117F002.D\	**Calibration ID:**	KC1800516
Signal ID:	1	**Analysis Lot:**	615546
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	3000	3060	0.8505	0.8685	2.1	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
p-Terphenyl-d14	3000	2690	1.0071	0.902	-10.4	NA	±20	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	11/18/18 03:52

Continuing Calibration Verification (CCV) Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Calibration Date:**	11/6/2018
File ID:	J:\MS29\DATA\111718\1117F027.D\	**Calibration ID:**	KC1800516
Signal ID:	1	**Analysis Lot:**	615547
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	1500	3430	0.8505	0.9724	14.3	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
p-Terphenyl-d14	1500	2840	1.0071	0.9547	-5.2	NA	±20	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1810302
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	12/11/18 15:03

Continuing Calibration Verification (CCV) Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Calibration Date:**	11/29/2018
File ID:	J:\MS29\DATA\121118\1211F002.D\	**Calibration ID:**	KC1800541
Signal ID:	1	**Analysis Lot:**	619456
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	3000	3020	0.9838	0.9909	0.7	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
p-Terphenyl-d14	3000	2830	1.008	0.9523	-5.5	NA	±20	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**615539
Instrument ID:K-MS-29

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS29\DATA\111418\1114F001.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	08:54:00	
J:\MS29\DATA\111418\1114F001.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	08:54:00	
J:\MS29\DATA\111418\1114F002.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	09:22:00	
J:\MS29\DATA\111418\1114F002.D\	Continuing Calibration Verification	KQ1816925-02	11/14/2018	09:22:00	
J:\MS29\DATA\111418\1114F004.D\	Method Blank	KQ1816032-04	11/14/2018	12:03:00	
J:\MS29\DATA\111418\1114F005.D\	Lab Control Sample	KQ1816032-03	11/14/2018	12:31:00	
J:\MS29\DATA\111418\1114F006.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	13:00:00	
J:\MS29\DATA\111418\1114F007.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	13:28:00	
J:\MS29\DATA\111418\1114F008.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	13:56:00	
J:\MS29\DATA\111418\1114F009.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	14:25:00	
J:\MS29\DATA\111418\1114F010.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	14:53:00	
J:\MS29\DATA\111418\1114F011.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	15:21:00	
J:\MS29\DATA\111418\1114F012.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	15:50:00	
J:\MS29\DATA\111418\1114F013.D\	A1-0to30-102018	K1810302-016	11/14/2018	16:18:00	
J:\MS29\DATA\111418\1114F014.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	17:31:00	
J:\MS29\DATA\111418\1114F015.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	17:59:00	
J:\MS29\DATA\111418\1114F016.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	18:27:00	
J:\MS29\DATA\111418\1114F017.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	18:55:00	
J:\MS29\DATA\111418\1114F018.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	19:23:00	
J:\MS29\DATA\111418\1114F019.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	19:52:00	
J:\MS29\DATA\111418\1114F020.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	20:20:00	
J:\MS29\DATA\111418\1114F021.D\	ZZZZZZZ	ZZZZZZZ	11/14/2018	20:48:00	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**615546
Instrument ID:K-MS-29

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS29\DATA\111718\1117F001.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	15:39:00	
J:\MS29\DATA\111718\1117F002.D\	Continuing Calibration Verification	KQ1816930-02	11/17/2018	16:07:00	
J:\MS29\DATA\111718\1117F003.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	16:36:00	
J:\MS29\DATA\111718\1117F004.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	17:04:00	
J:\MS29\DATA\111718\1117F005.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	17:32:00	
J:\MS29\DATA\111718\1117F006.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	18:00:00	
J:\MS29\DATA\111718\1117F007.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	18:28:00	
J:\MS29\DATA\111718\1117F008.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	18:56:00	
J:\MS29\DATA\111718\1117F009.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	19:25:00	
J:\MS29\DATA\111718\1117F010.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	19:53:00	
J:\MS29\DATA\111718\1117F011.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	20:21:00	
J:\MS29\DATA\111718\1117F012.D\	ZZZZZZZ	ZZZZZZZ	11/17/2018	20:49:00	
J:\MS29\DATA\111718\1117F013.D\	Method Blank	KQ1815427-04	11/17/2018	21:17:00	
J:\MS29\DATA\111718\1117F014.D\	Lab Control Sample	KQ1815427-03	11/17/2018	21:46:00	
J:\MS29\DATA\111718\1117F015.D\	H3-SC-99to114-102118 MS	KQ1815427-01	11/17/2018	22:14:00	
J:\MS29\DATA\111718\1117F016.D\	H3-SC-99to114-102118 DMS	KQ1815427-02	11/17/2018	22:42:00	
J:\MS29\DATA\111718\1117F017.D\	H3-SC-99to114-102118	K1810302-024	11/17/2018	23:10:00	
J:\MS29\DATA\111718\1117F018.D\	D6-SC-64to88-102118	K1810302-022	11/17/2018	23:38:00	
J:\MS29\DATA\111718\1117F019.D\	D6-SC-40to64-102118	K1810302-023	11/18/2018	00:07:00	
J:\MS29\DATA\111718\1117F020.D\	D6-SC-88to108-102118	K1810302-025	11/18/2018	00:35:00	
J:\MS29\DATA\111718\1117F021.D\	H3-SC-46to63-102118	K1810302-026	11/18/2018	01:03:00	
J:\MS29\DATA\111718\1117F022.D\	D6-SC-0to1-102118	K1810302-027	11/18/2018	01:31:00	
J:\MS29\DATA\111718\1117F023.D\	H3-SC-1to2-102118	K1810302-028	11/18/2018	01:59:00	
J:\MS29\DATA\111718\1117F024.D\	D6-SC-1to2-102118	K1810302-029	11/18/2018	02:27:00	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**615547
Instrument ID:K-MS-29

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS29\DATA\111718\1117F026.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	03:24:00	
J:\MS29\DATA\111718\1117F026.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	03:24:00	
J:\MS29\DATA\111718\1117F027.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	03:52:00	
J:\MS29\DATA\111718\1117F027.D\	Continuing Calibration Verification	KQ1816931-02	11/18/2018	03:52:00	
J:\MS29\DATA\111718\1117F028.D\	Method Blank	KQ1815507-04	11/18/2018	04:21:00	
J:\MS29\DATA\111718\1117F029.D\	Lab Control Sample	KQ1815507-03	11/18/2018	04:49:00	
J:\MS29\DATA\111718\1117F030.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	05:17:00	
J:\MS29\DATA\111718\1117F031.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	05:45:00	
J:\MS29\DATA\111718\1117F032.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	06:13:00	
J:\MS29\DATA\111718\1117F033.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	06:42:00	
J:\MS29\DATA\111718\1117F034.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	07:10:00	
J:\MS29\DATA\111718\1117F035.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	07:38:00	
J:\MS29\DATA\111718\1117F036.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	08:06:00	
J:\MS29\DATA\111718\1117F037.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	08:35:00	
J:\MS29\DATA\111718\1117F038.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	09:03:00	
J:\MS29\DATA\111718\1117F039.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	09:31:00	
J:\MS29\DATA\111718\1117F040.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	10:00:00	
J:\MS29\DATA\111718\1117F041.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	10:28:00	
J:\MS29\DATA\111718\1117F042.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	10:56:00	
J:\MS29\DATA\111718\1117F043.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	11:24:00	
J:\MS29\DATA\111718\1117F044.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	11:53:00	
J:\MS29\DATA\111718\1117F045.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	12:21:00	
J:\MS29\DATA\111718\1117F046.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	12:49:00	
J:\MS29\DATA\111718\1117F047.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	13:17:00	
J:\MS29\DATA\111718\1117F048.D\	ZZZZZZZ	ZZZZZZZ	11/18/2018	13:46:00	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**619456
Instrument ID:K-MS-29

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS29\DATA\121118\1211F001.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	14:34:00	
J:\MS29\DATA\121118\1211F002.D\	Continuing Calibration Verification	KQ1818460-02	12/11/2018	15:03:00	
J:\MS29\DATA\121118\1211F004.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	16:01:00	
J:\MS29\DATA\121118\1211F005.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	16:29:00	
J:\MS29\DATA\121118\1211F006.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	16:58:00	
J:\MS29\DATA\121118\1211F007.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	17:26:00	
J:\MS29\DATA\121118\1211F008.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	17:55:00	
J:\MS29\DATA\121118\1211F009.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	18:23:00	
J:\MS29\DATA\121118\1211F010.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	18:52:00	
J:\MS29\DATA\121118\1211F011.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	19:20:00	
J:\MS29\DATA\121118\1211F012.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	19:49:00	
J:\MS29\DATA\121118\1211F013.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	20:17:00	
J:\MS29\DATA\121118\1211F014.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	20:46:00	
J:\MS29\DATA\121118\1211F015.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	21:14:00	
J:\MS29\DATA\121118\1211F016.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	21:43:00	
J:\MS29\DATA\121118\1211F017.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	22:11:00	
J:\MS29\DATA\121118\1211F018.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	22:40:00	
J:\MS29\DATA\121118\1211F019.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	23:08:00	
J:\MS29\DATA\121118\1211F020.D\	ZZZZZZZ	ZZZZZZZ	12/11/2018	23:37:00	
J:\MS29\DATA\121118\1211F021.D\	ZZZZZZZ	ZZZZZZZ	12/12/2018	00:05:00	
J:\MS29\DATA\121118\1211F022.D\	D6-SC-1to2-102118	K1810302-029	12/12/2018	00:34:00	*
J:\MS29\DATA\121118\1211F024.D\	ZZZZZZZ	ZZZZZZZ	12/12/2018	01:31:00	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Low Level Semivolatile Organic Compounds by GC/MS

Prep Method: EPA 3541 **Extraction Lot:** 325584
Analytical Method: 8270D **Extraction Date:** 11/07/18 11:19

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
A1-0to30-102018	K1810302-016	10/20/18	10/22/18	40.065 g	2 mL	54.7
Lab Control Sample	KQ1816032-03LCS	NA	NA	20.00 g	2 mL	
Method Blank	KQ1816032-04MB	NA	NA	40.3880 g	2 mL	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Low Level Semivolatile Organic Compounds by GC/MS

Prep Method: EPA 3541 **Extraction Lot:** 324899
Analytical Method: 8270D **Extraction Date:** 10/31/18 17:12

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
D6-SC-64to88-102118	K1810302-022	10/21/18	10/22/18	40.089 g	2 mL	66.0
D6-SC-40to64-102118	K1810302-023	10/21/18	10/22/18	40.257 g	2 mL	54.7
H3-SC-99to114-102118	K1810302-024	10/21/18	10/22/18	40.066 g	2 mL	69.9
D6-SC-88to108-102118	K1810302-025	10/21/18	10/22/18	40.238 g	2 mL	71.5
D6-SC-0to1-102118	K1810302-027	10/21/18	10/22/18	40.147 g	2 mL	42.9
H3-SC-1to2-102118	K1810302-028	10/21/18	10/22/18	40.137 g	2 mL	52.0
D6-SC-1to2-102118	K1810302-029	10/21/18	10/22/18	40.230 g	2 mL	45.9
D6-SC-1to2-102118	K1810302-029	10/21/18	10/22/18	40.230 g	2 mL	45.9
Matrix Spike	KQ1815427-01MS	10/21/18	10/22/18	40.261 g	2 mL	69.9
Duplicate Matrix Spike	KQ1815427-02DMS	10/21/18	10/22/18	40.043 g	2 mL	69.9
Lab Control Sample	KQ1815427-03LCS	NA	NA	20.00 g	2 mL	
Method Blank	KQ1815427-04MB	NA	NA	40.3670 g	2 mL	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1810302
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Low Level Semivolatile Organic Compounds by GC/MS

Prep Method: EPA 3541 **Extraction Lot:** 325014
Analytical Method: 8270D **Extraction Date:** 11/01/18 00:41

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
H3-SC-46to63-102118	K1810302-026	10/21/18	10/22/18	40.112 g	2 mL	67.8
Lab Control Sample	KQ1815507-03LCS	NA	NA	20.00 g	2 mL	
Method Blank	KQ1815507-04MB	NA	NA	40.3630 g	2 mL	