ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

August 26, 2019

Analytical Report for Service Request No: K1906902

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 are the results of the sample(s) submitted to our laboratory October 22, 2018
For your reference, these analyses have been assigned our service request number **K1906902.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please 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

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

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

Client: Pacific Groundwater Group (PGG)
Project: DTNA Swan Island Lagoon Sediment
Sample Matrix: Sediment

Service Request: K1906902
Date Received: 10/10/2018 - 10/22/2018

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 three sediment samples were received for analysis at ALS Environmental between 10/10/2018 - 10/22/2018. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements. These samples were originally logged under K1810301, K1810086 and K1810267.

Semivolatiles by GC/MS:

Method 8270D, Low Level Semivolatile Organic Compounds by GC/MS 08/10/2019: All samples were received past holding time remaining. The analysis was performed as soon as possible after the analysis was requested. The data was flagged to indicate the holding time violation.

Method 8270D, Low Level Semivolatile Organic Compounds by GC/MS 08/10/2019: The control criteria were exceeded for p-Terphenyl-d14 in sample J2A3-0to18-101218 due to matrix interference. The presence of non-target background components prevented adequate resolution of the surrogate. Accurate quantitation was not possible. No further corrective action was appropriate.

Method 8270D, Low Level Semivolatile Organic Compounds by GC/MS 08/10/2019: The control criteria for matrix spike recovery of Bis(2-ethylhexyl) Phthalate for sample 515-0to26-101918 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 8270D, Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level 08/06/2019: The matrix spike recoveries of all analytes for Matrix Spikes (MS/DMS) KQ1910711-01/02 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. For a few analytes the concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery. 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. No further corrective action was taken. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

Method ALS SOP, Organochlorine Pesticides by GC/MS/MS0 08/07/2019: The internal standard recovery of Pyrene-d1 in all samples exceeded control criteria because of matrix interference. All samples were performed at a dilution in an attempt to minimize the matrix effect. The diluted analysis produced similar results; high internal standard recovery and comparable target analyte levels. Results from the original undiluted analysis have been reported. Matrix spike and Laboratory Control Sample recovery were all acceptable demonstrating that the analysis was in control. The results quantified using this internal standard were flagged to indicate the problem.

Semivoa GC:

Method ALS SOP, Butyltins 08/14/2019:T he upper control criterion was exceeded for tri-n-butyltin in Continuing Calibration Verification (CCV) KQ1911652-002. Samples were reanalyzed three times with similar results of a failing closing Continuing Calibration Verification (CCV). No further corrective action was required.

Method ALS SOP, Butyltins 08/14/2019: The original Laboratory Control Sample (LCS) was inadvertently spiked with a faulty standard prior to a check of the standard that showed results outside acceptance criteria. An additional lot of standard was not readily available so a Laboratory Control Sample (LCS) and Duplicate Laboratory Control Sample (DLCS) was added to the batch from the previous, expired standard when discovered. This LCS/DLCS combination resulted in acceptable recoveries showing no sign of concentration or degradation. The data from this LCS/DLCS have been reported.

Approved by  Date 08/26/2019

Method ALS SOP, Butyltins 08/21/2019: The control criteria for matrix spike recovery of Tri-n-butyltin Cation for sample A4-0to25 -100818 were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

Approved by  Date 08/26/2019

Chain of Custody

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

Project/Site: DTNA Swan Island Lagoon Sediment - Phase 1b / 2006-00115

K1906902

Sample_ID	Sample_Date	Lab_ID	SW8270D BEHP	SW8270D-SIM PAHs	ALS SOP TBT	ALS SOP OC Pest	E160_3 Solids
A1-0to30-102018	10/20/2018 12:05	K1810301-015	X	X	X	X	X
A2-0to26-100818	10/8/2018 14:04	K1809940-004	X	X	X	X	X
A3-0to31-100818	10/8/2018 11:14	K1809940-003	X	X	X	X	X
A4-0to25-100818	10/8/2018 13:26	K1809940-002	X	X	X	X	X
A5-0to25-100818	10/8/2018 14:38	K1809940-001	X	X	X	X	X
A6-0to23-100818	10/8/2018 16:08	K1809940-005	X	X	X	X	X
A7-0to26-100918	10/9/2018 13:23	K1809940-019	X	X	X	X	X
C4-0to27-100918	10/9/2018 08:28	K1809940-013	X	X	X	X	X
D2-0to19-101018	10/10/2018 15:21	K1810086-008	X	X	X	X	X
F2-0to19-101018	10/10/2018 16:36	K1810086-009	X	X	X	X	X
G6-0to27-101818	10/18/2018 14:12	K1810267-036	X	X	X	X	X
H2-0to30-101218	10/12/2018 10:28	K1810086-023	X	X	X	X	X
J2A3-0to18-101218	10/12/2018 12:57	K1810086-026	X	X	X	X	X
M4-0to26-101918	10/19/2018 13:11	K1810301-013	X	X	X	X	X
515-0to26-101918	10/19/2018 13:11	K1810301-011	X	X	X	X	X
O7-0to27-101918	10/19/2018 15:36	K1810301-005	X	X	X	X	X
Q2-0to13-101818	10/18/2018 09:39	K1810267-034	X	X	X	X	X
Q6-0to27-102018	10/20/2018 09:19	K1810301-016	X	X	X	X	X
T6-0to29-101618	10/16/2018 14:38	K1810267-016	X	X	X	X	X

note: sample A2-0to26-100818 may be logged in as A2-0to31-100818, with a "31" rather than a "26"

K1904902

CHAIN OF CUSTODY

SR# K1810371

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 1 OF ____ COC# ____

PROJECT NAME	DTM Smith Island Lagoon Sediment
PROJECT NUMBER	2006-00115
PROJECT MANAGER	Janet Knox
COMPANY NAME	PSE
ADDRESS	2397 East Lake Ave E
CITY/STATE/ZIP	Seattle WA 98102
E-MAIL ADDRESS	janet@pgwsi.com
PHONE #	2068290147 FAX#
SAMPLER'S SIGNATURE	

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☑	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 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 SOP Turnaround Time	REMARKS
K6-0to28-10918	10/9/18	0926		S	1																	Archive
K4-0to28-10918		1348		S	1																	"
MS-0to25-10918		1155		S	1																	"
K4-0to28-10918		0811		S	1																	"
07-0to27-10918		1536		S	1																	"
05-0to27-10918		1423		S	1																	"
K7-0to24-10918		1008		S	1																	"
M6-0to26-10918		1118		S	1																	"
M7-0to29-10918		1048		S	1																	"
K5-0to27-10918	10/9/18	0850		S	1																	Archive

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	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. Parks	Printed Name	Printed Name	Printed Name Cody Graves
Firm PSE	Firm HV	Firm HV	Firm ALS

ALS

CHAIN OF CUSTODY

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

SR# ~~K1810301~~ K1906902

PAGE 2 OF ______ COC# ______

PROJECT NAME: DTM Swan Island 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]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS		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☐	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)			REMARKS
S15-0to26-10918	10/9/18	1311		S	1																				Archive
O6-0to27-10918	↓	1457		S	1																				Archive
N4-0to26-10918	10/9/18	1311		S	1																				Archive
I7-0to26-10918	10/9/18	1612		S	1																				Archive
A1-0to30-102018	102018	1205		↓	↓																				↓
~~S6-0to25-102018~~ TF		~~0948~~																							
Q6-0to27102018		0919																							
S5 0to27-102018		1023																							
S4 0to28-102018		1059																							
Q4 0to27102018	↓	0816		↓	↓																				↓

REPORT REQUIREMENTS

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___ 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: 10/20/18 925	Signature: [signature] Date/Time: 10/22/18 0925	Signature: [signature] Date/Time: 10/22/18 1041	Signature: [signature] Date/Time: 10/22/18 1045
Printed Name: J. Pribe Firm: PGG	Printed Name: B. Bowman Firm: ALS	Printed Name: B. Bowman Firm: ALS	Printed Name: B. Bowman Firm: ALS

K1906902

CHAIN OF CUSTODY

SR# ~~K1810301~~

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 3 OF ____ COC# ____

PROJECT NAME: DTNA Swan Island Lagoon Sediment
PROJECT NUMBER: 2006-0015
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☐; 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☐; 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
QS-0to29-102018	10/20/18	0845		S	1	Archive
D6'-SC-86to123-102118	10-21-18	1800		S	1	Archive
D6-SC-61to88-102118	10-21-18	1740		S	1	↓
D6-SC-0to2-102118	↓	1615		S	1	↓
D6-SC-40to64-102118	↓	1650		S	1	↓
D6-SC-2to4-102118	↓	1630		S	1	↓
D6-SC-88to108-102118	10-21-18	1750		S	1	Archive
R4-SC-1to2-102118	10-21-18	1850		S	1	↓
R4-SC-4to6-102118	10-21-18	1910		S	1	↓
R4-SC-0to1-102118	10-21-18	1840		S	1	Archive

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

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___ V. EDD

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P.O. # ____

Bill To: ____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.

___ 5 day

___ Standard (15 working days)

___ Provide FAX Results

Requested Report Date

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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: 10/20/18 925	Signature: [signature] Date/Time: 10/22/18 0925	Signature: [signature] Date/Time: 10/22/18 1014	Signature: [signature] Date/Time: 10/22/18 1015
Printed Name: J. Dalbo Firm: PGG	Printed Name: B Bowman Firm: AIr	Printed Name: B Bowman Firm: AIr	Printed Name: Cody Graves Firm: ALS

PC HH

Cooler Receipt and Preservation Form

K1906902

Client PGG Service Request ~~K18~~ 10301

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		
4.1	4.0			-0.1	360		
3.1	3.0	1.9	2.0	+0.1	379		
5.7	5.6	1.9	~~2~~ 1.8	+0.1	356		

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) CCS 10/22 ~~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:
D6-SC-108-123-102118	D6-SC-08-173-102118	Elimination

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

Notes, Discrepancies, & Resolutions: _____

7/25/16 *Page* ____ *of* ____

K1906902

CHAIN OF COUSTODY

SR# ~~K1809940~~ K1906902

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 1 OF 3 COC# ____

PROJECT NAME: DTNA Swan Island Lagoon Sediment
PROJECT NUMBER: 2006-00115
PROJECT MANAGER: Janet Knox
COMPANY NAME: PG&G
ADDRESS: 2377 Eastlake Ave E
CITY/STATE/ZIP: Seattle WA 98101
E-MAIL ADDRESS: Janet@PGWG.com
PHONE #: 206-329-0141
SAMPLER'S SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS		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☐ 1699M 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☐ Methane☐ Ethane☐ Ethene☐ CO2☐	Tributyltin (ALS SOP)			REMARKS
A5-0to25-100818	10-08-18	1438		S	1																				Archive
A4-0to25-100818		1326		S	1																				"
A3-0to31-100818		1114		S	1																				"
A2-0to31-100818		1404		S	1																				"
A6-0to23-100818		1608		S	1																				"
B3-0to21-100818		1216		S	1																				"
B4-0to26-100818		1540		S	1																				"
B5-0to26-100818		1507		S	1																				"
B6-0to27-100818	100818	1643		S	1																				Archive

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: 10/10/18	Signature: [signature] Date/Time: 10/10/18 0855	Signature Date/Time	Signature Date/Time
Printed Name: Matt Wilson Firm: Acme Env.	Printed Name: [illegible] Firm: ALW	Printed Name Firm	Printed Name Firm

K1906902

CHAIN OF CUSTODY

SR# ~~K1809940~~

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 2 OF 3 COC# ____

PROJECT NAME: DTNA Swan Island Lagoon Sediment
PROJECT NUMBER: 2006-0015
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☒; Volatile Organics 624☐ 8260☐; Hydrocarbons (*see below) Gas☐ 8021☐ BTEX☐ Diesel☐ Oil☐; 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
D5-0to28-100918	10/09/18	1137		S	1	Archive
C6-0to29-100918	|	1016		S	1	"
C7-0to30-100918	|	1455		S	1	"
C4-0to27-100918	|	828		S	1	"
C5-0to28-100918	|	944		S	1	"
D4-0to27-100918	|	1257		S	1	"
D6-0to29-100918	|	1050		S	1	"
D7-0to28-100918	|	1535		S	1	"
B7-0to30-100918	|	1413		S	1	"
A7-0to26-100918	10/09/18	1323		S	1	Archive

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]	10/10/18	[signature]	10/10/18 0855				
Signature	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Matt Lukon	Pioneer ENV	B. Newman	ALS				
Printed Name	Firm	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm

K1906902

CHAIN OF CUSTODY

SR# K1809940

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE _____ OF _____ COC# _____

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

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
S11-0to2S-100915	9/9/15	1137		S	1	Archive

Semivolatile Organics by GC/MS 625☐ 8270☐ SIM PAH☐
Volatile Organics 624☐ 8260☐ 8270LL☐ 8021☐ BTEX☐
Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐
Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐
PCBs Aroclors☐ Congeners☐
Pesticides/Herbicides 608☐ 8081☐ 8141☐ 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☐
TAN/Nitrite (ALS SOP)

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	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Matt Lucas	10/10/15		10/10/15 0855				
Printed Name	Firm	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm
	Acme Env						

ALS

PC ###

K1906902

Cooler Receipt and Preservation Form

Client PG&G Service Request ~~K18~~ 09940

Received: 10/10/18 Opened: 10/10/18 By: Tom Unloaded: 10/10/18 By: [illegible]

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? 1 Each Side

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

Raw Cooler Temp	Corrected. Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number (NA)	Filed
0.0	0.2	1.0	1.2	+0.2	381			

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: Client put AX on their lids - These Samples were rec'd in temp. range

7/25/16

Page ____ ***of*** ____

CHAIN OF CUSTODY

K1906902

SR# K1810086

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 1 OF 4 COC#

PROJECT NAME	DNA Swan Blind 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@pgg.com
PHONE #	206 329 0141 FAX #
SAMPLER'S SIGNATURE	

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
ES-Ot25-101018	10/10/18	0925		S	1	Archive
E6-Ot27-101018	↑	1007		S	1	"
E4-Ot27-101018		1041		S	1	"
E3-Ot27-101018		1116		S	1	"
D3-Ot26-101018		1153		S	1	"
C3-Ot26-101018		1317		S	1	"
C2-Ot17-101018		1429		S	1	"
D2-Ot19-101018	↓	1521		S	1	"
F2-Ot19-101018	10/10/18	1636		S	1	Archive

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☐ 1694M
Chlorophenolics 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☐
TriButyl Htn (CALS scp)

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	Signature	Signature
Date/Time 10/15/18 915	Date/Time 10/15/18 0915	Date/Time 10/15/18 1315	Date/Time 10/15/18 1315
Printed Name Jeff Park	Printed Name	Printed Name	Printed Name
Firm PGG	Firm ATW	Firm ATW	Firm ATW

K1906902

CHAIN OF CUSTODY

SR# ~~K1810080~~

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 2 OF 4 COC#

PROJECT NAME: DTNA Swan Island Sediment
PROJECT NUMBER: 2006-0015
PROJECT MANAGER: Janet Knox
COMPANY NAME: PGG
ADDRESS: 2377 Eastlake Ave
CITY/STATE/ZIP: Seattle, WA 98102
E-MAIL ADDRESS: janet@pgwg.com
PHONE #: 206 329 0141
SAMPLER'S SIGNATURE: [signature]

Analysis columns: NUMBER OF CONTAINERS; 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☐ 1699M 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☐ Methane☐ CO2☐ Ethane☐ Ethene☐; Tributyltin (ALS SOP)

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
E2-0to23	10/11/18	1718		S	1	Archive
E7-0to26		0937		S	1	"
F3-0to27		1327		S	1	"
F4-0to27		1215		S	1	"
F5-0to28		1127		S	1	"
F6-0to27		1052		S	1	"
F7-0to26		1016		S	1	"
H3-0to28		1406		S	1	"
H4-0to28		1447		S	1	"
H5-0to29	10/11/18	1531		S	1	Archive

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: 10/15/18 915	Signature: [signature] Date/Time: 10/15/18 0915	Signature: [signature] Date/Time: 10/15/18 1215	Signature: [signature] Date/Time: 10/15/18 1215
Printed Name: J. Drake Firm: PGG	Printed Name: Bowman Firm: AW	Printed Name: Bowman Firm: AW	Printed Name: Bowman Firm: AW

K1906902

CHAIN OF CUSTODY

SR# K1906902

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 3 OF 4 COC#

PROJECT NAME: DTNA Swan Island Sediment
PROJECT NUMBER: 20060-00115
PROJECT MANAGER: Janet Knox
COMPANY NAME: PGG
ADDRESS: 2377 Eastlake Ave E
CITY/STATE/ZIP: Seattle WA 98102
E-MAIL ADDRESS: janet@pgmg.com
PHONE #: 2063290141 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
H6-0to27-101118	10/11/18	1627		S	1	Archive
E12-0to28-101118	10/11/18	1127		S	1	Archive
F5-0to25-101118 MS/MSD	10/11/18	1127		S	1	Archive
H2-0to30	10/12/18	1028		S	1	"
I2-0to31		0936		S	1	"
B2-0to22		0822		S	1	"
J2A3-0to18		1258		S	1	"
J2A4-0to14		1320		S	1	"
G2-0to 20		1125		S	1	"
H7-0to24	10/12/18	1515		S	1	Archive

Semivolatile Organics by GC/MS 625☐ 8270☐ SIM PAH☐
Volatile Organics 624☐ 8260☐ 8270LL☐ 8021☐ BTEX☐
Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐
Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐
PCBs Aroclors☐ Congeners☐
Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐
Chlorophenolics - 8151M 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 CO_2☐ RSK 175☐Methane☐Ethane☐Ethene☐

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	Signature	Signature
Printed Name	Printed Name	Printed Name	Printed Name
Firm PGG	Firm ARI	Firm	Firm
Date/Time 10/15/18 9:15	Date/Time 10/17/18 0915	Date/Time	Date/Time 10/17/18 1215

K1906902

CHAIN OF CUSTODY

SR# ~~K1810086~~

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 4 OF 4 COC#

PROJECT NAME: DMA Swan Island 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@psws.com
PHONE #: 2063290141 FAX #
SAMPLER'S SIGNATURE:

Analysis columns: NUMBER OF CONTAINERS; Semivolatile Organics by GC/MS 625☐ 8270☐ 8270 SIM PAH☐; Volatile Organics 624☐ 8260☐; Hydrocarbons (*see below) Gas☐ Diesel☐ 8021☐ BTEX☐; Oil & Grease/TRPH 1664 HEM☐ Oil☐ 1664 SGT☐; PCBs Aroclors☐ Congeners☐; Pesticides/Herbicides 608☐ 8081☐ 8141☐ 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☐; Alkalinity☐ CO3☐ HCO3☐ 506☐; Dioxins/Furans 1613☐ 8290☐; Dissolved Gases RSK 175☐ Methane☐ Ethane☐ Ethene☐ CO2☐; Hold for (ALS SOP); REMARKS

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
SJ-06-26-101218	10/12/18	1552		S	1	Archive

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: 10/15/18 915	Signature: [signature] Date/Time: 10/15/18 0915	Signature: [signature] Date/Time: 10/15/18 1215	Signature: [signature] Date/Time: 10/15/18 1215
Printed Name: Jeff Paten Firm: PGG	Printed Name: B Bowman Firm: ALS	Printed Name: B Bowman Firm: ALS	Printed Name: B Bowman Firm: ALS

Cooler Receipt and Preservation Form

K1906902 PC H2

Client PFG Service Request ~~K18~~ 10086

Received: 10/15/16 Opened: 10/15/16 By: BR Unloaded: 10/15/16 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? front
   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
6.0	6.2	5.9	6.1	+0.2	298		
2.1	2.2	2.3	2.4	+0.1	349		
5.9	5.8	2.2	2.1	-0.1	356		
4.2	4.1	3.9	3.8	-0.1	394		

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 Cl2/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: _____

CHAIN OF CUSTODY

SR# ~~K1810267~~ K1904902

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax) PAGE 1 OF _____ COC# _____

PROJECT NAME	DNA Swan Bedard 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
N3-0to26-101518	10/15/18	0846		S	1	Archive
P6-0to27-101518	↑	0927		S	1	"
K1-0to30-101518		915		S	1	"
L1-0to30-101518		1010		S	1	"
M1-0to30-101518		1040		S	1	"
N1-0to30-101518		1140		S	1	"
O1-0to30-101518		1210		S	1	"
Q1-0to30-101518		1400		S	1	"
S1-0to30-101518	↓	1445		S	1	"
T1-0to30-101518	10/15/18	1535		S	1	Archive

Semivolatile Organics by GC/MS 625☐ 8270☐ 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☐
Chlorophenolics Tri☐ Tetra☐ - 8151M
Metals, Total or Dissolved (See List below) POP☐
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 CO_2☐ RSK 175☐Methane☐Ethane/☐Ethene☐

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	Signature	Signature
10/19/18 1000	10/19/18 1000	10/19/18 1230	10/19/18 1230
Date/Time	Date/Time	Date/Time	Date/Time
Matt Lyon	B Brennan	B Brennan	B Brennan
Printed Name	Printed Name	Printed Name	Printed Name
Pace Env	Firm HLV	Firm HLV	Firm HLV

SR# ~~K1810267~~ K1906902

CHAIN OF CUSTODY

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 2 OF ____ COC# ____

PROJECT NAME: DTNA Swan Island Sediment
PROJECT NUMBER: 2006-00115
PROJECT MANAGER: Janet Knox
COMPANY NAME: PGG
ADDRESS: 2377 Eastlake Ave E
CITY/STATE/ZIP: Seattle WA 98103
E-MAIL ADDRESS: janet@pgwg.com
PHONE #: 206 329 0141 FAX #:
SAMPLER'S SIGNATURE: [signature]

Analyses (column headers): NUMBER OF CONTAINERS; Semivolatile Organics by GC/MS 625☐ 8270☐ 8270L☒ SIM PAH☒; Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐; Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐; Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐; PCBs; Aroclors☐ Congeners☐ 1699; Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐; Chlorophenolics - 8151M 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☐ Methane☐ Ethane☐ Ethene☐ CO_2☐; tributyltin (ALS SOP)

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
R1-0to30-101518	10/15/18	1437		S	1	Archive
P1-0to30-101518	10/15/18	1350		S	1	Archive
✓ P3-0to29-101618	10/16/18	1050		S	1	Archive
✓ T5-0to26-101618	↑	1513		S	1	"
✓ D4-0to28-101618	│	1323		S	1	"
✓ T6-0to29-101618	│	1438		S	1	"
✓ A6-0to29-101618	│	1125		S	1	"
✓ A6-0to29-101618 MS/MSD	│	1125		S	1	"
✓ P5-0to26-101618	↓	0916		S	1	"
✓ P4-0to29-101618	10/16/18	1608		S	1	Archive

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: 10/19/18 10:00	Signature: [signature] Date/Time: 10/19/18 1000	Signature: [signature] Date/Time: 10/19/18 1230	Signature: [signature] Date/Time: 10/19/18 1230
Printed Name: Matt Luxon Firm: [illegible]	Printed Name: B. Rizvi Firm: ALV	Printed Name: B. Rizvi Firm: ALV	Printed Name: B. Rizvi Firm: ALV

CHAIN OF CUSTODY

K1906902

SR# ~~K1810267~~

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 3 OF _____ COC# _____

PROJECT NAME	OTNA swan Island Sediment
PROJECT NUMBER	2006-00115
PROJECT MANAGER	Janet Kenox
COMPANY NAME	PGG
ADDRESS	2377 Eastlake Ave E
CITY/STATE/ZIP	Seattle WA 98102
E-MAIL ADDRESS	janet@pgwg.com
PHONE # 2063290141	FAX #
SAMPLER'S SIGNATURE	

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
✓ RS-0to25-101618	10/16/18	1209		S	1	Archive
✓ S14-01029-101618	↑	1125		S	1	
✓ T7-01031-101618		1400		S	1	
✓ T3-01028-101618	↓	1620		S	1	
✓ T4-01027-101618	10/16/18	1549		S	1	Archive
Q3-06027-~~101618~~ 101718	10/17/18	1122		S	1	
Q3-06026-101718	10/17/18	1048		S	1	
M3-06027-101718	|	1201		S	1	
S3-06030-101718	|	1005		S	1	
S2-06010-101718	10/17/18	1637		S	1	Archive

Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☒ SIM PAH☒
Volatile Organics 624☐ 8260☐
Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ BTEX☐ 8021☐
Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐
PCBs Aroclors☐ Congeners☐
Pesticides/Herbicides 608☐ 8081☐ 8141☐ 1699 M 8151☐
Chlorophenolics Tri☐ Tetra☐ PCP☐ - 8151M
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)

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	Signature	Signature
Date/Time 10/19/18 10:00	Date/Time 10/19/18 1600	Date/Time 10/19/18 1230	Date/Time 10/19/18 1830
Printed Name Matt Wixon	Printed Name Brennan	Printed Name Brennan	Printed Name Brennan
Firm Anchor ENV	Firm HV	Firm HV	Firm HV

CHAIN OF CUSTODY

K1906902

SR# ~~K1810267~~

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 4 OF _____ COC# _____

PROJECT NAME	DNR Swan Island Sediment
PROJECT NUMBER	2006-0015
PROJECT MANAGER	Jared Knox
COMPANY NAME	PGG
ADDRESS	2377 Eastlake Ave E
CITY/STATE/ZIP	Seattle WA 98102
E-MAIL ADDRESS	Jared@Pgxy.com
PHONE #	206-329-0141 FAX #
SAMPLER'S SIGNATURE	

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS																							REMARKS
R3-06033-101718	10/17/18	0928		S	1																							Archive
T2-06022-101718	"	1548		S	1																							"
K3-06019-101718	"	1317		S	1																							"
K2-06020-101718	10/17/18	1440		S	1																							Archive
Q2-06013-101818	10/18/18	0939		S	1																							"
L3-06030-101818	10/18/18	1035		S	1																							"
G6-06027-101818	"	1412		S	1																							"
L5-06032-101818	"	1617		S	1																							"
G7-06028-101818	"	1534		S	1																							"
G5-06028-101818	10/18/18	1150		S	1																							Archive

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	Signature	Signature
10/19/18 10:00	10/19/18 10:00	10/19/18 1230	10/19/18 1230
Date/Time	Date/Time	Date/Time	Date/Time
Printed Name: Mark Wood	Printed Name: B Bowman	Printed Name: B Bowman	Printed Name: B Bowman
Firm: Anne Env.	Firm: AIX	Firm: AIX	Firm: AIX

CHAIN OF CUSTODY

SR# ~~K1810267~~ K1906902

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax) PAGE _____ OF _____ COC# _____

PROJECT NAME	DTNA Swan Island Sed. mon't
PROJECT NUMBER	2006-0015
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 # / FAX #	206-329-0141
SAMPLER'S SIGNATURE	

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
G3-0to32-101818	10/18/18	1111		S	1	Archive
R2-0to10-101818	10/18/18	0842		S	1	
16-0to30-101818	10/18/18	1048		S	1	
G4-0to28-101818	10/18/18	1343		S	1	Archive

Semivolatile Organics by GC/MS 625☐ 8270☐ 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☐
Chlorophenolics - 8151M 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 CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐

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	Signature	Signature
Date/Time 10/19/18 10:20	Date/Time 10/19/18 1000	Date/Time 10/19/18 1230	Date/Time 10/19/18 1230
Printed Name Matthew Wixon	Printed Name	Printed Name	Printed Name Cody Graves
Firm Anchor Env.	Firm STV	Firm STV	Firm ALS

Cooler Receipt and Preservation Form

PC HH

K1906902

Client PGG Service Request ~~K18~~ 1267

Received: 10/19/18 Opened: 10/19/18 By: BR Unloaded: 10/19/18 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
4.1	4.1	5.0	5.0	0.0	390			
5.7	5.8	6.0	6.1	+0.1	393			
5.7	5.6	5.9	5.8	+/-0.1	394			

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
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:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 - 10/20/18
Sample Matrix:	Sediment	**Date Received:**	10/10/18 - 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
O7-0to27-101918	K1906902-001	**38.8**	-	-	1	07/30/19 17:11	
515-0to26-101918	K1906902-002	**47.2**	-	-	1	07/30/19 17:11	
M4-0to26-101918	K1906902-003	**44.7**	-	-	1	07/30/19 17:11	
A1-0to30-102018	K1906902-004	**56.0**	-	-	1	07/30/19 17:11	
Q6-0to27-102018	K1906902-005	**36.0**	-	-	1	07/30/19 17:11	
A5-0to25-100818	K1906902-006	**47.3**	-	-	1	07/30/19 17:11	
A4-0to25-100818	K1906902-007	**48.9**	-	-	1	07/30/19 17:11	
A3-0to31-100818	K1906902-008	**44.1**	-	-	1	07/30/19 17:11	
A2-0to26-100818	K1906902-009	**46.1**	-	-	1	07/30/19 17:11	
A6-0to23-100818	K1906902-010	**44.1**	-	-	1	07/30/19 17:11	
C4-0to27-100918	K1906902-011	**40.3**	-	-	1	07/30/19 17:11	
A7-0to26-100918	K1906902-012	**52.6**	-	-	1	07/30/19 17:11	
D2-0to19-101018	K1906902-013	**71.5**	-	-	1	07/30/19 17:11	
F2-0to19-101018	K1906902-014	**72.6**	-	-	1	07/30/19 17:11	
H2-0to30-101218	K1906902-015	**48.9**	-	-	1	07/30/19 17:11	
J2A3-0to18-101218	K1906902-016	**77.7**	-	-	1	07/30/19 17:11	
Q2-0to13-101818	K1906902-017	**68.6**	-	-	1	07/30/19 17:11	
G6-0to27-101818	K1906902-018	**50.7**	-	-	1	07/30/19 17:11	
T6-0to29-101618	K1906902-019	**38.1**	-	-	1	07/30/19 17:11	

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/09/18 - 10/19/18
Sample Matrix:	Sediment	**Date Received:**	10/10/18 - 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
O7-0to27-101918	K1906902-001DUP	-	38.8	37.4	38.1	4	20	07/30/19
C4-0to27-100918	K1906902-011DUP	-	40.3	40.3	40.3	<1	20	07/30/19

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

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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:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 15:36
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	O7-0to27-101918	**Units:**	ug/Kg
Lab Code:	K1906902-001	**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	**670**	51	22	20	08/21/19 10:23	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	83	10 - 120	08/21/19 10:23	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 13:11
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	515-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-002	**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	**790**	42	19	20	08/21/19 10:41	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	98	10 - 120	08/21/19 10:41	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 13:11
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	M4-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-003	**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	**900**	44	19	20	08/21/19 11:00	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	97	10 - 120	08/21/19 11:00	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
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:	K1906902-004	**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	1.7	0.76	1	08/14/19 19:22	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	101	10 - 120	08/14/19 19:22	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/18 09:19
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	Q6-0to27-102018	**Units:**	ug/Kg
Lab Code:	K1906902-005	**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	**130**	2.8	1.2	1	08/14/19 19:40	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	110	10 - 120	08/14/19 19:40	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 14:38
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A5-0to25-100818	**Units:**	ug/Kg
Lab Code:	K1906902-006	**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	**120**	2.1	0.91	1	08/14/19 19:58	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	116	10 - 120	08/14/19 19:58	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 13:26
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A4-0to25-100818	**Units:**	ug/Kg
Lab Code:	K1906902-007	**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	**780**	41	18	20	08/21/19 11:19	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	99	10 - 120	08/21/19 11:19	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 11:14
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A3-0to31-100818	**Units:**	ug/Kg
Lab Code:	K1906902-008	**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	**120**	2.2	0.97	1	08/14/19 20:17	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	104	10 - 120	08/14/19 20:17	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 14:04
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A2-0to26-100818	**Units:**	ug/Kg
Lab Code:	K1906902-009	**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	**98**	2.2	0.93	1	08/14/19 20:35	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	111	10 - 120	08/14/19 20:35	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 16:08
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A6-0to23-100818	**Units:**	ug/Kg
Lab Code:	K1906902-010	**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	**180**	2.3	0.97	1	08/14/19 20:54	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	106	10 - 120	08/14/19 20:54	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/09/18 08:28
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	C4-0to27-100918	**Units:**	ug/Kg
Lab Code:	K1906902-011	**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	**100**	2.5	1.1	1	08/14/19 21:12	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	114	10 - 120	08/14/19 21:12	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/09/18 13:23
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A7-0to26-100918	**Units:**	ug/Kg
Lab Code:	K1906902-012	**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	**130**	1.9	0.82	1	08/14/19 21:31	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	112	10 - 120	08/14/19 21:31	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/10/18 15:21
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	D2-0to19-101018	**Units:**	ug/Kg
Lab Code:	K1906902-013	**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	**23**	2.8	1.2	2	08/23/19 13:12	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	109	10 - 120	08/23/19 13:12	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/10/18 16:36
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	F2-0to19-101018	**Units:**	ug/Kg
Lab Code:	K1906902-014	**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	**12**	6.8	3.0	5	08/23/19 13:31	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	117	10 - 120	08/23/19 13:31	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/12/18 10:28
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	H2-0to30-101218	**Units:**	ug/Kg
Lab Code:	K1906902-015	**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	**100**	10	4.4	5	08/23/19 13:49	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	91	10 - 120	08/23/19 13:49	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/12/18 12:57
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	J2A3-0to18-101218	**Units:**	ug/Kg
Lab Code:	K1906902-016	**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	**16**	2.5	1.1	2	08/23/19 14:08	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	106	10 - 120	08/23/19 14:08	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/18/18 09:39
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	Q2-0to13-101818	**Units:**	ug/Kg
Lab Code:	K1906902-017	**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	**1.7**	1.4	0.62	1	08/23/19 14:27	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	109	10 - 120	08/23/19 14:27	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/18/18 14:12
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	G6-0to27-101818	**Units:**	ug/Kg
Lab Code:	K1906902-018	**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	**460**	39	17	20	08/21/19 12:14	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	97	10 - 120	08/21/19 12:14	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/16/18 14:38
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	T6-0to29-101618	**Units:**	ug/Kg
Lab Code:	K1906902-019	**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	**230**	13	5.7	5	08/23/19 14:45	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	114	10 - 120	08/23/19 14:45	

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Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
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:	KQ1910710-04	**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	08/14/19 18:08	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tri-n-propyltin	99	10 - 120	08/14/19 18:08	

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/19/18 15:36
Date Received: 10/22/18

Sample Name: O7-0to27-101918
Lab Code: K1906902-001

Units: ug/Kg
Basis: Dry
Percent Solids: 38.8

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	22	670	770	14		20	08/21/19 10:23

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/19/18 13:11
Date Received: 10/22/18

Sample Name: 515-0to26-101918
Lab Code: K1906902-002

Units: ug/Kg
Basis: Dry
Percent Solids: 47.2

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	19	790	910	14		20	08/21/19 10:41

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/19/18 13:11
Date Received: 10/22/18

Sample Name: M4-0to26-101918
Lab Code: K1906902-003

Units: ug/Kg
Basis: Dry
Percent Solids: 44.7

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	19	900	1000	11		20	08/21/19 11:00

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/20/18 09:19
Date Received: 10/22/18

Sample Name: Q6-0to27-102018
Lab Code: K1906902-005

Units: ug/Kg
Basis: Dry
Percent Solids: 36.0

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	1.2	130	150	14		1	08/14/19 19:40

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/08/18 14:38
Date Received: 10/10/18

Sample Name: A5-0to25-100818
Lab Code: K1906902-006

Units: ug/Kg
Basis: Dry
Percent Solids: 47.3

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.91	120	140	15		1	08/14/19 19:58

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/08/18 13:26
Date Received: 10/10/18

Sample Name: A4-0to25-100818
Lab Code: K1906902-007

Units: ug/Kg
Basis: Dry
Percent Solids: 48.9

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	18	780	890	13		20	08/21/19 11:19

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/08/18 11:14
Date Received: 10/10/18

Sample Name: A3-0to31-100818
Lab Code: K1906902-008

Units: ug/Kg
Basis: Dry
Percent Solids: 44.1

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.97	120	140	15		1	08/14/19 20:17

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/08/18 14:04
Date Received: 10/10/18

Sample Name: A2-0to26-100818
Lab Code: K1906902-009

Units: ug/Kg
Basis: Dry
Percent Solids: 46.1

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.93	98	110	12		1	08/14/19 20:35

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/08/18 16:08
Date Received: 10/10/18

Sample Name: A6-0to23-100818
Lab Code: K1906902-010

Units: ug/Kg
Basis: Dry
Percent Solids: 44.1

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.97	180	200	11		1	08/14/19 20:54

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/09/18 08:28
Date Received: 10/10/18

Sample Name: C4-0to27-100918
Lab Code: K1906902-011

Units: ug/Kg
Basis: Dry
Percent Solids: 40.3

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	1.1	100	150	40		1	08/14/19 21:12

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/09/18 13:23
Date Received: 10/10/18

Sample Name: A7-0to26-100918
Lab Code: K1906902-012

Units: ug/Kg
Basis: Dry
Percent Solids: 52.6

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	130	140	7		1	08/14/19 21:31

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/10/18 15:21
Date Received: 10/15/18

Sample Name: D2-0to19-101018
Lab Code: K1906902-013

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	1.2	23	27	16		2	08/23/19 13:12

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/10/18 16:36
Date Received: 10/15/18

Sample Name: F2-0to19-101018
Lab Code: K1906902-014

Units: ug/Kg
Basis: Dry
Percent Solids: 72.6

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	3.0	12	14	15		5	08/23/19 13:31

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/12/18 10:28
Date Received: 10/15/18

Sample Name: H2-0to30-101218
Lab Code: K1906902-015

Units: ug/Kg
Basis: Dry
Percent Solids: 48.9

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	4.4	100	110	10		5	08/23/19 13:49

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/12/18 12:57
Date Received: 10/15/18

Sample Name: J2A3-0to18-101218
Lab Code: K1906902-016

Units: ug/Kg
Basis: Dry
Percent Solids: 77.7

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	1.1	16	17	6		2	08/23/19 14:08

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/18/18 09:39
Date Received: 10/19/18

Sample Name: Q2-0to13-101818
Lab Code: K1906902-017

Units: ug/Kg
Basis: Dry
Percent Solids: 68.6

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	0.62	1.7	1.7	<1		1	08/23/19 14:27

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/18/18 14:12
Date Received: 10/19/18

Sample Name: G6-0to27-101818
Lab Code: K1906902-018

Units: ug/Kg
Basis: Dry
Percent Solids: 50.7

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	17	460	580	23		20	08/21/19 12:14

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/16/18 14:38
Date Received: 10/19/18

Sample Name: T6-0to29-101618
Lab Code: K1906902-019

Units: ug/Kg
Basis: Dry
Percent Solids: 38.1

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	5.7	230	300	26		5	08/23/19 14:45

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/08/18 13:26
Date Received: 10/10/18

Sample Name: A4-0to25-100818
Lab Code: KQ1910710-01

Units: ug/Kg
Basis: Dry
Percent Solids: 48.9

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	18	707	843	18		20	08/21/19 11:37

Confirmation Results

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

Service Request: K1906902
Date Collected: 10/08/18 13:26
Date Received: 10/10/18

Sample Name: A4-0to25-100818
Lab Code: KQ1910710-02

Units: ug/Kg
Basis: Dry
Percent Solids: 48.9

Butyltins

Analytical Method: ALS SOP
Prep Method: Method

	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Tri-n-butyltin Cation	18	714	836	16		20	08/21/19 11:55

Confirmation Results

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

Service Request: K1906902
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ1910710-03

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	3.82	4.34	13		1	08/14/19 18:27

Confirmation Results

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

Service Request: K1906902
Date Collected: NA
Date Received:

Sample Name: Lab Control Sample
Lab Code: KQ1910710-05

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	13.9	19.5	34		1	08/14/19 18:45

Confirmation Results

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

Service Request: K1906902
Date Collected: NA
Date Received:

Sample Name: Duplicate Lab Control Sample
Lab Code: KQ1910710-06

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	14.3	18.7	27		1	08/14/19 19:03

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
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
O7-0to27-101918	K1906902-001	83
515-0to26-101918	K1906902-002	98
M4-0to26-101918	K1906902-003	97
A1-0to30-102018	K1906902-004	101
Q6-0to27-102018	K1906902-005	110
A5-0to25-100818	K1906902-006	116
A4-0to25-100818	K1906902-007	99
A3-0to31-100818	K1906902-008	104
A2-0to26-100818	K1906902-009	111
A6-0to23-100818	K1906902-010	106
C4-0to27-100918	K1906902-011	114
A7-0to26-100918	K1906902-012	112
D2-0to19-101018	K1906902-013	109
F2-0to19-101018	K1906902-014	117
H2-0to30-101218	K1906902-015	91
J2A3-0to18-101218	K1906902-016	106
Q2-0to13-101818	K1906902-017	109
G6-0to27-101818	K1906902-018	97
T6-0to29-101618	K1906902-019	114
Method Blank	KQ1910710-04	99
Lab Control Sample	KQ1910710-03	92
Lab Control Sample	KQ1910710-05	103
Duplicate Lab Control Sample	KQ1910710-06	92
A4-0to25-100818	KQ1910710-01	92
A4-0to25-100818	KQ1910710-02	110

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18
Sample Matrix:	Sediment	**Date Received:**	10/10/18
		Date Analyzed:	08/21/19
		Date Extracted:	08/1/19

Duplicate Matrix Spike Summary
Butyltins

Sample Name:	A4-0to25-100818	**Units:**	ug/Kg
Lab Code:	K1906902-007	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	Method		

		Matrix Spike KQ1910710-01			**Duplicate Matrix Spike** KQ1910710-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Tri-n-butyltin Cation	780	707	45.0	-153 #	714	45.3	-137 #	10-115	<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:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/14/19
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	647696

Lab Control Sample
KQ1910710-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Tri-n-butyltin Cation	3.82	22.3	17	10-122

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/14/19
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

Duplicate Lab Control Sample Summary
Butyltins

Analysis Method:	ALS SOP	**Units:**	ug/Kg
Prep Method:	Method	**Basis:**	Dry
		Analysis Lot:	647696

	Lab Control Sample KQ1910710-05			Duplicate Lab Control Sample KQ1910710-06					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Tri-n-butyltin Cation	13.9	22.3	62	14.3	22.3	64	10-122	3	40

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/14/19 18:08
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

Method Blank Summary
Butyltins

Sample Name:	Method Blank	**Instrument ID:**	K-GC-26
Lab Code:	KQ1910710-04	**File ID:**	J:\GC26\DATA\081419D\0814F005.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	647696,648184,648566
Prep Method:	Method	**Extraction Lot:**	341601

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1910710-03	J:\GC26\DATA\081419D\0814F006.D\	08/14/19 18:27
Lab Control Sample	KQ1910710-05	J:\GC26\DATA\081419D\0814F007.D\	08/14/19 18:45
Duplicate Lab Control Sample	KQ1910710-06	J:\GC26\DATA\081419D\0814F008.D\	08/14/19 19:03
A1-0to30-102018	K1906902-004	J:\GC26\DATA\081419D\0814F009.D\	08/14/19 19:22
Q6-0to27-102018	K1906902-005	J:\GC26\DATA\081419D\0814F010.D\	08/14/19 19:40
A5-0to25-100818	K1906902-006	J:\GC26\DATA\081419D\0814F011.D\	08/14/19 19:58
A3-0to31-100818	K1906902-008	J:\GC26\DATA\081419D\0814F012.D\	08/14/19 20:17
A2-0to26-100818	K1906902-009	J:\GC26\DATA\081419D\0814F013.D\	08/14/19 20:35
A6-0to23-100818	K1906902-010	J:\GC26\DATA\081419D\0814F014.D\	08/14/19 20:54
C4-0to27-100918	K1906902-011	J:\GC26\DATA\081419D\0814F015.D\	08/14/19 21:12
A7-0to26-100918	K1906902-012	J:\GC26\DATA\081419D\0814F016.D\	08/14/19 21:31
O7-0to27-101918	K1906902-001	J:\GC26\DATA\082119\0821F005.D\	08/21/19 10:23
515-0to26-101918	K1906902-002	J:\GC26\DATA\082119\0821F006.D\	08/21/19 10:41
M4-0to26-101918	K1906902-003	J:\GC26\DATA\082119\0821F007.D\	08/21/19 11:00
A4-0to25-100818	K1906902-007	J:\GC26\DATA\082119\0821F008.D\	08/21/19 11:19
A4-0to25-100818MS	KQ1910710-01	J:\GC26\DATA\082119\0821F009.D\	08/21/19 11:37
A4-0to25-100818DMS	KQ1910710-02	J:\GC26\DATA\082119\0821F010.D\	08/21/19 11:55
G6-0to27-101818	K1906902-018	J:\GC26\DATA\082119\0821F011.D\	08/21/19 12:14
D2-0to19-101018	K1906902-013	J:\GC26\DATA\082319\0823F014.D\	08/23/19 13:12
F2-0to19-101018	K1906902-014	J:\GC26\DATA\082319\0823F015.D\	08/23/19 13:31
H2-0to30-101218	K1906902-015	J:\GC26\DATA\082319\0823F016.D\	08/23/19 13:49
J2A3-0to18-101218	K1906902-016	J:\GC26\DATA\082319\0823F017.D\	08/23/19 14:08
Q2-0to13-101818	K1906902-017	J:\GC26\DATA\082319\0823F018.D\	08/23/19 14:27
T6-0to29-101618	K1906902-019	J:\GC26\DATA\082319\0823F019.D\	08/23/19 14:45

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/14/19 18:45
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

Lab Control Sample Summary
Butyltins

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-26
Lab Code:	KQ1910710-05	**File ID:**	J:\GC26\DATA\081419D\0814F007.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	647696,648184,648566
Prep Method:	Method	**Extraction Lot:**	341601

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1910710-04	J:\GC26\DATA\081419D\0814F005.D\	08/14/19 18:08
Duplicate Lab Control Sample	KQ1910710-06	J:\GC26\DATA\081419D\0814F008.D\	08/14/19 19:03
A1-0to30-102018	K1906902-004	J:\GC26\DATA\081419D\0814F009.D\	08/14/19 19:22
Q6-0to27-102018	K1906902-005	J:\GC26\DATA\081419D\0814F010.D\	08/14/19 19:40
A5-0to25-100818	K1906902-006	J:\GC26\DATA\081419D\0814F011.D\	08/14/19 19:58
A3-0to31-100818	K1906902-008	J:\GC26\DATA\081419D\0814F012.D\	08/14/19 20:17
A2-0to26-100818	K1906902-009	J:\GC26\DATA\081419D\0814F013.D\	08/14/19 20:35
A6-0to23-100818	K1906902-010	J:\GC26\DATA\081419D\0814F014.D\	08/14/19 20:54
C4-0to27-100918	K1906902-011	J:\GC26\DATA\081419D\0814F015.D\	08/14/19 21:12
A7-0to26-100918	K1906902-012	J:\GC26\DATA\081419D\0814F016.D\	08/14/19 21:31
O7-0to27-101918	K1906902-001	J:\GC26\DATA\082119\0821F005.D\	08/21/19 10:23
515-0to26-101918	K1906902-002	J:\GC26\DATA\082119\0821F006.D\	08/21/19 10:41
M4-0to26-101918	K1906902-003	J:\GC26\DATA\082119\0821F007.D\	08/21/19 11:00
A4-0to25-100818	K1906902-007	J:\GC26\DATA\082119\0821F008.D\	08/21/19 11:19
A4-0to25-100818MS	KQ1910710-01	J:\GC26\DATA\082119\0821F009.D\	08/21/19 11:37
A4-0to25-100818DMS	KQ1910710-02	J:\GC26\DATA\082119\0821F010.D\	08/21/19 11:55
G6-0to27-101818	K1906902-018	J:\GC26\DATA\082119\0821F011.D\	08/21/19 12:14
D2-0to19-101018	K1906902-013	J:\GC26\DATA\082319\0823F014.D\	08/23/19 13:12
F2-0to19-101018	K1906902-014	J:\GC26\DATA\082319\0823F015.D\	08/23/19 13:31
H2-0to30-101218	K1906902-015	J:\GC26\DATA\082319\0823F016.D\	08/23/19 13:49
J2A3-0to18-101218	K1906902-016	J:\GC26\DATA\082319\0823F017.D\	08/23/19 14:08
Q2-0to13-101818	K1906902-017	J:\GC26\DATA\082319\0823F018.D\	08/23/19 14:27
T6-0to29-101618	K1906902-019	J:\GC26\DATA\082319\0823F019.D\	08/23/19 14:45

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/14/19 18:45
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

Lab Control Sample Summary
Butyltins

Sample Name:	Lab Control Sample	**Instrument ID:**	K-GC-26
Lab Code:	KQ1910710-05	**File ID:**	J:\GC26\DATA\081419D\0814F007.D\
Analysis Method:	ALS SOP	**Analysis Lot:**	647696,648184,648566
Prep Method:	Method	**Extraction Lot:**	341601

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1910710-04	J:\GC26\DATA\081419D\0814F005.D\	08/14/19 18:08
Duplicate Lab Control Sample	KQ1910710-06	J:\GC26\DATA\081419D\0814F008.D\	08/14/19 19:03
A1-0to30-102018	K1906902-004	J:\GC26\DATA\081419D\0814F009.D\	08/14/19 19:22
Q6-0to27-102018	K1906902-005	J:\GC26\DATA\081419D\0814F010.D\	08/14/19 19:40
A5-0to25-100818	K1906902-006	J:\GC26\DATA\081419D\0814F011.D\	08/14/19 19:58
A3-0to31-100818	K1906902-008	J:\GC26\DATA\081419D\0814F012.D\	08/14/19 20:17
A2-0to26-100818	K1906902-009	J:\GC26\DATA\081419D\0814F013.D\	08/14/19 20:35
A6-0to23-100818	K1906902-010	J:\GC26\DATA\081419D\0814F014.D\	08/14/19 20:54
C4-0to27-100918	K1906902-011	J:\GC26\DATA\081419D\0814F015.D\	08/14/19 21:12
A7-0to26-100918	K1906902-012	J:\GC26\DATA\081419D\0814F016.D\	08/14/19 21:31
O7-0to27-101918	K1906902-001	J:\GC26\DATA\082119\0821F005.D\	08/21/19 10:23
515-0to26-101918	K1906902-002	J:\GC26\DATA\082119\0821F006.D\	08/21/19 10:41
M4-0to26-101918	K1906902-003	J:\GC26\DATA\082119\0821F007.D\	08/21/19 11:00
A4-0to25-100818	K1906902-007	J:\GC26\DATA\082119\0821F008.D\	08/21/19 11:19
A4-0to25-100818MS	KQ1910710-01	J:\GC26\DATA\082119\0821F009.D\	08/21/19 11:37
A4-0to25-100818DMS	KQ1910710-02	J:\GC26\DATA\082119\0821F010.D\	08/21/19 11:55
G6-0to27-101818	K1906902-018	J:\GC26\DATA\082119\0821F011.D\	08/21/19 12:14
D2-0to19-101018	K1906902-013	J:\GC26\DATA\082319\0823F014.D\	08/23/19 13:12
F2-0to19-101018	K1906902-014	J:\GC26\DATA\082319\0823F015.D\	08/23/19 13:31
H2-0to30-101218	K1906902-015	J:\GC26\DATA\082319\0823F016.D\	08/23/19 13:49
J2A3-0to18-101218	K1906902-016	J:\GC26\DATA\082319\0823F017.D\	08/23/19 14:08
Q2-0to13-101818	K1906902-017	J:\GC26\DATA\082319\0823F018.D\	08/23/19 14:27
T6-0to29-101618	K1906902-019	J:\GC26\DATA\082319\0823F019.D\	08/23/19 14:45

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/8/2019

Initial Calibration Summary
Butyltins

Calibration ID: KC1900267 **Signal ID:** RTX-1
Instrument ID: K-GC-26

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900267-01	OT5-15J @ 2PPB	J:\GC26\DATA\070819B\0708F011.D	07/08/2019 14:24
02	KC1900267-02	OT5-15K @ 5PPB	J:\GC26\DATA\070819B\0708F012.D	07/08/2019 14:43
03	KC1900267-03	OT5-15L @ 10PPB	J:\GC26\DATA\070819B\0708F013.D	07/08/2019 15:01
04	KC1900267-04	OT5-15M @ 20PPB	J:\GC26\DATA\070819B\0708F014.D	07/08/2019 15:20
05	KC1900267-05	OT5-15B @ 50PPB	J:\GC26\DATA\070819B\0708F015.D	07/08/2019 15:38
06	KC1900267-06	OT5-15N @ 200PPB	J:\GC26\DATA\070819B\0708F016.D	07/08/2019 15:57
07	KC1900267-07	OT5-16A @ 500PPB	J:\GC26\DATA\070819B\0708F017.D	07/08/2019 16:15

Analyte

Tri-n-butyltin Cation

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	1.782	7.039E4	02	4.455	7.092E4	03	8.910	6.901E4	04	17.820	7.001E4
05	44.550	8.154E4	06	178.200	7.831E4	07	445.500	8.036E4			

Tri-n-propyltin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	5.807E4	02	5.000	4.204E4	03	10.000	5.104E4	04	20.000	4.957E4
05	50.000	5.476E4	06	200.000	5.588E4	07	500.000	5.655E4			

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/8/2019

Initial Calibration Summary
Butyltins

Calibration ID: KC1900267 **Signal ID:** RTX-1
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	7.3	≤20	7.436E4	
Tri-n-propyltin	SURR	Average RF	% RSD	10.5	≤20	5.256E4	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/8/2019

Initial Calibration Summary
Butyltins

Calibration ID: KC1900267 **Signal ID:** RTX-35
Instrument ID: K-GC-26

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900267-01	OT5-15J @ 2PPB	J:\GC26\DATA\070819B\0708F011.D	07/08/2019 14:24
02	KC1900267-02	OT5-15K @ 5PPB	J:\GC26\DATA\070819B\0708F012.D	07/08/2019 14:43
03	KC1900267-03	OT5-15L @ 10PPB	J:\GC26\DATA\070819B\0708F013.D	07/08/2019 15:01
04	KC1900267-04	OT5-15M @ 20PPB	J:\GC26\DATA\070819B\0708F014.D	07/08/2019 15:20
05	KC1900267-05	OT5-15B @ 50PPB	J:\GC26\DATA\070819B\0708F015.D	07/08/2019 15:38
06	KC1900267-06	OT5-15N @ 200PPB	J:\GC26\DATA\070819B\0708F016.D	07/08/2019 15:57
07	KC1900267-07	OT5-16A @ 500PPB	J:\GC26\DATA\070819B\0708F017.D	07/08/2019 16:15

Analyte

Tri-n-butyltin Cation

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	1.782	9.188E4	02	4.455	7.672E4	03	8.910	8.63E4	04	17.820	7.339E4
05	44.550	8.588E4	06	178.200	8.378E4	07	445.500	8.629E4			

Tri-n-propyltin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	5.261E4	02	5.000	4.203E4	03	10.000	5.048E4	04	20.000	5.085E4
05	50.000	6.211E4	06	200.000	5.815E4	07	500.000	5.773E4			

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/8/2019

Initial Calibration Summary
Butyltins

Calibration ID: KC1900267 **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	7.6	≤20	8.346E4	
Tri-n-propyltin	SURR	Average RF	% RSD	12.4	≤20	5.342E4	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/8/2019

Initial Calibration Verification Summary
Butyltins

Calibration ID: KC1900267 **Signal ID:** RTX-1
Instrument ID: K-GC-26

#	Lab Code	Sample Name	File Location	Acquisition Date
08	KC1900267-08	OT5-15I ICV @ 50 PPB	J:\GC26\DATA\070819B\0708F018.D	07/08/2019 16:34

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	37.0	7.436E4	6.18E4	-16.890	±25	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/8/2019

Initial Calibration Verification Summary
Butyltins

Calibration ID: KC1900267 **Signal ID:** RTX-35
Instrument ID: K-GC-26

#	Lab Code	Sample Name	File Location	Acquisition Date
08	KC1900267-08	OT5-15I ICV @ 50 PPB	J:\GC26\DATA\070819B\0708F018.D	07/08/2019 16:34

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	34.1	8.346E4	6.394E4	-23.392	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/14/19 17:31

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\081419D\0814F003.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-35	**Analysis Lot:**	647696
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	44.2	8.346E4	8.275E4	-0.9	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	55.8	5.342E4	5.966E4	11.7	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/14/19 17:31

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\081419D\0814F003.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-1	**Analysis Lot:**	647696
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	54.6	7.436E4	9.118E4	22.6	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	64.0	5.256E4	6.722E4	27.9*	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/14/19 21:51

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\081419D\0814F017.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-35	**Analysis Lot:**	647696
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	46.2	8.346E4	8.654E4	3.7	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	57.4	5.342E4	6.133E4	14.8	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/14/19 21:51

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\081419D\0814F017.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-1	**Analysis Lot:**	647696
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	55.9	7.436E4	9.334E4	25.5*	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	70.0	5.256E4	7.355E4	39.9*	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/21/19 09:45

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\082119\0821F003.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-35	**Analysis Lot:**	648184
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	44.4	8.346E4	8.312E4	-0.4	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	59.5	5.342E4	6.358E4	19.0	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/21/19 09:45

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\082119\0821F003.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-1	**Analysis Lot:**	648184
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	50.3	7.436E4	8.403E4	13.0	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	63.0	5.256E4	6.622E4	26.0*	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/21/19 12:32

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\082119\0821F012.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-35	**Analysis Lot:**	648184
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	44.1	8.346E4	8.27E4	-0.9	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	61.3	5.342E4	6.553E4	22.7	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/21/19 12:32

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\082119\0821F012.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-1	**Analysis Lot:**	648184
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	51.2	7.436E4	8.542E4	14.9	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	65.8	5.256E4	6.911E4	31.5*	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/23/19 12:36

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\082319\0823F012.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-35	**Analysis Lot:**	648566
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	42.4	8.346E4	7.952E4	-4.7	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	56.3	5.342E4	6.018E4	12.6	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/23/19 12:36

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\082319\0823F012.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-1	**Analysis Lot:**	648566
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	51.2	7.436E4	8.542E4	14.9	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	60.0	5.256E4	6.306E4	20.0	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/23/19 15:05

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\082319\0823F020.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-35	**Analysis Lot:**	648566
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	45.9	8.346E4	8.603E4	3.1	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	57.3	5.342E4	6.122E4	14.6	NA	±25	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/23/19 15:05

Continuing Calibration Verification (CCV) Summary
Butyltins

Analysis Method:	ALS SOP	**Calibration Date:**	7/8/2019
File ID:	J:\GC26\DATA\082319\0823F020.D\	**Calibration ID:**	KC1900267
Signal ID:	RTX-1	**Analysis Lot:**	648566
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-butyltin Cation	44.6	54.3	7.436E4	9.06E4	21.8	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Tri-n-propyltin	50.0	66.0	5.256E4	6.933E4	31.9*	NA	±25	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Butyltins

Analysis Method: ALS SOP **Analysis Lot:**647696
Instrument ID:K-GC-26

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC26\DATA\081419D\0814F003.D\	Continuing Calibration Verification	KQ1911652-01	8/14/2019	17:31:00	
J:\GC26\DATA\081419D\0814F004.D\	ZZZZZZZ	ZZZZZZZ	8/14/2019	17:50:00	
J:\GC26\DATA\081419D\0814F005.D\	Method Blank	KQ1910710-04	8/14/2019	18:08:00	
J:\GC26\DATA\081419D\0814F006.D\	Lab Control Sample	KQ1910710-03	8/14/2019	18:27:00	
J:\GC26\DATA\081419D\0814F007.D\	Lab Control Sample	KQ1910710-05	8/14/2019	18:45:00	
J:\GC26\DATA\081419D\0814F008.D\	Duplicate Lab Control Sample	KQ1910710-06	8/14/2019	19:03:00	
J:\GC26\DATA\081419D\0814F009.D\	A1-0to30-102018	K1906902-004	8/14/2019	19:22:00	
J:\GC26\DATA\081419D\0814F010.D\	Q6-0to27-102018	K1906902-005	8/14/2019	19:40:00	
J:\GC26\DATA\081419D\0814F011.D\	A5-0to25-100818	K1906902-006	8/14/2019	19:58:00	
J:\GC26\DATA\081419D\0814F012.D\	A3-0to31-100818	K1906902-008	8/14/2019	20:17:00	
J:\GC26\DATA\081419D\0814F013.D\	A2-0to26-100818	K1906902-009	8/14/2019	20:35:00	
J:\GC26\DATA\081419D\0814F014.D\	A6-0to23-100818	K1906902-010	8/14/2019	20:54:00	
J:\GC26\DATA\081419D\0814F015.D\	C4-0to27-100918	K1906902-011	8/14/2019	21:12:00	
J:\GC26\DATA\081419D\0814F016.D\	A7-0to26-100918	K1906902-012	8/14/2019	21:31:00	
J:\GC26\DATA\081419D\0814F017.D\	Continuing Calibration Verification	KQ1911652-02	8/14/2019	21:51:00	
J:\GC26\DATA\081419D\0814F018.D\	ZZZZZZZ	ZZZZZZZ	8/14/2019	22:09:00	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Butyltins

Analysis Method: ALS SOP **Analysis Lot:**648184
Instrument ID:K-GC-26

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC26\DATA\082119\0821F003.D\	Continuing Calibration Verification	KQ1911810-01	8/21/2019	09:45:00	
J:\GC26\DATA\082119\0821F004.D\	ZZZZZZZ	ZZZZZZZ	8/21/2019	10:03:00	
J:\GC26\DATA\082119\0821F005.D\	O7-0to27-101918	K1906902-001	8/21/2019	10:23:00	
J:\GC26\DATA\082119\0821F006.D\	515-0to26-101918	K1906902-002	8/21/2019	10:41:00	
J:\GC26\DATA\082119\0821F007.D\	M4-0to26-101918	K1906902-003	8/21/2019	11:00:00	
J:\GC26\DATA\082119\0821F008.D\	A4-0to25-100818	K1906902-007	8/21/2019	11:19:00	
J:\GC26\DATA\082119\0821F009.D\	A4-0to25-100818 MS	KQ1910710-01	8/21/2019	11:37:00	
J:\GC26\DATA\082119\0821F010.D\	A4-0to25-100818 DMS	KQ1910710-02	8/21/2019	11:55:00	
J:\GC26\DATA\082119\0821F011.D\	G6-0to27-101818	K1906902-018	8/21/2019	12:14:00	
J:\GC26\DATA\082119\0821F012.D\	Continuing Calibration Verification	KQ1911810-02	8/21/2019	12:32:00	
J:\GC26\DATA\082119\0821F013.D\	ZZZZZZZ	ZZZZZZZ	8/21/2019	12:51:00	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Butyltins

Analysis Method: ALS SOP **Analysis Lot:**648566
Instrument ID:K-GC-26

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC26\DATA\082319\0823F012.D\	Continuing Calibration Verification	KQ1911972-01	8/23/2019	12:36:00	
J:\GC26\DATA\082319\0823F013.D\	ZZZZZZZ	ZZZZZZZ	8/23/2019	12:54:00	
J:\GC26\DATA\082319\0823F014.D\	D2-0to19-101018	K1906902-013	8/23/2019	13:12:00	
J:\GC26\DATA\082319\0823F015.D\	F2-0to19-101018	K1906902-014	8/23/2019	13:31:00	
J:\GC26\DATA\082319\0823F016.D\	H2-0to30-101218	K1906902-015	8/23/2019	13:49:00	
J:\GC26\DATA\082319\0823F017.D\	J2A3-0to18-101218	K1906902-016	8/23/2019	14:08:00	
J:\GC26\DATA\082319\0823F018.D\	Q2-0to13-101818	K1906902-017	8/23/2019	14:27:00	
J:\GC26\DATA\082319\0823F019.D\	T6-0to29-101618	K1906902-019	8/23/2019	14:45:00	
J:\GC26\DATA\082319\0823F020.D\	Continuing Calibration Verification	KQ1911972-02	8/23/2019	15:05:00	
J:\GC26\DATA\082319\0823F021.D\	ZZZZZZZ	ZZZZZZZ	8/23/2019	15:24:00	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Butyltins

Prep Method: Method **Extraction Lot:** 341601
Analytical Method: ALS SOP **Extraction Date:** 08/01/19 13:33

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
O7-0to27-101918	K1906902-001	10/19/18	10/22/18	20.401 g	4 mL	38.8
515-0to26-101918	K1906902-002	10/19/18	10/22/18	20.036 g	4 mL	47.2
M4-0to26-101918	K1906902-003	10/19/18	10/22/18	20.475 g	4 mL	44.7
A1-0to30-102018	K1906902-004	10/20/18	10/22/18	20.454 g	4 mL	56.0
Q6-0to27-102018	K1906902-005	10/20/18	10/22/18	20.144 g	4 mL	36.0
A5-0to25-100818	K1906902-006	10/8/18	10/10/18	20.172 g	4 mL	47.3
A4-0to25-100818	K1906902-007	10/8/18	10/10/18	20.157 g	4 mL	48.9
A3-0to31-100818	K1906902-008	10/8/18	10/10/18	20.173 g	4 mL	44.1
A2-0to26-100818	K1906902-009	10/8/18	10/10/18	20.100 g	4 mL	46.1
A6-0to23-100818	K1906902-010	10/8/18	10/10/18	20.114 g	4 mL	44.1
C4-0to27-100918	K1906902-011	10/9/18	10/10/18	20.155 g	4 mL	40.3
A7-0to26-100918	K1906902-012	10/9/18	10/10/18	20.116 g	4 mL	52.6
D2-0to19-101018	K1906902-013	10/10/18	10/15/18	20.113 g	4 mL	71.5
F2-0to19-101018	K1906902-014	10/10/18	10/15/18	20.347 g	4 mL	72.6
H2-0to30-101218	K1906902-015	10/12/18	10/15/18	20.218 g	4 mL	48.9
J2A3-0to18-101218	K1906902-016	10/12/18	10/15/18	20.351 g	4 mL	77.7
Q2-0to13-101818	K1906902-017	10/18/18	10/19/18	20.371 g	4 mL	68.6
G6-0to27-101818	K1906902-018	10/18/18	10/19/18	20.015 g	4 mL	50.7
T6-0to29-101618	K1906902-019	10/16/18	10/19/18	20.081 g	4 mL	38.1
Matrix Spike	KQ1910710-01MS	10/8/18	10/10/18	20.253 g	4 mL	48.9
Duplicate Matrix Spike	KQ1910710-02DMS	10/8/18	10/10/18	20.113 g	4 mL	48.9
Lab Control Sample	KQ1910710-03LCS	NA	NA	20.00 g	4 mL	
Method Blank	KQ1910710-04MB	NA	NA	20.4750 g	4 mL	
Lab Control Sample	KQ1910710-05LCS	NA	NA	20.00 g	4 mL	
Duplicate Lab Control Sample	KQ1910710-06DLCS	NA	NA	20.00 g	4 mL	

Organochlorine Pesticides By GC/MS/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:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 15:36
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	O7-0to27-101918	**Units:**	ug/Kg
Lab Code:	K1906902-001	**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	**0.83**	0.13	0.081	1	08/07/19 16:34	8/1/19	*
2,4'-DDE	**0.15**	0.13	0.11	1	08/07/19 16:34	8/1/19	*
2,4'-DDT	ND U	0.13	0.13	1	08/07/19 16:34	8/1/19	*
4,4'-DDD	**3.6**	0.13	0.045	1	08/07/19 16:34	8/1/19	*
4,4'-DDE	**3.1**	0.13	0.090	1	08/07/19 16:34	8/1/19	*
4,4'-DDT	**0.67**	0.13	0.061	1	08/07/19 16:34	8/1/19	*
Aldrin	ND U	0.13	0.11	1	08/07/19 16:34	8/1/19	*
alpha-Chlordane	**0.24 J**	0.26	0.080	1	08/07/19 16:34	8/1/19	*
cis-Nonachlor	ND U	0.13	0.13	1	08/07/19 16:34	8/1/19	*
Dieldrin	ND U	0.26	0.099	1	08/07/19 16:34	8/1/19	*
gamma-BHC (Lindane)	ND U	0.13	0.040	1	08/07/19 16:34	8/1/19	*
gamma-Chlordane	**0.36**	0.26	0.082	1	08/07/19 16:34	8/1/19	*
Heptachlor	ND U	0.13	0.050	1	08/07/19 16:34	8/1/19	*
Oxychlordane	ND U	0.26	0.17	1	08/07/19 16:34	8/1/19	*
trans-Nonachlor	**0.20 J**	0.26	0.075	1	08/07/19 16:34	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	60	5 - 120	08/07/19 16:34	
S_4,4'-DDT-d4	59	13 - 200	08/07/19 16:34	
S_Aldrin-13C12	40	10 - 143	08/07/19 16:34	
S_Endrin-13C12	55	20 - 157	08/07/19 16:34	
S_GBHCD6	27	5 - 124	08/07/19 16:34	
S_Heptachlor-13C10	26	10 - 177	08/07/19 16:34	
S_Heptachlrepox13C10	34	8 - 146	08/07/19 16:34	
S_Oxychlordane-13C10	30	5 - 144	08/07/19 16:34	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 13:11
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	515-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-002	**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	0.067	1	08/07/19 16:52	8/1/19	*
2,4'-DDE	**0.10**	**J**	0.11	0.084	1	08/07/19 16:52	8/1/19	*
2,4'-DDT	ND	U	0.11	0.10	1	08/07/19 16:52	8/1/19	*
4,4'-DDD	**1.2**		0.11	0.038	1	08/07/19 16:52	8/1/19	*
4,4'-DDE	**1.9**		0.11	0.075	1	08/07/19 16:52	8/1/19	*
4,4'-DDT	ND	U	0.11	0.050	1	08/07/19 16:52	8/1/19	*
Aldrin	ND	U	0.11	0.084	1	08/07/19 16:52	8/1/19	*
alpha-Chlordane	**0.10**	**J**	0.21	0.066	1	08/07/19 16:52	8/1/19	*
cis-Nonachlor	ND	U	0.11	0.11	1	08/07/19 16:52	8/1/19	*
Dieldrin	ND	U	0.21	0.082	1	08/07/19 16:52	8/1/19	*
gamma-BHC (Lindane)	ND	U	0.11	0.033	1	08/07/19 16:52	8/1/19	*
gamma-Chlordane	**0.17**	**J**	0.21	0.068	1	08/07/19 16:52	8/1/19	*
Heptachlor	ND	U	0.11	0.042	1	08/07/19 16:52	8/1/19	*
Oxychlordane	ND	U	0.21	0.14	1	08/07/19 16:52	8/1/19	*
trans-Nonachlor	**0.091**	**J**	0.21	0.062	1	08/07/19 16:52	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	48	5 - 120	08/07/19 16:52	
S_4,4'-DDT-d4	47	13 - 200	08/07/19 16:52	
S_Aldrin-13C12	30	10 - 143	08/07/19 16:52	
S_Endrin-13C12	54	20 - 157	08/07/19 16:52	
S_GBHCD6	22	5 - 124	08/07/19 16:52	
S_Heptachlor-13C10	22	10 - 177	08/07/19 16:52	
S_Heptachlrepox13C10	28	8 - 146	08/07/19 16:52	
S_Oxychlordane-13C10	22	5 - 144	08/07/19 16:52	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 13:11
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	M4-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-003	**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	0.070	1	08/07/19 17:09	8/1/19	*
2,4'-DDE	**0.17**	0.11	0.088	1	08/07/19 17:09	8/1/19	*
2,4'-DDT	ND U	0.11	0.11	1	08/07/19 17:09	8/1/19	*
4,4'-DDD	**1.9**	0.11	0.039	1	08/07/19 17:09	8/1/19	*
4,4'-DDE	**2.8**	0.11	0.078	1	08/07/19 17:09	8/1/19	*
4,4'-DDT	ND U	0.11	0.053	1	08/07/19 17:09	8/1/19	*
Aldrin	ND U	0.11	0.088	1	08/07/19 17:09	8/1/19	*
alpha-Chlordane	**0.16 J**	0.22	0.069	1	08/07/19 17:09	8/1/19	*
cis-Nonachlor	ND U	0.11	0.11	1	08/07/19 17:09	8/1/19	*
Dieldrin	ND U	0.22	0.086	1	08/07/19 17:09	8/1/19	*
gamma-BHC (Lindane)	**0.052 J**	0.11	0.035	1	08/07/19 17:09	8/1/19	*
gamma-Chlordane	**0.26**	0.22	0.071	1	08/07/19 17:09	8/1/19	*
Heptachlor	ND U	0.11	0.044	1	08/07/19 17:09	8/1/19	*
Oxychlordane	ND U	0.22	0.15	1	08/07/19 17:09	8/1/19	*
trans-Nonachlor	**0.14 J**	0.22	0.065	1	08/07/19 17:09	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	49	5 - 120	08/07/19 17:09	
S_4,4'-DDT-d4	48	13 - 200	08/07/19 17:09	
S_Aldrin-13C12	29	10 - 143	08/07/19 17:09	
S_Endrin-13C12	58	20 - 157	08/07/19 17:09	
S_GBHCD6	19	5 - 124	08/07/19 17:09	
S_Heptachlor-13C10	19	10 - 177	08/07/19 17:09	
S_Heptachlrepox13C10	27	8 - 146	08/07/19 17:09	
S_Oxychlordane-13C10	23	5 - 144	08/07/19 17:09	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
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:	K1906902-004	**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	0.089	0.063	1	08/07/19 17:27	8/1/19	*
2,4'-DDE	ND U	0.089	0.079	1	08/07/19 17:27	8/1/19	*
2,4'-DDT	ND U	0.094	0.094	1	08/07/19 17:27	8/1/19	*
4,4'-DDD	ND U	0.089	0.035	1	08/07/19 17:27	8/1/19	*
4,4'-DDE	ND U	0.089	0.070	1	08/07/19 17:27	8/1/19	*
4,4'-DDT	ND U	0.089	0.047	1	08/07/19 17:27	8/1/19	*
Aldrin	ND U	0.089	0.079	1	08/07/19 17:27	8/1/19	*
alpha-Chlordane	ND U	0.18	0.062	1	08/07/19 17:27	8/1/19	*
cis-Nonachlor	ND U	0.097	0.097	1	08/07/19 17:27	8/1/19	*
Dieldrin	ND U	0.20	0.077	1	08/07/19 17:27	8/1/19	*
gamma-BHC (Lindane)	ND U	0.089	0.031	1	08/07/19 17:27	8/1/19	*
gamma-Chlordane	ND U	0.18	0.064	1	08/07/19 17:27	8/1/19	*
Heptachlor	ND U	0.089	0.039	1	08/07/19 17:27	8/1/19	*
Oxychlordane	ND U	0.20	0.13	1	08/07/19 17:27	8/1/19	*
trans-Nonachlor	ND U	0.18	0.058	1	08/07/19 17:27	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	57	5 - 120	08/07/19 17:27	
S_4,4'-DDT-d4	51	13 - 200	08/07/19 17:27	
S_Aldrin-13C12	39	10 - 143	08/07/19 17:27	
S_Endrin-13C12	69	20 - 157	08/07/19 17:27	
S_GBHCD6	26	5 - 124	08/07/19 17:27	
S_Heptachlor-13C10	25	10 - 177	08/07/19 17:27	
S_Heptachlrepox13C10	35	8 - 146	08/07/19 17:27	
S_Oxychlordane-13C10	27	5 - 144	08/07/19 17:27	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/18 09:19
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	Q6-0to27-102018	**Units:**	ug/Kg
Lab Code:	K1906902-005	**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	**0.11 J**	0.14	0.086	1	08/07/19 17:45	8/1/19	*
2,4'-DDE	ND U	0.14	0.11	1	08/07/19 17:45	8/1/19	*
2,4'-DDT	ND U	0.14	0.13	1	08/07/19 17:45	8/1/19	*
4,4'-DDD	**0.43**	0.14	0.048	1	08/07/19 17:45	8/1/19	*
4,4'-DDE	**0.67**	0.14	0.096	1	08/07/19 17:45	8/1/19	*
4,4'-DDT	**0.15**	0.14	0.064	1	08/07/19 17:45	8/1/19	*
Aldrin	ND U	0.14	0.11	1	08/07/19 17:45	8/1/19	*
alpha-Chlordane	ND U	0.27	0.085	1	08/07/19 17:45	8/1/19	*
cis-Nonachlor	ND U	0.14	0.14	1	08/07/19 17:45	8/1/19	*
Dieldrin	ND U	0.27	0.11	1	08/07/19 17:45	8/1/19	*
gamma-BHC (Lindane)	ND U	0.14	0.043	1	08/07/19 17:45	8/1/19	*
gamma-Chlordane	ND U	0.27	0.088	1	08/07/19 17:45	8/1/19	*
Heptachlor	ND U	0.14	0.054	1	08/07/19 17:45	8/1/19	*
Oxychlordane	ND U	0.27	0.18	1	08/07/19 17:45	8/1/19	*
trans-Nonachlor	ND U	0.27	0.079	1	08/07/19 17:45	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	56	5 - 120	08/07/19 17:45	
S_4,4'-DDT-d4	51	13 - 200	08/07/19 17:45	
S_Aldrin-13C12	38	10 - 143	08/07/19 17:45	
S_Endrin-13C12	68	20 - 157	08/07/19 17:45	
S_GBHCD6	29	5 - 124	08/07/19 17:45	
S_Heptachlor-13C10	27	10 - 177	08/07/19 17:45	
S_Heptachlrepox13C10	33	8 - 146	08/07/19 17:45	
S_Oxychlordane-13C10	30	5 - 144	08/07/19 17:45	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 14:38
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A5-0to25-100818	**Units:**	ug/Kg
Lab Code:	K1906902-006	**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	**0.54**	0.10	0.066	1	08/07/19 18:02	8/1/19	*
2,4'-DDE	**0.088 J**	0.10	0.082	1	08/07/19 18:02	8/1/19	*
2,4'-DDT	ND U	0.10	0.098	1	08/07/19 18:02	8/1/19	*
4,4'-DDD	**2.3**	0.10	0.037	1	08/07/19 18:02	8/1/19	*
4,4'-DDE	**2.5**	0.10	0.073	1	08/07/19 18:02	8/1/19	*
4,4'-DDT	**0.73**	0.10	0.049	1	08/07/19 18:02	8/1/19	*
Aldrin	ND U	0.10	0.082	1	08/07/19 18:02	8/1/19	*
alpha-Chlordane	**0.12 J**	0.21	0.065	1	08/07/19 18:02	8/1/19	*
cis-Nonachlor	ND U	0.11	0.11	1	08/07/19 18:02	8/1/19	*
Dieldrin	ND U	0.21	0.080	1	08/07/19 18:02	8/1/19	*
gamma-BHC (Lindane)	ND U	0.10	0.033	1	08/07/19 18:02	8/1/19	*
gamma-Chlordane	**0.17 J**	0.21	0.067	1	08/07/19 18:02	8/1/19	*
Heptachlor	ND U	0.10	0.041	1	08/07/19 18:02	8/1/19	*
Oxychlordane	ND U	0.21	0.14	1	08/07/19 18:02	8/1/19	*
trans-Nonachlor	**0.13 J**	0.21	0.060	1	08/07/19 18:02	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	51	5 - 120	08/07/19 18:02	
S_4,4'-DDT-d4	53	13 - 200	08/07/19 18:02	
S_Aldrin-13C12	31	10 - 143	08/07/19 18:02	
S_Endrin-13C12	60	20 - 157	08/07/19 18:02	
S_GBHCD6	23	5 - 124	08/07/19 18:02	
S_Heptachlor-13C10	20	10 - 177	08/07/19 18:02	
S_Heptachlrepox13C10	29	8 - 146	08/07/19 18:02	
S_Oxychlordane-13C10	23	5 - 144	08/07/19 18:02	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 13:26
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A4-0to25-100818	**Units:**	ug/Kg
Lab Code:	K1906902-007	**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	0.099	0.063	1	08/07/19 18:20	8/1/19	*
2,4'-DDE	**0.14**	0.099	0.079	1	08/07/19 18:20	8/1/19	*
2,4'-DDT	ND U	0.099	0.094	1	08/07/19 18:20	8/1/19	*
4,4'-DDD	**1.7**	0.099	0.035	1	08/07/19 18:20	8/1/19	*
4,4'-DDE	**2.8**	0.099	0.070	1	08/07/19 18:20	8/1/19	*
4,4'-DDT	ND U	0.099	0.047	1	08/07/19 18:20	8/1/19	*
Aldrin	ND U	0.099	0.079	1	08/07/19 18:20	8/1/19	*
alpha-Chlordane	**0.12 J**	0.20	0.062	1	08/07/19 18:20	8/1/19	*
cis-Nonachlor	ND U	0.099	0.097	1	08/07/19 18:20	8/1/19	*
Dieldrin	ND U	0.20	0.077	1	08/07/19 18:20	8/1/19	*
gamma-BHC (Lindane)	ND U	0.099	0.031	1	08/07/19 18:20	8/1/19	*
gamma-Chlordane	**0.21**	0.20	0.064	1	08/07/19 18:20	8/1/19	*
Heptachlor	ND U	0.099	0.039	1	08/07/19 18:20	8/1/19	*
Oxychlordane	ND U	0.20	0.13	1	08/07/19 18:20	8/1/19	*
trans-Nonachlor	**0.10 J**	0.20	0.058	1	08/07/19 18:20	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	71	5 - 120	08/07/19 18:20	
S_4,4'-DDT-d4	79	13 - 200	08/07/19 18:20	
S_Aldrin-13C12	39	10 - 143	08/07/19 18:20	
S_Endrin-13C12	84	20 - 157	08/07/19 18:20	
S_GBHCD6	28	5 - 124	08/07/19 18:20	
S_Heptachlor-13C10	30	10 - 177	08/07/19 18:20	
S_Heptachlrepox13C10	39	8 - 146	08/07/19 18:20	
S_Oxychlordane-13C10	31	5 - 144	08/07/19 18:20	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 11:14
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A3-0to31-100818	**Units:**	ug/Kg
Lab Code:	K1906902-008	**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	0.070	1	08/07/19 18:37	8/1/19	*
2,4'-DDE	ND U	0.11	0.088	1	08/07/19 18:37	8/1/19	*
2,4'-DDT	ND U	0.11	0.11	1	08/07/19 18:37	8/1/19	*
4,4'-DDD	**1.3**	0.11	0.039	1	08/07/19 18:37	8/1/19	*
4,4'-DDE	**1.8**	0.11	0.078	1	08/07/19 18:37	8/1/19	*
4,4'-DDT	ND U	0.11	0.053	1	08/07/19 18:37	8/1/19	*
Aldrin	ND U	0.11	0.088	1	08/07/19 18:37	8/1/19	*
alpha-Chlordane	**0.11 J**	0.22	0.069	1	08/07/19 18:37	8/1/19	*
cis-Nonachlor	ND U	0.11	0.11	1	08/07/19 18:37	8/1/19	*
Dieldrin	ND U	0.22	0.086	1	08/07/19 18:37	8/1/19	*
gamma-BHC (Lindane)	ND U	0.11	0.035	1	08/07/19 18:37	8/1/19	*
gamma-Chlordane	**0.13 J**	0.22	0.071	1	08/07/19 18:37	8/1/19	*
Heptachlor	ND U	0.11	0.044	1	08/07/19 18:37	8/1/19	*
Oxychlordane	ND U	0.22	0.15	1	08/07/19 18:37	8/1/19	*
trans-Nonachlor	**0.11 J**	0.22	0.065	1	08/07/19 18:37	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	65	5 - 120	08/07/19 18:37	
S_4,4'-DDT-d4	61	13 - 200	08/07/19 18:37	
S_Aldrin-13C12	31	10 - 143	08/07/19 18:37	
S_Endrin-13C12	67	20 - 157	08/07/19 18:37	
S_GBHCD6	24	5 - 124	08/07/19 18:37	
S_Heptachlor-13C10	25	10 - 177	08/07/19 18:37	
S_Heptachlrepox13C10	32	8 - 146	08/07/19 18:37	
S_Oxychlordane-13C10	28	5 - 144	08/07/19 18:37	

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Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 14:04
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A2-0to26-100818	**Units:**	ug/Kg
Lab Code:	K1906902-009	**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	0.067	1	08/07/19 18:55	8/1/19	*
2,4'-DDE	ND U	0.11	0.084	1	08/07/19 18:55	8/1/19	*
2,4'-DDT	ND U	0.11	0.10	1	08/07/19 18:55	8/1/19	*
4,4'-DDD	**1.0**	0.11	0.038	1	08/07/19 18:55	8/1/19	*
4,4'-DDE	**1.3**	0.11	0.075	1	08/07/19 18:55	8/1/19	*
4,4'-DDT	ND U	0.11	0.050	1	08/07/19 18:55	8/1/19	*
Aldrin	ND U	0.11	0.084	1	08/07/19 18:55	8/1/19	*
alpha-Chlordane	**0.12 J**	0.21	0.066	1	08/07/19 18:55	8/1/19	*
cis-Nonachlor	ND U	0.11	0.11	1	08/07/19 18:55	8/1/19	*
Dieldrin	ND U	0.21	0.082	1	08/07/19 18:55	8/1/19	*
gamma-BHC (Lindane)	ND U	0.11	0.033	1	08/07/19 18:55	8/1/19	*
gamma-Chlordane	**0.12 J**	0.21	0.068	1	08/07/19 18:55	8/1/19	*
Heptachlor	ND U	0.11	0.042	1	08/07/19 18:55	8/1/19	*
Oxychlordane	ND U	0.21	0.14	1	08/07/19 18:55	8/1/19	*
trans-Nonachlor	**0.14 J**	0.21	0.062	1	08/07/19 18:55	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	54	5 - 120	08/07/19 18:55	
S_4,4'-DDT-d4	49	13 - 200	08/07/19 18:55	
S_Aldrin-13C12	29	10 - 143	08/07/19 18:55	
S_Endrin-13C12	65	20 - 157	08/07/19 18:55	
S_GBHCD6	21	5 - 124	08/07/19 18:55	
S_Heptachlor-13C10	20	10 - 177	08/07/19 18:55	
S_Heptachlrepox13C10	28	8 - 146	08/07/19 18:55	
S_Oxychlordane-13C10	23	5 - 144	08/07/19 18:55	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 16:08
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A6-0to23-100818	**Units:**	ug/Kg
Lab Code:	K1906902-010	**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	**0.69**	0.11	0.071	1	08/07/19 19:13	8/1/19	*
2,4'-DDE	ND U	0.11	0.089	1	08/07/19 19:13	8/1/19	*
2,4'-DDT	ND U	0.11	0.11	1	08/07/19 19:13	8/1/19	*
4,4'-DDD	**3.0**	0.11	0.040	1	08/07/19 19:13	8/1/19	*
4,4'-DDE	**0.97**	0.11	0.079	1	08/07/19 19:13	8/1/19	*
4,4'-DDT	ND U	0.11	0.053	1	08/07/19 19:13	8/1/19	*
Aldrin	ND U	0.11	0.089	1	08/07/19 19:13	8/1/19	*
alpha-Chlordane	ND U	0.22	0.070	1	08/07/19 19:13	8/1/19	*
cis-Nonachlor	ND U	0.11	0.11	1	08/07/19 19:13	8/1/19	*
Dieldrin	ND U	0.22	0.087	1	08/07/19 19:13	8/1/19	*
gamma-BHC (Lindane)	ND U	0.11	0.035	1	08/07/19 19:13	8/1/19	*
gamma-Chlordane	**0.088 J**	0.22	0.072	1	08/07/19 19:13	8/1/19	*
Heptachlor	ND U	0.11	0.044	1	08/07/19 19:13	8/1/19	*
Oxychlordane	ND U	0.22	0.15	1	08/07/19 19:13	8/1/19	*
trans-Nonachlor	**0.068 J**	0.22	0.066	1	08/07/19 19:13	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	58	5 - 120	08/07/19 19:13	
S_4,4'-DDT-d4	50	13 - 200	08/07/19 19:13	
S_Aldrin-13C12	28	10 - 143	08/07/19 19:13	
S_Endrin-13C12	65	20 - 157	08/07/19 19:13	
S_GBHCD6	22	5 - 124	08/07/19 19:13	
S_Heptachlor-13C10	24	10 - 177	08/07/19 19:13	
S_Heptachlrepox13C10	29	8 - 146	08/07/19 19:13	
S_Oxychlordane-13C10	24	5 - 144	08/07/19 19:13	

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Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/09/18 08:28
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	C4-0to27-100918	**Units:**	ug/Kg
Lab Code:	K1906902-011	**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	**0.92**	0.12	0.077	1	08/07/19 19:30	8/1/19	*
2,4'-DDE	ND U	0.12	0.097	1	08/07/19 19:30	8/1/19	*
2,4'-DDT	ND U	0.12	0.12	1	08/07/19 19:30	8/1/19	*
4,4'-DDD	**2.3**	0.12	0.043	1	08/07/19 19:30	8/1/19	*
4,4'-DDE	**1.6**	0.12	0.086	1	08/07/19 19:30	8/1/19	*
4,4'-DDT	ND U	0.12	0.058	1	08/07/19 19:30	8/1/19	*
Aldrin	ND U	0.12	0.097	1	08/07/19 19:30	8/1/19	*
alpha-Chlordane	**0.094 J**	0.24	0.076	1	08/07/19 19:30	8/1/19	*
cis-Nonachlor	ND U	0.12	0.12	1	08/07/19 19:30	8/1/19	*
Dieldrin	ND U	0.24	0.094	1	08/07/19 19:30	8/1/19	*
gamma-BHC (Lindane)	ND U	0.12	0.038	1	08/07/19 19:30	8/1/19	*
gamma-Chlordane	**0.13 J**	0.24	0.078	1	08/07/19 19:30	8/1/19	*
Heptachlor	ND U	0.12	0.048	1	08/07/19 19:30	8/1/19	*
Oxychlordane	ND U	0.24	0.16	1	08/07/19 19:30	8/1/19	*
trans-Nonachlor	**0.094 J**	0.24	0.071	1	08/07/19 19:30	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	73	5 - 120	08/07/19 19:30	
S_4,4'-DDT-d4	64	13 - 200	08/07/19 19:30	
S_Aldrin-13C12	35	10 - 143	08/07/19 19:30	
S_Endrin-13C12	79	20 - 157	08/07/19 19:30	
S_GBHCD6	27	5 - 124	08/07/19 19:30	
S_Heptachlor-13C10	27	10 - 177	08/07/19 19:30	
S_Heptachlrepox13C10	38	8 - 146	08/07/19 19:30	
S_Oxychlordane-13C10	30	5 - 144	08/07/19 19:30	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/09/18 13:23
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A7-0to26-100918	**Units:**	ug/Kg
Lab Code:	K1906902-012	**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	**0.47**	0.093	0.063	1	08/07/19 19:48	8/1/19	*
2,4'-DDE	ND U	0.093	0.079	1	08/07/19 19:48	8/1/19	*
2,4'-DDT	ND U	0.094	0.094	1	08/07/19 19:48	8/1/19	*
4,4'-DDD	**2.5**	0.093	0.035	1	08/07/19 19:48	8/1/19	*
4,4'-DDE	**1.8**	0.093	0.070	1	08/07/19 19:48	8/1/19	*
4,4'-DDT	ND U	0.093	0.047	1	08/07/19 19:48	8/1/19	*
Aldrin	ND U	0.093	0.079	1	08/07/19 19:48	8/1/19	*
alpha-Chlordane	**0.14 J**	0.19	0.062	1	08/07/19 19:48	8/1/19	*
cis-Nonachlor	ND U	0.097	0.097	1	08/07/19 19:48	8/1/19	*
Dieldrin	ND U	0.20	0.077	1	08/07/19 19:48	8/1/19	*
gamma-BHC (Lindane)	ND U	0.093	0.031	1	08/07/19 19:48	8/1/19	*
gamma-Chlordane	**0.18 J**	0.19	0.064	1	08/07/19 19:48	8/1/19	*
Heptachlor	ND U	0.093	0.039	1	08/07/19 19:48	8/1/19	*
Oxychlordane	ND U	0.20	0.13	1	08/07/19 19:48	8/1/19	*
trans-Nonachlor	**0.16 J**	0.19	0.058	1	08/07/19 19:48	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	68	5 - 120	08/07/19 19:48	
S_4,4'-DDT-d4	70	13 - 200	08/07/19 19:48	
S_Aldrin-13C12	33	10 - 143	08/07/19 19:48	
S_Endrin-13C12	74	20 - 157	08/07/19 19:48	
S_GBHCD6	25	5 - 124	08/07/19 19:48	
S_Heptachlor-13C10	26	10 - 177	08/07/19 19:48	
S_Heptachlrepox13C10	34	8 - 146	08/07/19 19:48	
S_Oxychlordane-13C10	29	5 - 144	08/07/19 19:48	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/10/18 15:21
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	D2-0to19-101018	**Units:**	ug/Kg
Lab Code:	K1906902-013	**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	**0.61**	0.069	0.063	1	08/07/19 20:05	8/1/19	*
2,4'-DDE	ND U	0.079	0.079	1	08/07/19 20:05	8/1/19	*
2,4'-DDT	ND U	0.094	0.094	1	08/07/19 20:05	8/1/19	*
4,4'-DDD	**2.1**	0.069	0.035	1	08/07/19 20:05	8/1/19	*
4,4'-DDE	**0.44**	0.070	0.070	1	08/07/19 20:05	8/1/19	*
4,4'-DDT	ND U	0.069	0.047	1	08/07/19 20:05	8/1/19	*
Aldrin	ND U	0.079	0.079	1	08/07/19 20:05	8/1/19	*
alpha-Chlordane	**0.17**	0.14	0.062	1	08/07/19 20:05	8/1/19	*
cis-Nonachlor	ND U	0.097	0.097	1	08/07/19 20:05	8/1/19	*
Dieldrin	ND U	0.20	0.077	1	08/07/19 20:05	8/1/19	*
gamma-BHC (Lindane)	ND U	0.069	0.031	1	08/07/19 20:05	8/1/19	*
gamma-Chlordane	**0.25**	0.14	0.064	1	08/07/19 20:05	8/1/19	*
Heptachlor	ND U	0.069	0.039	1	08/07/19 20:05	8/1/19	*
Oxychlordane	ND U	0.20	0.13	1	08/07/19 20:05	8/1/19	*
trans-Nonachlor	**0.12 J**	0.14	0.058	1	08/07/19 20:05	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	70	5 - 120	08/07/19 20:05	
S_4,4'-DDT-d4	64	13 - 200	08/07/19 20:05	
S_Aldrin-13C12	35	10 - 143	08/07/19 20:05	
S_Endrin-13C12	79	20 - 157	08/07/19 20:05	
S_GBHCD6	26	5 - 124	08/07/19 20:05	
S_Heptachlor-13C10	27	10 - 177	08/07/19 20:05	
S_Heptachlrepox13C10	36	8 - 146	08/07/19 20:05	
S_Oxychlordane-13C10	29	5 - 144	08/07/19 20:05	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/10/18 16:36
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	F2-0to19-101018	**Units:**	ug/Kg
Lab Code:	K1906902-014	**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	**0.84**	0.069	0.063	1	08/07/19 20:23	8/1/19	*
2,4'-DDE	**0.12**	0.079	0.079	1	08/07/19 20:23	8/1/19	*
2,4'-DDT	ND U	0.094	0.094	1	08/07/19 20:23	8/1/19	*
4,4'-DDD	**3.4**	0.34	0.18	5	08/13/19 20:08	8/1/19	*
4,4'-DDE	**1.1**	0.070	0.070	1	08/07/19 20:23	8/1/19	*
4,4'-DDT	ND U	0.069	0.047	1	08/07/19 20:23	8/1/19	*
Aldrin	ND U	0.079	0.079	1	08/07/19 20:23	8/1/19	*
alpha-Chlordane	**0.083 J**	0.14	0.062	1	08/07/19 20:23	8/1/19	*
cis-Nonachlor	ND U	0.097	0.097	1	08/07/19 20:23	8/1/19	*
Dieldrin	ND U	0.20	0.077	1	08/07/19 20:23	8/1/19	*
gamma-BHC (Lindane)	ND U	0.069	0.031	1	08/07/19 20:23	8/1/19	*
gamma-Chlordane	**0.12 J**	0.14	0.064	1	08/07/19 20:23	8/1/19	*
Heptachlor	ND U	0.069	0.039	1	08/07/19 20:23	8/1/19	*
Oxychlordane	ND U	0.20	0.13	1	08/07/19 20:23	8/1/19	*
trans-Nonachlor	ND U	0.14	0.058	1	08/07/19 20:23	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	77	5 - 120	08/07/19 20:23	
S_4,4'-DDT-d4	68	13 - 200	08/07/19 20:23	
S_Aldrin-13C12	33	10 - 143	08/07/19 20:23	
S_Endrin-13C12	79	20 - 157	08/07/19 20:23	
S_GBHCD6	27	5 - 124	08/07/19 20:23	
S_Heptachlor-13C10	26	10 - 177	08/07/19 20:23	
S_Heptachlrepox13C10	35	8 - 146	08/07/19 20:23	
S_Oxychlordane-13C10	27	5 - 144	08/07/19 20:23	

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Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/12/18 10:28
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	H2-0to30-101218	**Units:**	ug/Kg
Lab Code:	K1906902-015	**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	0.10	0.063	1	08/07/19 20:41	8/1/19	*
2,4'-DDE	ND	U	0.10	0.079	1	08/07/19 20:41	8/1/19	*
2,4'-DDT	ND	U	0.10	0.094	1	08/07/19 20:41	8/1/19	*
4,4'-DDD	**1.3**		0.10	0.035	1	08/07/19 20:41	8/1/19	*
4,4'-DDE	**1.1**		0.10	0.070	1	08/07/19 20:41	8/1/19	*
4,4'-DDT	ND	U	0.10	0.047	1	08/07/19 20:41	8/1/19	*
Aldrin	ND	U	0.10	0.079	1	08/07/19 20:41	8/1/19	*
alpha-Chlordane	**0.11**	**J**	0.20	0.062	1	08/07/19 20:41	8/1/19	*
cis-Nonachlor	ND	U	0.10	0.097	1	08/07/19 20:41	8/1/19	*
Dieldrin	ND	U	0.20	0.077	1	08/07/19 20:41	8/1/19	*
gamma-BHC (Lindane)	ND	U	0.10	0.031	1	08/07/19 20:41	8/1/19	*
gamma-Chlordane	**0.17**	**J**	0.20	0.064	1	08/07/19 20:41	8/1/19	*
Heptachlor	ND	U	0.10	0.039	1	08/07/19 20:41	8/1/19	*
Oxychlordane	ND	U	0.20	0.13	1	08/07/19 20:41	8/1/19	*
trans-Nonachlor	**0.10**	**J**	0.20	0.058	1	08/07/19 20:41	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	69	5 - 120	08/07/19 20:41	
S_4,4'-DDT-d4	64	13 - 200	08/07/19 20:41	
S_Aldrin-13C12	34	10 - 143	08/07/19 20:41	
S_Endrin-13C12	77	20 - 157	08/07/19 20:41	
S_GBHCD6	23	5 - 124	08/07/19 20:41	
S_Heptachlor-13C10	27	10 - 177	08/07/19 20:41	
S_Heptachlrepox13C10	34	8 - 146	08/07/19 20:41	
S_Oxychlordane-13C10	29	5 - 144	08/07/19 20:41	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/12/18 12:57
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	J2A3-0to18-101218	**Units:**	ug/Kg
Lab Code:	K1906902-016	**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	0.064	0.063	1	08/07/19 20:58	8/1/19	*
2,4'-DDE	ND U	0.079	0.079	1	08/07/19 20:58	8/1/19	*
2,4'-DDT	ND U	0.094	0.094	1	08/07/19 20:58	8/1/19	*
4,4'-DDD	**0.98**	0.064	0.035	1	08/07/19 20:58	8/1/19	*
4,4'-DDE	**0.38**	0.070	0.070	1	08/07/19 20:58	8/1/19	*
4,4'-DDT	ND U	0.064	0.047	1	08/07/19 20:58	8/1/19	*
Aldrin	ND U	0.079	0.079	1	08/07/19 20:58	8/1/19	*
alpha-Chlordane	**0.22**	0.13	0.062	1	08/07/19 20:58	8/1/19	*
cis-Nonachlor	ND U	0.097	0.097	1	08/07/19 20:58	8/1/19	*
Dieldrin	ND U	0.20	0.077	1	08/07/19 20:58	8/1/19	*
gamma-BHC (Lindane)	ND U	0.064	0.031	1	08/07/19 20:58	8/1/19	*
gamma-Chlordane	**0.30**	0.13	0.064	1	08/07/19 20:58	8/1/19	*
Heptachlor	ND U	0.064	0.039	1	08/07/19 20:58	8/1/19	*
Oxychlordane	ND U	0.20	0.13	1	08/07/19 20:58	8/1/19	*
trans-Nonachlor	**0.20**	0.13	0.058	1	08/07/19 20:58	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	66	5 - 120	08/07/19 20:58	
S_4,4'-DDT-d4	68	13 - 200	08/07/19 20:58	
S_Aldrin-13C12	33	10 - 143	08/07/19 20:58	
S_Endrin-13C12	89	20 - 157	08/07/19 20:58	
S_GBHCD6	24	5 - 124	08/07/19 20:58	
S_Heptachlor-13C10	25	10 - 177	08/07/19 20:58	
S_Heptachlrepox13C10	36	8 - 146	08/07/19 20:58	
S_Oxychlordane-13C10	27	5 - 144	08/07/19 20:58	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/18/18 09:39
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	Q2-0to13-101818	**Units:**	ug/Kg
Lab Code:	K1906902-017	**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	08/07/19 21:16	8/1/19	*
2,4'-DDE	ND U	0.079	0.079	1	08/07/19 21:16	8/1/19	*
2,4'-DDT	**0.53**	0.094	0.094	1	08/07/19 21:16	8/1/19	*
4,4'-DDD	**0.61**	0.071	0.035	1	08/07/19 21:16	8/1/19	*
4,4'-DDE	**0.22**	0.071	0.070	1	08/07/19 21:16	8/1/19	*
4,4'-DDT	**3.0**	0.071	0.047	1	08/07/19 21:16	8/1/19	*
Aldrin	ND U	0.079	0.079	1	08/07/19 21:16	8/1/19	*
alpha-Chlordane	ND U	0.14	0.062	1	08/07/19 21:16	8/1/19	*
cis-Nonachlor	ND U	0.097	0.097	1	08/07/19 21:16	8/1/19	*
Dieldrin	ND U	0.20	0.077	1	08/07/19 21:16	8/1/19	*
gamma-BHC (Lindane)	ND U	0.071	0.031	1	08/07/19 21:16	8/1/19	*
gamma-Chlordane	ND U	0.14	0.064	1	08/07/19 21:16	8/1/19	*
Heptachlor	ND U	0.071	0.039	1	08/07/19 21:16	8/1/19	*
Oxychlordane	ND U	0.20	0.13	1	08/07/19 21:16	8/1/19	*
trans-Nonachlor	ND U	0.14	0.058	1	08/07/19 21:16	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	75	5 - 120	08/07/19 21:16	
S_4,4'-DDT-d4	69	13 - 200	08/07/19 21:16	
S_Aldrin-13C12	36	10 - 143	08/07/19 21:16	
S_Endrin-13C12	84	20 - 157	08/07/19 21:16	
S_GBHCD6	26	5 - 124	08/07/19 21:16	
S_Heptachlor-13C10	28	10 - 177	08/07/19 21:16	
S_Heptachlrepox13C10	38	8 - 146	08/07/19 21:16	
S_Oxychlordane-13C10	31	5 - 144	08/07/19 21:16	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/18/18 14:12
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	G6-0to27-101818	**Units:**	ug/Kg
Lab Code:	K1906902-018	**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	08/07/19 21:33	8/1/19	*
2,4'-DDE	ND U	0.096	0.079	1	08/07/19 21:33	8/1/19	*
2,4'-DDT	ND U	0.096	0.094	1	08/07/19 21:33	8/1/19	*
4,4'-DDD	**1.1**	0.096	0.035	1	08/07/19 21:33	8/1/19	*
4,4'-DDE	**1.5**	0.096	0.070	1	08/07/19 21:33	8/1/19	*
4,4'-DDT	ND U	0.096	0.047	1	08/07/19 21:33	8/1/19	*
Aldrin	ND U	0.096	0.079	1	08/07/19 21:33	8/1/19	*
alpha-Chlordane	**0.11 J**	0.19	0.062	1	08/07/19 21:33	8/1/19	*
cis-Nonachlor	ND U	0.097	0.097	1	08/07/19 21:33	8/1/19	*
Dieldrin	ND U	0.20	0.077	1	08/07/19 21:33	8/1/19	*
gamma-BHC (Lindane)	ND U	0.096	0.031	1	08/07/19 21:33	8/1/19	*
gamma-Chlordane	**0.16 J**	0.19	0.064	1	08/07/19 21:33	8/1/19	*
Heptachlor	ND U	0.096	0.039	1	08/07/19 21:33	8/1/19	*
Oxychlordane	ND U	0.20	0.13	1	08/07/19 21:33	8/1/19	*
trans-Nonachlor	**0.13 J**	0.19	0.058	1	08/07/19 21:33	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	74	5 - 120	08/07/19 21:33	
S_4,4'-DDT-d4	73	13 - 200	08/07/19 21:33	
S_Aldrin-13C12	33	10 - 143	08/07/19 21:33	
S_Endrin-13C12	80	20 - 157	08/07/19 21:33	
S_GBHCD6	27	5 - 124	08/07/19 21:33	
S_Heptachlor-13C10	28	10 - 177	08/07/19 21:33	
S_Heptachlrepox13C10	37	8 - 146	08/07/19 21:33	
S_Oxychlordane-13C10	28	5 - 144	08/07/19 21:33	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/16/18 14:38
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	T6-0to29-101618	**Units:**	ug/Kg
Lab Code:	K1906902-019	**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	0.13	0.082	1	08/07/19 21:51	8/1/19	*
2,4'-DDE	ND U	0.13	0.11	1	08/07/19 21:51	8/1/19	*
2,4'-DDT	ND U	0.13	0.13	1	08/07/19 21:51	8/1/19	*
4,4'-DDD	**0.60**	0.13	0.046	1	08/07/19 21:51	8/1/19	*
4,4'-DDE	**0.99**	0.13	0.091	1	08/07/19 21:51	8/1/19	*
4,4'-DDT	ND U	0.13	0.061	1	08/07/19 21:51	8/1/19	*
Aldrin	ND U	0.13	0.11	1	08/07/19 21:51	8/1/19	*
alpha-Chlordane	ND U	0.26	0.081	1	08/07/19 21:51	8/1/19	*
cis-Nonachlor	ND U	0.13	0.13	1	08/07/19 21:51	8/1/19	*
Dieldrin	ND U	0.26	0.10	1	08/07/19 21:51	8/1/19	*
gamma-BHC (Lindane)	ND U	0.13	0.041	1	08/07/19 21:51	8/1/19	*
gamma-Chlordane	ND U	0.26	0.083	1	08/07/19 21:51	8/1/19	*
Heptachlor	ND U	0.13	0.051	1	08/07/19 21:51	8/1/19	*
Oxychlordane	ND U	0.26	0.17	1	08/07/19 21:51	8/1/19	*
trans-Nonachlor	ND U	0.26	0.076	1	08/07/19 21:51	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	76	5 - 120	08/07/19 21:51	
S_4,4'-DDT-d4	70	13 - 200	08/07/19 21:51	
S_Aldrin-13C12	37	10 - 143	08/07/19 21:51	
S_Endrin-13C12	95	20 - 157	08/07/19 21:51	
S_GBHCD6	28	5 - 124	08/07/19 21:51	
S_Heptachlor-13C10	30	10 - 177	08/07/19 21:51	
S_Heptachlrepox13C10	39	8 - 146	08/07/19 21:51	
S_Oxychlordane-13C10	32	5 - 144	08/07/19 21:51	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
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:	KQ1910714-04	**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	08/07/19 13:55	8/1/19	
2,4'-DDE	ND U	0.079	0.079	1	08/07/19 13:55	8/1/19	
2,4'-DDT	ND U	0.094	0.094	1	08/07/19 13:55	8/1/19	
4,4'-DDD	ND U	0.049	0.035	1	08/07/19 13:55	8/1/19	
4,4'-DDE	ND U	0.070	0.070	1	08/07/19 13:55	8/1/19	
4,4'-DDT	ND U	0.049	0.047	1	08/07/19 13:55	8/1/19	
Aldrin	ND U	0.079	0.079	1	08/07/19 13:55	8/1/19	
alpha-Chlordane	ND U	0.097	0.062	1	08/07/19 13:55	8/1/19	
cis-Nonachlor	ND U	0.097	0.097	1	08/07/19 13:55	8/1/19	
Dieldrin	ND U	0.20	0.077	1	08/07/19 13:55	8/1/19	
gamma-BHC (Lindane)	ND U	0.049	0.031	1	08/07/19 13:55	8/1/19	
gamma-Chlordane	ND U	0.097	0.064	1	08/07/19 13:55	8/1/19	
Heptachlor	ND U	0.049	0.039	1	08/07/19 13:55	8/1/19	
Oxychlordane	ND U	0.20	0.13	1	08/07/19 13:55	8/1/19	
trans-Nonachlor	ND U	0.097	0.058	1	08/07/19 13:55	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
S_4,4'DDD-d4	77	5 - 120	08/07/19 13:55	
S_4,4'-DDT-d4	79	13 - 200	08/07/19 13:55	
S_Aldrin-13C12	102	10 - 143	08/07/19 13:55	
S_Endrin-13C12	77	20 - 157	08/07/19 13:55	
S_GBHCD6	60	5 - 124	08/07/19 13:55	
S_Heptachlor-13C10	51	10 - 177	08/07/19 13:55	
S_Heptachlrepox13C10	64	8 - 146	08/07/19 13:55	
S_Oxychlordane-13C10	60	5 - 144	08/07/19 13:55	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
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
O7-0to27-101918	K1906902-001	60	59	40
515-0to26-101918	K1906902-002	48	47	30
M4-0to26-101918	K1906902-003	49	48	29
A1-0to30-102018	K1906902-004	57	51	39
Q6-0to27-102018	K1906902-005	56	51	38
A5-0to25-100818	K1906902-006	51	53	31
A4-0to25-100818	K1906902-007	71	79	39
A3-0to31-100818	K1906902-008	65	61	31
A2-0to26-100818	K1906902-009	54	49	29
A6-0to23-100818	K1906902-010	58	50	28
C4-0to27-100918	K1906902-011	73	64	35
A7-0to26-100918	K1906902-012	68	70	33
D2-0to19-101018	K1906902-013	70	64	35
F2-0to19-101018	K1906902-014	77	68	33
H2-0to30-101218	K1906902-015	69	64	34
J2A3-0to18-101218	K1906902-016	66	68	33
Q2-0to13-101818	K1906902-017	75	69	36
G6-0to27-101818	K1906902-018	74	73	33
T6-0to29-101618	K1906902-019	76	70	37
Method Blank	KQ1910714-04	77	79	102
Lab Control Sample	KQ1910714-03	70	70	89
A1-0to30-102018	KQ1910714-01	68	65	86
A1-0to30-102018	KQ1910714-02	71	67	85

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
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
O7-0to27-101918	K1906902-001	55	27	26
515-0to26-101918	K1906902-002	54	22	22
M4-0to26-101918	K1906902-003	58	19	19
A1-0to30-102018	K1906902-004	69	26	25
Q6-0to27-102018	K1906902-005	68	29	27
A5-0to25-100818	K1906902-006	60	23	20
A4-0to25-100818	K1906902-007	84	28	30
A3-0to31-100818	K1906902-008	67	24	25
A2-0to26-100818	K1906902-009	65	21	20
A6-0to23-100818	K1906902-010	65	22	24
C4-0to27-100918	K1906902-011	79	27	27
A7-0to26-100918	K1906902-012	74	25	26
D2-0to19-101018	K1906902-013	79	26	27
F2-0to19-101018	K1906902-014	79	27	26
H2-0to30-101218	K1906902-015	77	23	27
J2A3-0to18-101218	K1906902-016	89	24	25
Q2-0to13-101818	K1906902-017	84	26	28
G6-0to27-101818	K1906902-018	80	27	28
T6-0to29-101618	K1906902-019	95	28	30
Method Blank	KQ1910714-04	77	60	51
Lab Control Sample	KQ1910714-03	68	50	44
A1-0to30-102018	KQ1910714-01	63	57	48
A1-0to30-102018	KQ1910714-02	72	58	44

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
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
O7-0to27-101918	K1906902-001	34	30
515-0to26-101918	K1906902-002	28	22
M4-0to26-101918	K1906902-003	27	23
A1-0to30-102018	K1906902-004	35	27
Q6-0to27-102018	K1906902-005	33	30
A5-0to25-100818	K1906902-006	29	23
A4-0to25-100818	K1906902-007	39	31
A3-0to31-100818	K1906902-008	32	28
A2-0to26-100818	K1906902-009	28	23
A6-0to23-100818	K1906902-010	29	24
C4-0to27-100918	K1906902-011	38	30
A7-0to26-100918	K1906902-012	34	29
D2-0to19-101018	K1906902-013	36	29
F2-0to19-101018	K1906902-014	35	27
H2-0to30-101218	K1906902-015	34	29
J2A3-0to18-101218	K1906902-016	36	27
Q2-0to13-101818	K1906902-017	38	31
G6-0to27-101818	K1906902-018	37	28
T6-0to29-101618	K1906902-019	39	32
Method Blank	KQ1910714-04	64	60
Lab Control Sample	KQ1910714-03	53	55
A1-0to30-102018	KQ1910714-01	52	50
A1-0to30-102018	KQ1910714-02	53	54

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/07/19 11:45

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

File ID: J:\MS42\Data\080719\080719F003.D **Lab Code:**KQ1911111-02
Instrument ID: K-MS-42 **Analysis Lot:**646431
Analysis Method: ALS SOP **Signal ID:**1

		Pyrene-d10	
		Area	**RT**
	Result ==>	4,848,727	8.725
	Upper Limit ==>	9,697,454	9.23
	Lower Limit ==>	2,424,364	8.23
Associated Analyses			
Method Blank	KQ1910714-04	4511326.881	8.732
Lab Control Sample	KQ1910714-03	4896911.805	8.732
A1-0to30-102018MS	KQ1910714-01	5455904.461	8.725
A1-0to30-102018DMS	KQ1910714-02	5522337.249	8.732
O7-0to27-101918	K1906902-001	12653232.81*	8.732
515-0to26-101918	K1906902-002	18869826.4*	8.732
M4-0to26-101918	K1906902-003	21694156.22*	8.725
A1-0to30-102018	K1906902-004	14748068.93*	8.725
Q6-0to27-102018	K1906902-005	13289099.99*	8.725
A5-0to25-100818	K1906902-006	20537491.15*	8.732
A4-0to25-100818	K1906902-007	21209630.94*	8.732
A3-0to31-100818	K1906902-008	22558810.89*	8.732
A2-0to26-100818	K1906902-009	21952855.96*	8.732
A6-0to23-100818	K1906902-010	18853228*	8.732
C4-0to27-100918	K1906902-011	22989189.82*	8.732
A7-0to26-100918	K1906902-012	21455239.72*	8.732
D2-0to19-101018	K1906902-013	19921556.11*	8.725
F2-0to19-101018	K1906902-014	24279653.05*	8.732
H2-0to30-101218	K1906902-015	25746479.96*	8.725
J2A3-0to18-101218	K1906902-016	25630289.12*	8.725
Q2-0to13-101818	K1906902-017	24522490.41*	8.725
G6-0to27-101818	K1906902-018	22817786.7*	8.730
T6-0to29-101618	K1906902-019	24264072.1*	8.725

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QA/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/13/19 15:44

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

File ID: J:\MS42\Data\081319\081319F031.D **Lab Code:**KQ1911540-01
Instrument ID: K-MS-42 **Analysis Lot:**647382
Analysis Method: ALS SOP **Signal ID:**1

		Pyrene-d10	
		Area	**RT**
	Result ==>	34,489,445	8.651
	Upper Limit ==>	68,978,890	9.15
	Lower Limit ==>	17,244,723	8.15
Associated Analyses			
F2-0to19-101018	K1906902-014	79861637.02*	8.652

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
		Date Analyzed:	08/7/19
		Date Extracted:	08/1/19

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

Sample Name:	A1-0to30-102018	**Units:**	ug/Kg
Lab Code:	K1906902-004	**Basis:**	Dry
Analysis Method:	ALS SOP		
Prep Method:	EPA 3541		

		Matrix Spike KQ1910714-01			Duplicate Matrix Spike KQ1910714-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4'-DDD	ND U	2.10	1.78	118	2.01	1.75	115	32-169	4	40
2,4'-DDE	ND U	1.82	1.78	102	1.72	1.75	98	43-155	6	40
2,4'-DDT	ND U	1.60	1.78	90	1.46	1.75	84	55-161	9	40
4,4'-DDD	ND U	1.90	1.78	107	1.85	1.75	106	10-190	3	40
4,4'-DDE	ND U	1.82	1.78	103	1.70	1.75	97	35-162	7	40
4,4'-DDT	ND U	1.92	1.78	108	1.97	1.75	113	24-183	2	40
Aldrin	ND U	1.72	1.78	97	1.68	1.75	96	52-151	2	40
alpha-Chlordane	ND U	2.12	1.78	119	2.00	1.75	115	31-156	5	40
cis-Nonachlor	ND U	1.78	1.78	100	1.58	1.75	90	27-144	12	40
Dieldrin	ND U	2.22	1.78	125	1.90	1.75	109	28-150	16	40
gamma-BHC (Lindane)	ND U	1.58	1.78	89	1.60	1.75	92	64-135	2	40
gamma-Chlordane	ND U	2.06	1.78	116	1.77	1.75	101	31-158	15	40
Heptachlor	ND U	1.76	1.78	99	1.88	1.75	107	76-117	7	40
Oxychlordane	ND U	2.24	1.78	126	1.96	1.75	112	53-144	13	40
trans-Nonachlor	ND U	1.85	1.78	104	1.73	1.75	99	35-153	7	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.

ALS Group USA, Corp.
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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/07/19
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

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:	646431

Lab Control Sample
KQ1910714-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2,4'-DDD	2.35	2.00	118	73-122
2,4'-DDE	1.84	2.00	92	54-145
2,4'-DDT	1.65	2.00	82	77-118
4,4'-DDD	2.07	2.00	103	74-117
4,4'-DDE	1.91	2.00	96	66-132
4,4'-DDT	2.02	2.00	101	78-116
Aldrin	1.72	2.00	86	74-122
alpha-Chlordane	2.22	2.00	111	74-130
cis-Nonachlor	1.91	2.00	96	69-134
Dieldrin	2.19	2.00	110	62-131
gamma-BHC (Lindane)	1.77	2.00	88	79-116
gamma-Chlordane	2.11	2.00	106	76-128
Heptachlor	1.96	2.00	98	81-114
Oxychlordane	2.11	2.00	106	59-141
trans-Nonachlor	1.97	2.00	99	76-124

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/07/19 13:55
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

Method Blank Summary
Organochlorine Pesticides by GC/MS/MS

Sample Name:	Method Blank	**Instrument ID:**	K-MS-42
Lab Code:	KQ1910714-04	**File ID:**	J:\MS42\Data\080719\080719F005.D
Analysis Method:	ALS SOP	**Analysis Lot:**	646431,647382
Prep Method:	EPA 3541	**Extraction Lot:**	341604

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1910714-03	J:\MS42\Data\080719\080719F009.D	08/07/19 15:06
A1-0to30-102018MS	KQ1910714-01	J:\MS42\Data\080719\080719F010.D	08/07/19 15:24
A1-0to30-102018DMS	KQ1910714-02	J:\MS42\Data\080719\080719F011.D	08/07/19 15:41
O7-0to27-101918	K1906902-001	J:\MS42\Data\080719\080719F014.D	08/07/19 16:34
515-0to26-101918	K1906902-002	J:\MS42\Data\080719\080719F015.D	08/07/19 16:52
M4-0to26-101918	K1906902-003	J:\MS42\Data\080719\080719F016.D	08/07/19 17:09
A1-0to30-102018	K1906902-004	J:\MS42\Data\080719\080719F017.D	08/07/19 17:27
Q6-0to27-102018	K1906902-005	J:\MS42\Data\080719\080719F018.D	08/07/19 17:45
A5-0to25-100818	K1906902-006	J:\MS42\Data\080719\080719F019.D	08/07/19 18:02
A4-0to25-100818	K1906902-007	J:\MS42\Data\080719\080719F020.D	08/07/19 18:20
A3-0to31-100818	K1906902-008	J:\MS42\Data\080719\080719F021.D	08/07/19 18:37
A2-0to26-100818	K1906902-009	J:\MS42\Data\080719\080719F022.D	08/07/19 18:55
A6-0to23-100818	K1906902-010	J:\MS42\Data\080719\080719F023.D	08/07/19 19:13
C4-0to27-100918	K1906902-011	J:\MS42\Data\080719\080719F024.D	08/07/19 19:30
A7-0to26-100918	K1906902-012	J:\MS42\Data\080719\080719F025.D	08/07/19 19:48
D2-0to19-101018	K1906902-013	J:\MS42\Data\080719\080719F026.D	08/07/19 20:05
F2-0to19-101018	K1906902-014	J:\MS42\Data\080719\080719F027.D	08/07/19 20:23
H2-0to30-101218	K1906902-015	J:\MS42\Data\080719\080719F028.D	08/07/19 20:41
J2A3-0to18-101218	K1906902-016	J:\MS42\Data\080719\080719F029.D	08/07/19 20:58
Q2-0to13-101818	K1906902-017	J:\MS42\Data\080719\080719F030.D	08/07/19 21:16
G6-0to27-101818	K1906902-018	J:\MS42\Data\080719\080719F031.D	08/07/19 21:33
T6-0to29-101618	K1906902-019	J:\MS42\Data\080719\080719F032.D	08/07/19 21:51
F2-0to19-101018	K1906902-014	J:\MS42\Data\081319\081319F046.D	08/13/19 20:08

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/07/19 15:06
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

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

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-42
Lab Code:	KQ1910714-03	**File ID:**	J:\MS42\Data\080719\080719F009.D
Analysis Method:	ALS SOP	**Analysis Lot:**	646431,647382
Prep Method:	EPA 3541	**Extraction Lot:**	341604

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1910714-04	J:\MS42\Data\080719\080719F005.D	08/07/19 13:55
A1-0to30-102018MS	KQ1910714-01	J:\MS42\Data\080719\080719F010.D	08/07/19 15:24
A1-0to30-102018DMS	KQ1910714-02	J:\MS42\Data\080719\080719F011.D	08/07/19 15:41
O7-0to27-101918	K1906902-001	J:\MS42\Data\080719\080719F014.D	08/07/19 16:34
515-0to26-101918	K1906902-002	J:\MS42\Data\080719\080719F015.D	08/07/19 16:52
M4-0to26-101918	K1906902-003	J:\MS42\Data\080719\080719F016.D	08/07/19 17:09
A1-0to30-102018	K1906902-004	J:\MS42\Data\080719\080719F017.D	08/07/19 17:27
Q6-0to27-102018	K1906902-005	J:\MS42\Data\080719\080719F018.D	08/07/19 17:45
A5-0to25-100818	K1906902-006	J:\MS42\Data\080719\080719F019.D	08/07/19 18:02
A4-0to25-100818	K1906902-007	J:\MS42\Data\080719\080719F020.D	08/07/19 18:20
A3-0to31-100818	K1906902-008	J:\MS42\Data\080719\080719F021.D	08/07/19 18:37
A2-0to26-100818	K1906902-009	J:\MS42\Data\080719\080719F022.D	08/07/19 18:55
A6-0to23-100818	K1906902-010	J:\MS42\Data\080719\080719F023.D	08/07/19 19:13
C4-0to27-100918	K1906902-011	J:\MS42\Data\080719\080719F024.D	08/07/19 19:30
A7-0to26-100918	K1906902-012	J:\MS42\Data\080719\080719F025.D	08/07/19 19:48
D2-0to19-101018	K1906902-013	J:\MS42\Data\080719\080719F026.D	08/07/19 20:05
F2-0to19-101018	K1906902-014	J:\MS42\Data\080719\080719F027.D	08/07/19 20:23
H2-0to30-101218	K1906902-015	J:\MS42\Data\080719\080719F028.D	08/07/19 20:41
J2A3-0to18-101218	K1906902-016	J:\MS42\Data\080719\080719F029.D	08/07/19 20:58
Q2-0to13-101818	K1906902-017	J:\MS42\Data\080719\080719F030.D	08/07/19 21:16
G6-0to27-101818	K1906902-018	J:\MS42\Data\080719\080719F031.D	08/07/19 21:33
T6-0to29-101618	K1906902-019	J:\MS42\Data\080719\080719F032.D	08/07/19 21:51
F2-0to19-101018	K1906902-014	J:\MS42\Data\081319\081319F046.D	08/13/19 20:08

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/07/19 11:45

Tune Summary
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS42\Data\080719\080719F003.D **Analytical Method:** ALS SOP
Instrument ID: K-MS-42 **Analysis Lot:** 646431

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1911111-02	J:\MS42\Data\080719\080719F003.D	08/07/19 11:45	
Method Blank	KQ1910714-04	J:\MS42\Data\080719\080719F005.D	08/07/19 13:55	
Lab Control Sample	KQ1910714-03	J:\MS42\Data\080719\080719F009.D	08/07/19 15:06	
A1-0to30-102018	KQ1910714-01	J:\MS42\Data\080719\080719F010.D	08/07/19 15:24	
A1-0to30-102018	KQ1910714-02	J:\MS42\Data\080719\080719F011.D	08/07/19 15:41	
O7-0to27-101918	K1906902-001	J:\MS42\Data\080719\080719F014.D	08/07/19 16:34	
515-0to26-101918	K1906902-002	J:\MS42\Data\080719\080719F015.D	08/07/19 16:52	
M4-0to26-101918	K1906902-003	J:\MS42\Data\080719\080719F016.D	08/07/19 17:09	
A1-0to30-102018	K1906902-004	J:\MS42\Data\080719\080719F017.D	08/07/19 17:27	
Q6-0to27-102018	K1906902-005	J:\MS42\Data\080719\080719F018.D	08/07/19 17:45	
A5-0to25-100818	K1906902-006	J:\MS42\Data\080719\080719F019.D	08/07/19 18:02	
A4-0to25-100818	K1906902-007	J:\MS42\Data\080719\080719F020.D	08/07/19 18:20	
A3-0to31-100818	K1906902-008	J:\MS42\Data\080719\080719F021.D	08/07/19 18:37	
A2-0to26-100818	K1906902-009	J:\MS42\Data\080719\080719F022.D	08/07/19 18:55	
A6-0to23-100818	K1906902-010	J:\MS42\Data\080719\080719F023.D	08/07/19 19:13	
C4-0to27-100918	K1906902-011	J:\MS42\Data\080719\080719F024.D	08/07/19 19:30	
A7-0to26-100918	K1906902-012	J:\MS42\Data\080719\080719F025.D	08/07/19 19:48	
D2-0to19-101018	K1906902-013	J:\MS42\Data\080719\080719F026.D	08/07/19 20:05	
F2-0to19-101018	K1906902-014	J:\MS42\Data\080719\080719F027.D	08/07/19 20:23	
H2-0to30-101218	K1906902-015	J:\MS42\Data\080719\080719F028.D	08/07/19 20:41	
J2A3-0to18-101218	K1906902-016	J:\MS42\Data\080719\080719F029.D	08/07/19 20:58	
Q2-0to13-101818	K1906902-017	J:\MS42\Data\080719\080719F030.D	08/07/19 21:16	
G6-0to27-101818	K1906902-018	J:\MS42\Data\080719\080719F031.D	08/07/19 21:33	
T6-0to29-101618	K1906902-019	J:\MS42\Data\080719\080719F032.D	08/07/19 21:51	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/13/19 15:44

Tune Summary
Organochlorine Pesticides by GC/MS/MS

File ID: J:\MS42\Data\081319\081319F031.D **Analytical Method:** ALS SOP
Instrument ID: K-MS-42 **Analysis Lot:** 647382

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1911540-01	J:\MS42\Data\081319\081319F031.D	08/13/19 15:44	
F2-0to19-101018	K1906902-014	J:\MS42\Data\081319\081319F046.D	08/13/19 20:08	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/16/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900297 **Signal ID:** 1
Instrument ID: K-MS-42

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900297-01	OC PEST ICAL 0.5PPB SVM61-44A	J:\MS42\Data\071619\071619F007.D	07/16/2019 21:21
02	KC1900297-02	OC PEST ICAL 1PPB SVM61-44B	J:\MS42\Data\071619\071619F008.D	07/16/2019 21:39
03	KC1900297-03	OC PEST ICAL 2PPB SVM61-44C	J:\MS42\Data\071619\071619F009.D	07/16/2019 21:57
04	KC1900297-04	OC PEST ICAL 5PPB SVM61-44D	J:\MS42\Data\071619\071619F010.D	07/16/2019 22:15
05	KC1900297-05	OC PEST ICAL 10PPB SVM61-44E	J:\MS42\Data\071619\071619F011.D	07/16/2019 22:33
06	KC1900297-06	OC PEST ICAL 20PPB SVM61-44F	J:\MS42\Data\071619\071619F012.D	07/16/2019 22:51
07	KC1900297-07	OC PEST ICAL 40PPB SVM61-44G	J:\MS42\Data\071619\071619F013.D	07/16/2019 23:09
08	KC1900297-08	OC PEST ICAL 60PPB SVM61-44H	J:\MS42\Data\071619\071619F014.D	07/16/2019 23:27
09	KC1900297-09	OC PEST ICAL 80PPB SVM61-44I	J:\MS42\Data\071619\071619F015.D	07/16/2019 23:45
10	KC1900297-10	OC PEST ICAL 100ppb SVM61-44J	J:\MS42\Data\071619\071619F016.D	07/17/2019 00:03

Analyte

2,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.253	02	1	1.004	03	2	1	04	5	1.037
05	10	1.12	06	20	1.027	07	40	1.164	08	60	1.159
09	80	1.029	10	100	1.127						

2,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.396	02	1	1.102	03	2	1.132	04	5	1.284
05	10	1.239	06	20	1.31	07	40	1.228	08	60	1.306
09	80	1.22	10	100	1.266						

2,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.525	02	1	1.82	03	2	1.836	04	5	2.1
05	10	2.191	06	20	2.262	07	40	2.365	08	60	2.318
09	80	2.381	10	100	2.481						

4,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.101	02	1	1.288	03	2	1.284	04	5	1.481
05	10	1.541	06	20	1.653	07	40	1.654	08	60	1.658
09	80	1.598	10	100	1.627						

4,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.047	02	1	0.8035	03	2	0.8493	04	5	0.8487
05	10	0.8923	06	20	0.8815	07	40	0.9352	08	60	1.147
09	80	0.8748	10	100	0.924						

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.9666	02	1	0.7612	03	2	0.7194	04	5	0.7543

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/16/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900297 **Signal ID:** 1
Instrument ID: K-MS-42

Analyte

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
05	10	0.8045	06	20	0.7868	07	40	0.9049	08	60	0.8459
09	80	0.9099	10	100	0.9327						

Aldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	3.69	02	1	2.074	03	2	1.399	04	5	0.8184
05	10	0.7536	06	20	0.6736	07	40	0.7047	08	60	0.6458
09	80	0.6819	10	100	0.6641						

Dieldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
02	1	1.526	03	2	1.649	04	5	1.508	05	10	1.605
06	20	1.691	07	40	1.678	08	60	1.875	09	80	1.922
10	100	1.891									

Heptachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.23	02	1	0.9882	03	2	1.068	04	5	1.16
05	10	1.14	06	20	1.195	07	40	1.172	08	60	1.112
09	80	1.077	10	100	1.122						

Oxychlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.68	02	1	2.034	03	2	2.418	04	5	2.473
05	10	2.424	06	20	2.502	07	40	2.504	08	60	2.376
09	80	2.699	10	100	2.674						

S_4,4'-DDT-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	2.03	02	5	2.009	03	5	2.078	04	5	2.162
05	5	2.165	06	5	2.211	07	5	2.124	08	5	2.219
09	5	2.152	10	5	2.206						

S_4,4'DDD-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	2.793	02	5	2.769	03	5	2.852	04	5	2.892
05	5	3.007	06	5	2.949	07	5	2.998	08	5	3.033
09	5	3.143	10	5	3.055						

S_Aldrin-13C12

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.5691	02	20	0.5877	03	20	0.583	04	20	0.6502
05	20	0.6206	06	20	0.6299	07	20	0.6139	08	20	0.6576
09	20	0.619	10	20	0.631						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/16/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900297 **Signal ID:** 1
Instrument ID: K-MS-42

Analyte

S_Endrin-13C12

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.1182	02	20	0.123	03	20	0.1191	04	20	0.1254
05	20	0.1264	06	20	0.12	07	20	0.1269	08	20	0.1313
09	20	0.1218	10	20	0.123						

S_GBHCD6

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	3.54	02	20	3.764	03	20	3.686	04	20	3.808
05	20	3.817	06	20	3.767	07	20	4.206	08	20	3.581
09	20	3.83	10	20	3.924						

S_Heptachlor-13C10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.9784	02	20	1.081	03	20	1.036	04	20	1.065
05	20	1.104	06	20	1.069	07	20	1.142	08	20	1.129
09	20	1.218	10	20	1.157						

S_Heptachlrepox13C10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.1925	02	20	0.1885	03	20	0.1935	04	20	0.2134
05	20	0.2006	06	20	0.1938	07	20	0.1988	08	20	0.2112
09	20	0.2199	10	20	0.21						

S_Oxychlordane-13C10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.3531	02	20	0.3926	03	20	0.3658	04	20	0.3833
05	20	0.3923	06	20	0.4044	07	20	0.413	08	20	0.4393
09	20	0.4057	10	20	0.4301						

alpha-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	3.118	02	1	2.407	03	2	2.541	04	5	2.661
05	10	2.679	06	20	2.843	07	40	2.821	08	60	2.747
09	80	2.992	10	100	2.93						

cis-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.044	02	1	0.8796	03	2	0.9502	04	5	1.021
05	10	1.063	06	20	1.088	07	40	1.134	08	60	1.033
09	80	1.131	10	100	1.126						

gamma-BHC (Lindane)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.211	02	1	0.963	03	2	1.065	04	5	1.077
05	10	1.131	06	20	1.135	07	40	1.082	08	60	1.308
09	80	1.21	10	100	1.172						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/16/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900297 **Signal ID:** 1
Instrument ID: K-MS-42

Analyte

gamma-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.28	02	1	0.9647	03	2	1.138	04	5	1.195
05	10	1.188	06	20	1.246	07	40	1.263	08	60	1.183
09	80	1.317	10	100	1.347						

trans-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.576	02	1	1.647	03	2	2.016	04	5	1.999
05	10	2.164	06	20	2.178	07	40	2.113	08	60	2.07
09	80	2.34	10	100	2.292						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/16/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900297 **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	7.8	≤20	1.092	0.01
2,4'-DDE	TRG	Average RF	% RSD	6.9	≤20	1.248	0.01
2,4'-DDT	TRG	Average RF	% RSD	11.0	≤20	2.228	0.01
4,4'-DDD	TRG	Average RF	% RSD	14.5	≤20	1.588	0.01
4,4'-DDE	TRG	Average RF	% RSD	11.2	≤20	0.9203	0.01
4,4'-DDT	TRG	Average RF	% RSD	10.2	≤20	0.8386	0.01
Aldrin	TRG	Quadratic	COD	0.9987	≥	1.211	0.01
Dieldrin	TRG	Average RF	% RSD	9.2	≤20	1.705	0.01
Heptachlor	TRG	Average RF	% RSD	6.2	≤20	1.126	0.01
Oxychlordane	TRG	Average RF	% RSD	7.9	≤20	2.478	0.01
S_4,4'-DDT-d4	SURR	Average RF	% RSD	3.5	≤	2.135	0.01
S_4,4'DDD-d4	SURR	Average RF	% RSD	4.1	≤	2.949	0.01
S_Aldrin-13C12	SURR	Average RF	% RSD	4.7	≤	0.6162	0.01
S_Endrin-13C12	SURR	Average RF	% RSD	3.3	≤	0.1235	0.01
S_GBHCD6	SURR	Average RF	% RSD	4.9	≤	3.792	0.01
S_Heptachlor-13C10	SURR	Average RF	% RSD	6.2	≤	1.098	0.01
S_Heptachlrepox13C10	SURR	Average RF	% RSD	5.3	≤	0.2022	0.01
S_Oxychlordane-13C10	SURR	Average RF	% RSD	6.7	≤	0.398	0.01
alpha-Chlordane	TRG	Average RF	% RSD	7.7	≤20	2.774	0.01
cis-Nonachlor	TRG	Average RF	% RSD	7.9	≤20	1.047	0.01
gamma-BHC (Lindane)	TRG	Average RF	% RSD	8.5	≤20	1.135	0.01
gamma-Chlordane	TRG	Average RF	% RSD	9.0	≤20	1.212	0.01
trans-Nonachlor	TRG	Average RF	% RSD	11.4	≤20	2.14	0.01

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/13/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900338 **Signal ID:** 1
Instrument ID: K-MS-42

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900338-01	OC PEST ICAL 0.5PPB SVM61-44A	J:\MS42\Data\081319\081319F004.D	08/13/2019 10:22
02	KC1900338-02	OC PEST ICAL 1PPB SVM61-44B	J:\MS42\Data\081319\081319F005.D	08/13/2019 10:40
03	KC1900338-03	OC PEST ICAL 2PPB SVM61-44C	J:\MS42\Data\081319\081319F006.D	08/13/2019 10:58
04	KC1900338-04	OC PEST ICAL 5PPB SVM61-44D	J:\MS42\Data\081319\081319F007.D	08/13/2019 11:15
05	KC1900338-05	OC PEST ICAL 10PPB SVM61-44E	J:\MS42\Data\081319\081319F008.D	08/13/2019 11:33
06	KC1900338-06	OC PEST ICAL 20PPB SVM61-44F	J:\MS42\Data\081319\081319F009.D	08/13/2019 11:51
07	KC1900338-07	OC PEST ICAL 60PPB SVM61-44H	J:\MS42\Data\081319\081319F011.D	08/13/2019 12:26
08	KC1900338-08	OC PEST ICAL 80PPB SVM61-44I	J:\MS42\Data\081319\081319F012.D	08/13/2019 12:44
09	KC1900338-09	OC PEST ICAL 100PPB SVM61-44J	J:\MS42\Data\081319\081319F013.D	08/13/2019 13:01
10	KC1900338-10	OC PEST ICAL 40PPB SVM61-44G	J:\MS42\Data\081319\081319F030.D	08/13/2019 15:26

Analyte

2,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8052	02	1	0.8256	03	2	0.9139	04	5	0.9994
05	10	0.9427	06	20	0.8994	10	40	0.8156	07	60	1.11
08	80	1.147	09	100	0.9702						

2,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8845	02	1	0.8452	03	2	0.952	04	5	1.156
05	10	0.9625	06	20	1.026	10	40	0.8278	07	60	1.056
08	80	1.336	09	100	1.106						

2,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.91	02	1	1.637	03	2	1.753	04	5	1.913
05	10	1.98	06	20	1.986	10	40	1.812	07	60	2.058
08	80	2.183	09	100	2.206						

4,4'-DDD

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.394	02	1	1.317	03	2	1.367	04	5	1.628
05	10	1.546	06	20	1.59	10	40	1.494	07	60	1.678
08	80	2.079									

4,4'-DDE

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.7744	02	1	0.7405	03	2	0.8646	04	5	0.9292
05	10	0.8324	06	20	0.7818	10	40	0.7119	07	60	1.293
08	80	0.9987	09	100	0.7857						

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8227	02	1	0.6699	03	2	0.7348	04	5	0.815

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/13/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900338 **Signal ID:** 1
Instrument ID: K-MS-42

Analyte

4,4'-DDT

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
05	10	0.8131	06	20	0.8071	10	40	0.7864	07	60	0.8403
08	80	0.9037	09	100	0.8817						

Aldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	3.799	02	1	2.046	03	2	1.325	04	5	0.9223
05	10	0.8193	06	20	0.6968	10	40	0.6544	07	60	0.6475
08	80	0.6884	09	100	0.6477						

Dieldrin

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.478	02	1	1.286	03	2	1.391	04	5	1.331
05	10	1.471	06	20	1.645	10	40	1.378	07	60	1.914
08	80	1.772	09	100	1.723						

Heptachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.182	02	1	1.053	03	2	1.075	04	5	1.094
05	10	1.037	06	20	1.2	10	40	1.091	07	60	1.135
08	80	1.119	09	100	1.04						

Oxychlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.398	02	1	2.091	03	2	2.109	04	5	2.414
05	10	2.595	06	20	2.485	10	40	2.547	07	60	2.429
08	80	2.441	09	100	2.461						

S_4,4'-DDT-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	2.192	02	5	2.215	03	5	2.395	04	5	2.271
05	5	2.105	06	5	2.162	07	5	2.187	08	5	2.26
09	5	2.18	10	5	2.105						

S_4,4'DDD-d4

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	5	3.414	02	5	3.146	03	5	3.528	04	5	3.16
05	5	3.092	06	5	3.132	07	5	3.225	08	5	2.815
09	5	3.3	10	5	3.278						

S_Aldrin-13C12

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.5264	02	20	0.5385	03	20	0.6463	04	20	0.6075
05	20	0.5245	06	20	0.5425	07	20	0.5715	08	20	0.5554
09	20	0.5859	10	20	0.446						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/13/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900338 **Signal ID:** 1
Instrument ID: K-MS-42

Analyte

S_Endrin-13C12

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.1431	02	20	0.1421	03	20	0.156	04	20	0.1632
05	20	0.1384	06	20	0.1342	07	20	0.1443	08	20	0.1474
09	20	0.1433	10	20	0.1633						

S_GBHCD6

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	3.109	02	20	3.16	03	20	3.222	04	20	3.282
05	20	2.794	06	20	3.158	07	20	2.917	08	20	3.333
09	20	3.051	10	20	2.42						

S_Heptachlor-13C10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.8234	02	20	0.8367	03	20	0.8979	04	20	0.8964
05	20	0.8334	06	20	0.847	07	20	0.7621	08	20	0.909
09	20	0.9209	10	20	0.6846						

S_Heptachlrepox13C10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.1778	02	20	0.187	03	20	0.1943	04	20	0.1875
05	20	0.1755	06	20	0.1761	07	20	0.1759	08	20	0.1975
09	20	0.1987	10	20	0.1503						

S_Oxychlordane-13C10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20	0.3206	02	20	0.3292	03	20	0.3567	04	20	0.3376
05	20	0.3042	06	20	0.3602	07	20	0.3333	08	20	0.3633
09	20	0.3543	10	20	0.2708						

alpha-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	2.808	02	1	2.436	03	2	2.524	04	5	2.832
05	10	2.903	06	20	2.772	10	40	2.743	07	60	2.957
08	80	3.015	09	100	3.003						

cis-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.8294	02	1	0.7199	03	2	0.7488	04	5	0.822
05	10	0.9039	06	20	0.826	10	40	0.7817	07	60	0.9438
08	80	0.8814	09	100	0.918						

gamma-BHC (Lindane)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	0.997	02	1	0.8802	03	2	1.01	04	5	1.008
05	10	1.095	06	20	1.09	10	40	0.9703	07	60	1.079
08	80	1.016	09	100	1.128						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/13/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900338 **Signal ID:** 1
Instrument ID: K-MS-42

Analyte

gamma-Chlordane

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.102	02	1	0.9387	03	2	1.038	04	5	1.175
05	10	1.199	06	20	1.072	10	40	1.14	07	60	1.181
08	80	1.172	09	100	1.192						

trans-Nonachlor

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5	1.849	02	1	1.716	03	2	1.754	04	5	1.895
05	10	2.054	06	20	1.964	10	40	1.859	07	60	1.969
08	80	2.17	09	100	1.995						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/13/2019

Initial Calibration Summary
Organochlorine Pesticides by GC/MS/MS

Calibration ID: KC1900338 **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	12.5	≤20	0.943	0.01
2,4'-DDE	TRG	Average RF	% RSD	15.4	≤20	1.015	0.01
2,4'-DDT	TRG	Average RF	% RSD	9.3	≤20	1.944	0.01
4,4'-DDD	TRG	Quadratic	COD	0.9931	≥	1.566	0.01
4,4'-DDE	TRG	Average RF	% RSD	19.7	≤20	0.8712	0.01
4,4'-DDT	TRG	Average RF	% RSD	8.3	≤20	0.8075	0.01
Aldrin	TRG	Quadratic	COD	0.9981	≥	1.225	0.01
Dieldrin	TRG	Average RF	% RSD	13.8	≤20	1.539	0.01
Heptachlor	TRG	Average RF	% RSD	5.1	≤20	1.103	0.01
Oxychlordane	TRG	Average RF	% RSD	7.0	≤20	2.397	0.01
S_4,4'-DDT-d4	SURR	Average RF	% RSD	3.9	≤	2.207	0.01
S_4,4'DDD-d4	SURR	Average RF	% RSD	6.0	≤	3.209	0.01
S_Aldrin-13C12	SURR	Average RF	% RSD	9.8	≤	0.5544	0.01
S_Endrin-13C12	SURR	Average RF	% RSD	6.8	≤	0.1475	0.01
S_GBHCD6	SURR	Average RF	% RSD	9.0	≤	3.045	0.01
S_Heptachlor-13C10	SURR	Average RF	% RSD	8.7	≤	0.8411	0.01
S_Heptachlrepox13C10	SURR	Average RF	% RSD	7.9	≤	0.1821	0.01
S_Oxychlordane-13C10	SURR	Average RF	% RSD	8.7	≤	0.333	0.01
alpha-Chlordane	TRG	Average RF	% RSD	6.9	≤20	2.799	0.01
cis-Nonachlor	TRG	Average RF	% RSD	8.8	≤20	0.8375	0.01
gamma-BHC (Lindane)	TRG	Average RF	% RSD	7.1	≤20	1.027	0.01
gamma-Chlordane	TRG	Average RF	% RSD	7.5	≤20	1.121	0.01
trans-Nonachlor	TRG	Average RF	% RSD	7.1	≤20	1.922	0.01

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 7/16/2019

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

Calibration ID: KC1900297 **Signal ID:** 1
Instrument ID: K-MS-42

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1900297-11	OC PEST ICV 20ppb SVM61-48E	J:\MS42\Data\071619\071619F018.D	07/17/2019 00:39

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
2,4'-DDD	20.0	19.5	1.092E0	1.064E0	-2.553	±25	Average RF
2,4'-DDE	20.0	20.7	1.248E0	1.289E0	3.29	±25	Average RF
2,4'-DDT	20.0	20.7	2.228E0	2.307E0	3.55	±25	Average RF
4,4'-DDD	20.0	19.2	1.588E0	1.526E0	-3.918	±25	Average RF
4,4'-DDE	20.0	20.4	9.203E-1	9.394E-1	2.07	±25	Average RF
4,4'-DDT	20.0	20.8	8.386E-1	8.711E-1	3.87	±25	Average RF
Aldrin	20.0	19.7	1.211E0	6.851E-1	-1.354	±25	Quadratic
alpha-Chlordane	20.0	20.9	2.774E0	2.903E0	4.65	±25	Average RF
cis-Nonachlor	20.0	18.3	1.047E0	9.602E-1	-8.284	±25	Average RF
Dieldrin	20.0	18.5	1.705E0	1.578E0	-7.467	±25	Average RF
gamma-BHC (Lindane)	20.0	22.2	1.135E0	1.262E0	11.19	±25	Average RF
gamma-Chlordane	20.0	19.6	1.212E0	1.186E0	-2.185	±25	Average RF
Heptachlor	20.0	19.9	1.126E0	1.12E0	-0.543	±25	Average RF
Oxychlordane	20.0	22.4	2.478E0	2.778E0	12.09	±25	Average RF
trans-Nonachlor	20.0	20.3	2.14E0	2.176E0	1.71	±25	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	Rec.	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	5.56	2.949E0	3.277E0	111	50-200	Average RF
S_4,4'-DDT-d4	5.00	5.53	2.135E0	2.364E0	111	50-200	Average RF
S_Aldrin-13C12	20.0	23.3	6.162E-1	7.193E-1	117	50-200	Average RF
S_Endrin-13C12	20.0	21.6	1.235E-1	1.337E-1	108	50-200	Average RF
S_GBHCD6	20.0	23.1	3.792E0	4.382E0	116	50-200	Average RF
S_Heptachlor-13C10	20.0	24.1	1.098E0	1.324E0	121	50-200	Average RF
S_Heptachlrepox13C10	20.0	22.2	2.022E-1	2.247E-1	111	50-200	Average RF
S_Oxychlordane-13C10	20.0	23.2	3.98E-1	4.607E-1	116	50-200	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/13/2019

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

Calibration ID: KC1900338 **Signal ID:** 1
Instrument ID: K-MS-42

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1900338-11	OC PEST ICV 20PPB SVM61-48E	J:\MS42\Data\081319\081319F031.D	08/13/2019 15:44

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
2,4'-DDD	20.0	20.1	9.43E-1	9.494E-1	0.685	±25	Average RF
2,4'-DDE	20.0	19.3	1.015E0	9.787E-1	-3.582	±25	Average RF
2,4'-DDT	20.0	19.2	1.944E0	1.869E0	-3.843	±25	Average RF
4,4'-DDD	20.0	20.0	1.566E0	1.456E0	0.240	±25	Quadratic
4,4'-DDE	20.0	18.6	8.712E-1	8.121E-1	-6.781	±25	Average RF
4,4'-DDT	20.0	20.8	8.075E-1	8.401E-1	4.04	±25	Average RF
Aldrin	20.0	19.3	1.225E0	6.795E-1	-3.445	±25	Quadratic
alpha-Chlordane	20.0	20.0	2.799E0	2.805E0	0.187	±25	Average RF
cis-Nonachlor	20.0	17.4	8.375E-1	7.29E-1	-12.951	±25	Average RF
Dieldrin	20.0	16.4	1.539E0	1.262E0	-17.996	±25	Average RF
gamma-BHC (Lindane)	20.0	18.3	1.027E0	9.375E-1	-8.744	±25	Average RF
gamma-Chlordane	20.0	19.9	1.121E0	1.114E0	-0.617	±25	Average RF
Heptachlor	20.0	20.9	1.103E0	1.152E0	4.50	±25	Average RF
Oxychlordane	20.0	19.8	2.397E0	2.371E0	-1.097	±25	Average RF
trans-Nonachlor	20.0	18.4	1.922E0	1.767E0	-8.107	±25	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	Rec.	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	5.05	3.209E0	3.243E0	101	50-200	Average RF
S_4,4'-DDT-d4	5.00	4.74	2.207E0	2.093E0	94.8	50-200	Average RF
S_Aldrin-13C12	20.0	18.0	5.544E-1	5.004E-1	90.0	50-200	Average RF
S_Endrin-13C12	20.0	23.0	1.475E-1	1.694E-1	115	50-200	Average RF
S_GBHCD6	20.0	17.5	3.045E0	2.659E0	87.5	50-200	Average RF
S_Heptachlor-13C10	20.0	17.8	8.411E-1	7.484E-1	89.0	50-200	Average RF
S_Heptachlrepox13C10	20.0	18.9	1.821E-1	1.724E-1	94.5	50-200	Average RF
S_Oxychlordane-13C10	20.0	18.4	3.33E-1	3.066E-1	92.0	50-200	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/07/19 11:45

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

Analysis Method:	ALS SOP	**Calibration Date:**	7/16/2019
File ID:	J:\MS42\Data\080719\080719F003.D	**Calibration ID:**	KC1900297
Signal ID:	1	**Analysis Lot:**	646431
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2,4'-DDD	20.0	19.3	1.0922	1.0525	-3.6	NA	±25	Average RF
2,4'-DDE	20.0	20.5	1.2483	1.279	2.5	NA	±25	Average RF
2,4'-DDT	20.0	19.8	2.2279	2.2051	-1.0	NA	±25	Average RF
4,4'-DDD	20.0	21.3	1.5884	1.6898	6.4	NA	±25	Average RF
4,4'-DDE	20.0	19.6	0.9203	0.912	-0.9	NA	±25	Average RF
4,4'-DDT	20.0	21.4	0.8386	0.8964	6.9	NA	±25	Average RF
Aldrin	20.0	19.3	1.2105	0.673	NA	-3.3	±25	Quadratic
alpha-Chlordane	20.0	21.3	2.7739	2.9605	6.7	NA	±25	Average RF
cis-Nonachlor	20.0	19.0	1.0469	0.997	-4.8	NA	±25	Average RF
Dieldrin	20.0	20.4	1.7051	1.608	-5.7	NA	±25	Average RF
gamma-BHC (Lindane)	20.0	21.5	1.1353	1.2215	7.6	NA	±25	Average RF
gamma-Chlordane	20.0	21.3	1.2121	1.2933	6.7	NA	±25	Average RF
Heptachlor	20.0	20.5	1.1264	1.1524	2.3	NA	±25	Average RF
Oxychlordane	20.0	21.0	2.4783	2.5981	4.8	NA	±25	Average RF
trans-Nonachlor	20.0	19.8	2.1396	2.1198	-0.9	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	Rec.	% Drift	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	5.31	2.9491	3.1342	106	NA	50-200	Average RF
S_4,4'-DDT-d4	5.00	5.47	2.1355	2.3362	109	NA	50-200	Average RF
S_Aldrin-13C12	20.0	20.7	0.6162	0.6378	104	NA	50-200	Average RF
S_Endrin-13C12	20.0	21.4	0.1235	0.1324	107	NA	50-200	Average RF
S_GBHCD6	20.0	20.0	3.7923	3.7875	100	NA	50-200	Average RF
S_Heptachlor-13C10	20.0	18.8	1.098	1.0335	94.1	NA	50-200	Average RF
S_Heptachlrepox13C10	20.0	20.3	0.2022	0.2049	101	NA	50-200	Average RF
S_Oxychlordane-13C10	20.0	20.2	0.398	0.4014	101	NA	50-200	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/13/19 15:44

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

Analysis Method:	ALS SOP	**Calibration Date:**	8/13/2019
File ID:	J:\MS42\Data\081319\081319F031.D	**Calibration ID:**	KC1900338
Signal ID:	1	**Analysis Lot:**	647382
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2,4'-DDD	20.0	20.1	0.943	0.9494	0.7	NA	±25	Average RF
2,4'-DDE	20.0	19.3	1.0151	0.9787	-3.6	NA	±25	Average RF
2,4'-DDT	20.0	19.2	1.9438	1.8691	-3.8	NA	±25	Average RF
4,4'-DDD	20.0	20.0	1.566	1.4563	NA	0.2	±25	Quadratic
4,4'-DDE	20.0	18.6	0.8712	0.8121	-6.8	NA	±25	Average RF
4,4'-DDT	20.0	20.8	0.8075	0.8401	4.0	NA	±25	Average RF
Aldrin	20.0	19.3	1.2247	0.6795	NA	-3.4	±25	Quadratic
alpha-Chlordane	20.0	20.0	2.7995	2.8047	0.2	NA	±25	Average RF
cis-Nonachlor	20.0	17.4	0.8375	0.729	-13.0	NA	±25	Average RF
Dieldrin	20.0	16.4	1.5388	1.2619	-18.0	NA	±25	Average RF
gamma-BHC (Lindane)	20.0	18.3	1.0274	0.9375	-8.7	NA	±25	Average RF
gamma-Chlordane	20.0	19.9	1.1209	1.114	-0.6	NA	±25	Average RF
Heptachlor	20.0	20.9	1.1026	1.1522	4.5	NA	±25	Average RF
Oxychlordane	20.0	19.8	2.3971	2.3708	-1.1	NA	±25	Average RF
trans-Nonachlor	20.0	18.4	1.9225	1.7666	-8.1	NA	±25	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	Rec.	% Drift	Criteria	Curve Fit
S_4,4'DDD-d4	5.00	5.05	3.209	3.2432	101	NA	50-200	Average RF
S_4,4'-DDT-d4	5.00	4.74	2.2071	2.0927	94.8	NA	50-200	Average RF
S_Aldrin-13C12	20.0	18.0	0.5544	0.5004	90.2	NA	50-200	Average RF
S_Endrin-13C12	20.0	23.0	0.1475	0.1694	115	NA	50-200	Average RF
S_GBHCD6	20.0	17.5	3.0446	2.6589	87.3	NA	50-200	Average RF
S_Heptachlor-13C10	20.0	17.8	0.8411	0.7484	89.0	NA	50-200	Average RF
S_Heptachlrepox13C10	20.0	18.9	0.1821	0.1724	94.7	NA	50-200	Average RF
S_Oxychlordane-13C10	20.0	18.4	0.333	0.3066	92.1	NA	50-200	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Analysis Lot:**646431
Instrument ID:K-MS-42

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS42\Data\080719\080719F003.D	Continuing Calibration Verification	KQ1911111-02	8/7/2019	11:45	
J:\MS42\Data\080719\080719F003.D	ZZZZZZZ	ZZZZZZZ	8/7/2019	11:45	
J:\MS42\Data\080719\080719F005.D	Method Blank	KQ1910714-04	8/7/2019	13:55	
J:\MS42\Data\080719\080719F006.D	ZZZZZZZ	ZZZZZZZ	8/7/2019	14:13	
J:\MS42\Data\080719\080719F007.D	ZZZZZZZ	ZZZZZZZ	8/7/2019	14:31	
J:\MS42\Data\080719\080719F008.D	ZZZZZZZ	ZZZZZZZ	8/7/2019	14:48	
J:\MS42\Data\080719\080719F009.D	Lab Control Sample	KQ1910714-03	8/7/2019	15:06	
J:\MS42\Data\080719\080719F010.D	A1-0to30-102018 MS	KQ1910714-01	8/7/2019	15:24	
J:\MS42\Data\080719\080719F011.D	A1-0to30-102018 DMS	KQ1910714-02	8/7/2019	15:41	
J:\MS42\Data\080719\080719F014.D	O7-0to27-101918	K1906902-001	8/7/2019	16:34	
J:\MS42\Data\080719\080719F015.D	515-0to26-101918	K1906902-002	8/7/2019	16:52	
J:\MS42\Data\080719\080719F016.D	M4-0to26-101918	K1906902-003	8/7/2019	17:09	
J:\MS42\Data\080719\080719F017.D	A1-0to30-102018	K1906902-004	8/7/2019	17:27	
J:\MS42\Data\080719\080719F018.D	Q6-0to27-102018	K1906902-005	8/7/2019	17:45	
J:\MS42\Data\080719\080719F019.D	A5-0to25-100818	K1906902-006	8/7/2019	18:02	
J:\MS42\Data\080719\080719F020.D	A4-0to25-100818	K1906902-007	8/7/2019	18:20	
J:\MS42\Data\080719\080719F021.D	A3-0to31-100818	K1906902-008	8/7/2019	18:37	
J:\MS42\Data\080719\080719F022.D	A2-0to26-100818	K1906902-009	8/7/2019	18:55	
J:\MS42\Data\080719\080719F023.D	A6-0to23-100818	K1906902-010	8/7/2019	19:13	
J:\MS42\Data\080719\080719F024.D	C4-0to27-100918	K1906902-011	8/7/2019	19:30	
J:\MS42\Data\080719\080719F025.D	A7-0to26-100918	K1906902-012	8/7/2019	19:48	
J:\MS42\Data\080719\080719F026.D	D2-0to19-101018	K1906902-013	8/7/2019	20:05	
J:\MS42\Data\080719\080719F027.D	F2-0to19-101018	K1906902-014	8/7/2019	20:23	
J:\MS42\Data\080719\080719F028.D	H2-0to30-101218	K1906902-015	8/7/2019	20:41	
J:\MS42\Data\080719\080719F029.D	J2A3-0to18-101218	K1906902-016	8/7/2019	20:58	
J:\MS42\Data\080719\080719F030.D	Q2-0to13-101818	K1906902-017	8/7/2019	21:16	
J:\MS42\Data\080719\080719F031.D	G6-0to27-101818	K1906902-018	8/7/2019	21:33	
J:\MS42\Data\080719\080719F032.D	T6-0to29-101618	K1906902-019	8/7/2019	21:51	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Organochlorine Pesticides by GC/MS/MS

Analysis Method: ALS SOP **Analysis Lot:**647382
Instrument ID:K-MS-42

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS42\Data\081319\081319F031.D	Continuing Calibration Verification	KQ1911540-01	8/13/2019	15:44	
J:\MS42\Data\081319\081319F046.D	F2-0to19-101018	K1906902-014	8/13/2019	20:08	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Organochlorine Pesticides by GC/MS/MS

Prep Method: EPA 3541 **Extraction Lot:** 341604
Analytical Method: ALS SOP **Extraction Date:** 08/01/19 10:08

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
O7-0to27-101918	K1906902-001	10/19/18	10/22/18	20.166 g	1 mL	38.8
515-0to26-101918	K1906902-002	10/19/18	10/22/18	20.022 g	1 mL	47.2
M4-0to26-101918	K1906902-003	10/19/18	10/22/18	20.195 g	1 mL	44.7
A1-0to30-102018	K1906902-004	10/20/18	10/22/18	20.110 g	1 mL	56.0
Q6-0to27-102018	K1906902-005	10/20/18	10/22/18	20.407 g	1 mL	36.0
A5-0to25-100818	K1906902-006	10/8/18	10/10/18	20.447 g	1 mL	47.3
A4-0to25-100818	K1906902-007	10/8/18	10/10/18	20.5680 g	1 mL	48.9
A3-0to31-100818	K1906902-008	10/8/18	10/10/18	20.480 g	1 mL	44.1
A2-0to26-100818	K1906902-009	10/8/18	10/10/18	20.481 g	1 mL	46.1
A6-0to23-100818	K1906902-010	10/8/18	10/10/18	20.173 g	1 mL	44.1
C4-0to27-100918	K1906902-011	10/9/18	10/10/18	20.376 g	1 mL	40.3
A7-0to26-100918	K1906902-012	10/9/18	10/10/18	20.368 g	1 mL	52.6
D2-0to19-101018	K1906902-013	10/10/18	10/15/18	20.278 g	1 mL	71.5
F2-0to19-101018	K1906902-014	10/10/18	10/15/18	20.067 g	1 mL	72.6
H2-0to30-101218	K1906902-015	10/12/18	10/15/18	20.453 g	1 mL	48.9
J2A3-0to18-101218	K1906902-016	10/12/18	10/15/18	20.073 g	1 mL	77.7
Q2-0to13-101818	K1906902-017	10/18/18	10/19/18	20.486 g	1 mL	68.6
G6-0to27-101818	K1906902-018	10/18/18	10/19/18	20.491 g	1 mL	50.7
T6-0to29-101618	K1906902-019	10/16/18	10/19/18	20.270 g	1 mL	38.1
Matrix Spike	KQ1910714-01MS	10/20/18	10/22/18	20.070 g	1 mL	56.0
Duplicate Matrix Spike	KQ1910714-02DMS	10/20/18	10/22/18	20.417 g	1 mL	56.0
Lab Control Sample	KQ1910714-03LCS	NA	NA	10 g	1 mL	
Method Blank	KQ1910714-04MB	NA	NA	20.5680 g	1 mL	

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:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 15:36
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	O7-0to27-101918	**Units:**	ug/Kg
Lab Code:	K1906902-001	**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	**88 J**	130	12	1	08/09/19 21:37	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	84	30 - 102	08/09/19 21:37	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 13:11
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	515-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-002	**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	**550**	110	9.4	1	08/09/19 22:05	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	85	30 - 102	08/09/19 22:05	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 13:11
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	M4-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-003	**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	**1300**	220	20	2	08/13/19 23:24	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	74	30 - 102	08/09/19 22:33	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
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:	K1906902-004	**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	**110**	88	8.9	1	08/09/19 23:02	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	83	30 - 102	08/09/19 23:02	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/18 09:19
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	Q6-0to27-102018	**Units:**	ug/Kg
Lab Code:	K1906902-005	**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	**67 J**	140	13	1	08/09/19 23:30	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	76	30 - 102	08/09/19 23:30	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 14:38
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A5-0to25-100818	**Units:**	ug/Kg
Lab Code:	K1906902-006	**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	**260**	110	9.4	1	08/09/19 23:58	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	71	30 - 102	08/09/19 23:58	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 13:26
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A4-0to25-100818	**Units:**	ug/Kg
Lab Code:	K1906902-007	**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	**2000**	510	46	5	08/13/19 23:52	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	87	30 - 102	08/10/19 00:26	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 11:14
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A3-0to31-100818	**Units:**	ug/Kg
Lab Code:	K1906902-008	**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	**240**	110	11	1	08/10/19 00:55	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	76	30 - 102	08/10/19 00:55	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 14:04
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A2-0to26-100818	**Units:**	ug/Kg
Lab Code:	K1906902-009	**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	**59 J**	110	9.7	1	08/10/19 01:23	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	78	30 - 102	08/10/19 01:23	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 16:08
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A6-0to23-100818	**Units:**	ug/Kg
Lab Code:	K1906902-010	**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	**26 J**	110	11	1	08/10/19 01:51	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	71	30 - 102	08/10/19 01:51	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/09/18 08:28
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	C4-0to27-100918	**Units:**	ug/Kg
Lab Code:	K1906902-011	**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	**420**	120	11	1	08/10/19 02:19	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	72	30 - 102	08/10/19 02:19	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/09/18 13:23
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A7-0to26-100918	**Units:**	ug/Kg
Lab Code:	K1906902-012	**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	**230**	94	8.9	1	08/10/19 02:48	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	90	30 - 102	08/10/19 02:48	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/10/18 15:21
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	D2-0to19-101018	**Units:**	ug/Kg
Lab Code:	K1906902-013	**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 J**	350	45	5	08/10/19 03:16	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	89	30 - 102	08/10/19 03:16	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/10/18 16:36
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	F2-0to19-101018	**Units:**	ug/Kg
Lab Code:	K1906902-014	**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	**70**	68	8.9	1	08/10/19 03:44	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	76	30 - 102	08/10/19 03:44	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/12/18 10:28
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	H2-0to30-101218	**Units:**	ug/Kg
Lab Code:	K1906902-015	**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	**3700**	510	46	5	08/14/19 00:20	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	84	30 - 102	08/10/19 04:12	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/12/18 12:57
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	J2A3-0to18-101218	**Units:**	ug/Kg
Lab Code:	K1906902-016	**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	**720**	640	89	10	08/10/19 04:41	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	107	30 - 102	08/10/19 04:41	*

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/18/18 09:39
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	Q2-0to13-101818	**Units:**	ug/Kg
Lab Code:	K1906902-017	**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	**160**	73	8.9	1	08/10/19 05:09	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	87	30 - 102	08/10/19 05:09	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/18/18 14:12
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	G6-0to27-101818	**Units:**	ug/Kg
Lab Code:	K1906902-018	**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	**770**	490	45	5	08/10/19 05:37	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	83	30 - 102	08/10/19 05:37	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/16/18 14:38
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	T6-0to29-101618	**Units:**	ug/Kg
Lab Code:	K1906902-019	**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	**30 J**	130	12	1	08/10/19 06:05	8/1/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	76	30 - 102	08/10/19 06:05	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
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:	KQ1910713-04	**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	49	8.9	1	08/09/19 19:44	8/1/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
p-Terphenyl-d14	96	30 - 102	08/09/19 19:44	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
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
O7-0to27-101918	K1906902-001	84
515-0to26-101918	K1906902-002	85
M4-0to26-101918	K1906902-003	74
A1-0to30-102018	K1906902-004	83
Q6-0to27-102018	K1906902-005	76
A5-0to25-100818	K1906902-006	71
A4-0to25-100818	K1906902-007	87
A3-0to31-100818	K1906902-008	76
A2-0to26-100818	K1906902-009	78
A6-0to23-100818	K1906902-010	71
C4-0to27-100918	K1906902-011	72
A7-0to26-100918	K1906902-012	90
D2-0to19-101018	K1906902-013	89
F2-0to19-101018	K1906902-014	76
H2-0to30-101218	K1906902-015	84
J2A3-0to18-101218	K1906902-016	107*
Q2-0to13-101818	K1906902-017	87
G6-0to27-101818	K1906902-018	83
T6-0to29-101618	K1906902-019	76
Method Blank	KQ1910713-04	96
Lab Control Sample	KQ1910713-03	80
515-0to26-101918	KQ1910713-01	68
515-0to26-101918	KQ1910713-02	123*

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QA/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/09/19 19:16

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

File ID: J:\MS29\DATA\080919\0809F015.D\ **Lab Code:**KQ1911243-02
Instrument ID: K-MS-29 **Analysis Lot:**646720
Analysis Method: 8270D **Signal ID:**1

		Chrysene-d12	
		Area	**RT**
	Result ==>	288,766	15.41
	Upper Limit ==>	577,532	15.91
	Lower Limit ==>	144,383	14.91
Associated Analyses			
Method Blank	KQ1910713-04	272209	15.41
Lab Control Sample	KQ1910713-03	276837	15.40
O7-0to27-101918	K1906902-001	272359	15.41
515-0to26-101918	K1906902-002	291576	15.41
M4-0to26-101918	K1906902-003	321416	15.41
A1-0to30-102018	K1906902-004	267570	15.41
Q6-0to27-102018	K1906902-005	279281	15.40
A5-0to25-100818	K1906902-006	292599	15.41
A4-0to25-100818	K1906902-007	319422	15.42
A3-0to31-100818	K1906902-008	295092	15.41
A2-0to26-100818	K1906902-009	275460	15.41
A6-0to23-100818	K1906902-010	265941	15.41
C4-0to27-100918	K1906902-011	277597	15.41
A7-0to26-100918	K1906902-012	306724	15.41
D2-0to19-101018	K1906902-013	286181	15.41
F2-0to19-101018	K1906902-014	323288	15.42
H2-0to30-101218	K1906902-015	289244	15.41
J2A3-0to18-101218	K1906902-016	273076	15.41
Q2-0to13-101818	K1906902-017	288541	15.41
G6-0to27-101818	K1906902-018	295479	15.41
T6-0to29-101618	K1906902-019	277629	15.41

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/13/19 16:46

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

File ID: J:\MS29\DATA\081319\0813F002.D\ **Lab Code:**KQ1911229-04
Instrument ID: K-MS-29 **Analysis Lot:**646700
Analysis Method: 8270D **Signal ID:**1

		Chrysene-d12	
		Area	**RT**
	Result ==>	243,381	15.41
	Upper Limit ==>	486,762	15.91
	Lower Limit ==>	121,691	14.91
Associated Analyses			
M4-0to26-101918	K1906902-003	270310	15.41
A4-0to25-100818	K1906902-007	235886	15.41
H2-0to30-101218	K1906902-015	222476	15.41
515-0to26-101918MS	KQ1910713-01	262169	15.42
515-0to26-101918DMS	KQ1910713-02	258034	15.41

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
		Date Analyzed:	08/14/19
		Date Extracted:	08/1/19

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

Sample Name:	515-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-002	**Basis:**	Dry
Analysis Method:	8270D		
Prep Method:	EPA 3541		

		Matrix Spike			Duplicate Matrix Spike					
		KQ1910713-01			KQ1910713-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Bis(2-ethylhexyl) Phthalate	550	982	278	154 *	538	263	-6 *	23-123	58*	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:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/09/19
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

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:	646720

Lab Control Sample
KQ1910713-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Bis(2-ethylhexyl) Phthalate	231	250	92	39-113

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/09/19 19:44
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

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

Sample Name:	Method Blank	**Instrument ID:**	K-MS-29
Lab Code:	KQ1910713-04	**File ID:**	J:\MS29\DATA\080919\0809F016.D\
Analysis Method:	8270D	**Analysis Lot:**	646720,646700
Prep Method:	EPA 3541	**Extraction Lot:**	341603

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ1910713-03	J:\MS29\DATA\080919\0809F017.D\	08/09/19 20:12
O7-0to27-101918	K1906902-001	J:\MS29\DATA\080919\0809F020.D\	08/09/19 21:37
515-0to26-101918	K1906902-002	J:\MS29\DATA\080919\0809F021.D\	08/09/19 22:05
M4-0to26-101918	K1906902-003	J:\MS29\DATA\080919\0809F022.D\	08/09/19 22:33
A1-0to30-102018	K1906902-004	J:\MS29\DATA\080919\0809F023.D\	08/09/19 23:02
Q6-0to27-102018	K1906902-005	J:\MS29\DATA\080919\0809F024.D\	08/09/19 23:30
A5-0to25-100818	K1906902-006	J:\MS29\DATA\080919\0809F025.D\	08/09/19 23:58
A4-0to25-100818	K1906902-007	J:\MS29\DATA\080919\0809F026.D\	08/10/19 00:26
A3-0to31-100818	K1906902-008	J:\MS29\DATA\080919\0809F027.D\	08/10/19 00:55
A2-0to26-100818	K1906902-009	J:\MS29\DATA\080919\0809F028.D\	08/10/19 01:23
A6-0to23-100818	K1906902-010	J:\MS29\DATA\080919\0809F029.D\	08/10/19 01:51
C4-0to27-100918	K1906902-011	J:\MS29\DATA\080919\0809F030.D\	08/10/19 02:19
A7-0to26-100918	K1906902-012	J:\MS29\DATA\080919\0809F031.D\	08/10/19 02:48
D2-0to19-101018	K1906902-013	J:\MS29\DATA\080919\0809F032.D\	08/10/19 03:16
F2-0to19-101018	K1906902-014	J:\MS29\DATA\080919\0809F033.D\	08/10/19 03:44
H2-0to30-101218	K1906902-015	J:\MS29\DATA\080919\0809F034.D\	08/10/19 04:12
J2A3-0to18-101218	K1906902-016	J:\MS29\DATA\080919\0809F035.D\	08/10/19 04:41
Q2-0to13-101818	K1906902-017	J:\MS29\DATA\080919\0809F036.D\	08/10/19 05:09
G6-0to27-101818	K1906902-018	J:\MS29\DATA\080919\0809F037.D\	08/10/19 05:37
T6-0to29-101618	K1906902-019	J:\MS29\DATA\080919\0809F038.D\	08/10/19 06:05
M4-0to26-101918	K1906902-003	J:\MS29\DATA\081319\0813F015.D\	08/13/19 23:24
A4-0to25-100818	K1906902-007	J:\MS29\DATA\081319\0813F016.D\	08/13/19 23:52
H2-0to30-101218	K1906902-015	J:\MS29\DATA\081319\0813F017.D\	08/14/19 00:20
515-0to26-101918MS	KQ1910713-01	J:\MS29\DATA\081319\0813F018.D\	08/14/19 00:49
515-0to26-101918DMS	KQ1910713-02	J:\MS29\DATA\081319\0813F019.D\	08/14/19 01:17

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/09/19 20:12
Sample Matrix:	Sediment	**Date Extracted:**	08/01/19

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

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-29
Lab Code:	KQ1910713-03	**File ID:**	J:\MS29\DATA\080919\0809F017.D\
Analysis Method:	8270D	**Analysis Lot:**	646720,646700
Prep Method:	EPA 3541	**Extraction Lot:**	341603

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ1910713-04	J:\MS29\DATA\080919\0809F016.D\	08/09/19 19:44
O7-0to27-101918	K1906902-001	J:\MS29\DATA\080919\0809F020.D\	08/09/19 21:37
515-0to26-101918	K1906902-002	J:\MS29\DATA\080919\0809F021.D\	08/09/19 22:05
M4-0to26-101918	K1906902-003	J:\MS29\DATA\080919\0809F022.D\	08/09/19 22:33
A1-0to30-102018	K1906902-004	J:\MS29\DATA\080919\0809F023.D\	08/09/19 23:02
Q6-0to27-102018	K1906902-005	J:\MS29\DATA\080919\0809F024.D\	08/09/19 23:30
A5-0to25-100818	K1906902-006	J:\MS29\DATA\080919\0809F025.D\	08/09/19 23:58
A4-0to25-100818	K1906902-007	J:\MS29\DATA\080919\0809F026.D\	08/10/19 00:26
A3-0to31-100818	K1906902-008	J:\MS29\DATA\080919\0809F027.D\	08/10/19 00:55
A2-0to26-100818	K1906902-009	J:\MS29\DATA\080919\0809F028.D\	08/10/19 01:23
A6-0to23-100818	K1906902-010	J:\MS29\DATA\080919\0809F029.D\	08/10/19 01:51
C4-0to27-100918	K1906902-011	J:\MS29\DATA\080919\0809F030.D\	08/10/19 02:19
A7-0to26-100918	K1906902-012	J:\MS29\DATA\080919\0809F031.D\	08/10/19 02:48
D2-0to19-101018	K1906902-013	J:\MS29\DATA\080919\0809F032.D\	08/10/19 03:16
F2-0to19-101018	K1906902-014	J:\MS29\DATA\080919\0809F033.D\	08/10/19 03:44
H2-0to30-101218	K1906902-015	J:\MS29\DATA\080919\0809F034.D\	08/10/19 04:12
J2A3-0to18-101218	K1906902-016	J:\MS29\DATA\080919\0809F035.D\	08/10/19 04:41
Q2-0to13-101818	K1906902-017	J:\MS29\DATA\080919\0809F036.D\	08/10/19 05:09
G6-0to27-101818	K1906902-018	J:\MS29\DATA\080919\0809F037.D\	08/10/19 05:37
T6-0to29-101618	K1906902-019	J:\MS29\DATA\080919\0809F038.D\	08/10/19 06:05
M4-0to26-101918	K1906902-003	J:\MS29\DATA\081319\0813F015.D\	08/13/19 23:24
A4-0to25-100818	K1906902-007	J:\MS29\DATA\081319\0813F016.D\	08/13/19 23:52
H2-0to30-101218	K1906902-015	J:\MS29\DATA\081319\0813F017.D\	08/14/19 00:20
515-0to26-101918MS	KQ1910713-01	J:\MS29\DATA\081319\0813F018.D\	08/14/19 00:49
515-0to26-101918DMS	KQ1910713-02	J:\MS29\DATA\081319\0813F019.D\	08/14/19 01:17

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/13/19 16:18

Tune Summary
Low Level Semivolatile Organic Compounds by GC/MS

File ID: J:\MS29\DATA\081319\0813F001.D\ **Analytical Method:** 8270D
Instrument ID: K-MS-29 **Analysis Lot:** 646700

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	30	60	35.10	868778	Pass
68	69	0	2	1.46	14748	Pass
69	198	0	100	40.68	1006886	Pass
70	69	0	2	0.47	4743	Pass
127	198	40	60	50.34	1246186	Pass
197	198	0	1	0.19	4796	Pass
198	198	100	100	100.00	2475349	Pass
199	198	5	9	6.50	160848	Pass
275	198	10	30	25.50	631210	Pass
365	198	1	100	2.91	72053	Pass
441	443	0.01	100	78.58	305920	Pass
442	198	40	100	81.24	2010965	Pass
443	442	17	23	19.36	389290	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1911229-04	J:\MS29\DATA\081319\0813F002.D\	08/13/19 16:46	
M4-0to26-101918	K1906902-003	J:\MS29\DATA\081319\0813F015.D\	08/13/19 23:24	
A4-0to25-100818	K1906902-007	J:\MS29\DATA\081319\0813F016.D\	08/13/19 23:52	
H2-0to30-101218	K1906902-015	J:\MS29\DATA\081319\0813F017.D\	08/14/19 00:20	
515-0to26-101918	KQ1910713-01	J:\MS29\DATA\081319\0813F018.D\	08/14/19 00:49	
515-0to26-101918	KQ1910713-02	J:\MS29\DATA\081319\0813F019.D\	08/14/19 01:17	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/09/19 18:47

Tune Summary
Low Level Semivolatile Organic Compounds by GC/MS

File ID: J:\MS29\DATA\080919\0809F014.D\ **Analytical Method:** 8270D
Instrument ID: K-MS-29 **Analysis Lot:** 646720

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	30	60	30.19	639296	Pass
68	69	0	2	1.42	11561	Pass
69	198	0	100	38.45	814304	Pass
70	69	0	2	0.41	3330	Pass
127	198	40	60	50.47	1068830	Pass
197	198	0	1	0.00	0	Pass
198	198	100	100	100.00	2117632	Pass
199	198	5	9	6.99	148096	Pass
275	198	10	30	24.37	516032	Pass
365	198	1	100	2.13	45016	Pass
441	443	0.01	100	76.08	242816	Pass
442	198	40	100	74.32	1573888	Pass
443	442	17	23	20.28	319168	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1911243-02	J:\MS29\DATA\080919\0809F015.D\	08/09/19 19:16	
Method Blank	KQ1910713-04	J:\MS29\DATA\080919\0809F016.D\	08/09/19 19:44	
Lab Control Sample	KQ1910713-03	J:\MS29\DATA\080919\0809F017.D\	08/09/19 20:12	
O7-0to27-101918	K1906902-001	J:\MS29\DATA\080919\0809F020.D\	08/09/19 21:37	
515-0to26-101918	K1906902-002	J:\MS29\DATA\080919\0809F021.D\	08/09/19 22:05	
M4-0to26-101918	K1906902-003	J:\MS29\DATA\080919\0809F022.D\	08/09/19 22:33	
A1-0to30-102018	K1906902-004	J:\MS29\DATA\080919\0809F023.D\	08/09/19 23:02	
Q6-0to27-102018	K1906902-005	J:\MS29\DATA\080919\0809F024.D\	08/09/19 23:30	
A5-0to25-100818	K1906902-006	J:\MS29\DATA\080919\0809F025.D\	08/09/19 23:58	
A4-0to25-100818	K1906902-007	J:\MS29\DATA\080919\0809F026.D\	08/10/19 00:26	
A3-0to31-100818	K1906902-008	J:\MS29\DATA\080919\0809F027.D\	08/10/19 00:55	
A2-0to26-100818	K1906902-009	J:\MS29\DATA\080919\0809F028.D\	08/10/19 01:23	
A6-0to23-100818	K1906902-010	J:\MS29\DATA\080919\0809F029.D\	08/10/19 01:51	
C4-0to27-100918	K1906902-011	J:\MS29\DATA\080919\0809F030.D\	08/10/19 02:19	
A7-0to26-100918	K1906902-012	J:\MS29\DATA\080919\0809F031.D\	08/10/19 02:48	
D2-0to19-101018	K1906902-013	J:\MS29\DATA\080919\0809F032.D\	08/10/19 03:16	
F2-0to19-101018	K1906902-014	J:\MS29\DATA\080919\0809F033.D\	08/10/19 03:44	
H2-0to30-101218	K1906902-015	J:\MS29\DATA\080919\0809F034.D\	08/10/19 04:12	
J2A3-0to18-101218	K1906902-016	J:\MS29\DATA\080919\0809F035.D\	08/10/19 04:41	

Q2-0to13-101818	K1906902-017	J:\MS29\DATA\080919\0809F036.D\	08/10/19 05:09
G6-0to27-101818	K1906902-018	J:\MS29\DATA\080919\0809F037.D\	08/10/19 05:37
T6-0to29-101618	K1906902-019	J:\MS29\DATA\080919\0809F038.D\	08/10/19 06:05

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/7/2019

Initial Calibration Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1900326 **Signal ID:** 1
Instrument ID: K-MS-29

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900326-01	SVO_LL ICAL @ 0.05ppm | SVM61-59A	J:\MS29\DATA\080719B\0807B003.D	08/07/2019 10:27
02	KC1900326-02	SVO_LL ICAL @ 0.10ppm | SVM61-59B	J:\MS29\DATA\080719B\0807B004.D	08/07/2019 10:56
03	KC1900326-03	SVO_LL ICAL @ 0.20ppm | SVM61-59C	J:\MS29\DATA\080719B\0807B005.D	08/07/2019 11:24
04	KC1900326-04	SVO_LL ICAL @ 0.50ppm | SVM61-59D	J:\MS29\DATA\080719B\0807B006.D	08/07/2019 11:52
05	KC1900326-05	SVO_LL ICAL @ 1.0ppm | SVM61-59E	J:\MS29\DATA\080719B\0807B007.D	08/07/2019 12:21
06	KC1900326-06	SVO_LL ICAL @ 2.0ppm | SVM61-59F	J:\MS29\DATA\080719B\0807B008.D	08/07/2019 12:49
07	KC1900326-07	SVO_LL ICAL @ 3.0ppm | SVM61-59G	J:\MS29\DATA\080719B\0807B009.D	08/07/2019 13:18
08	KC1900326-08	SVO_LL ICAL @ 5.0ppm | SVM61-59H	J:\MS29\DATA\080719B\0807B010.D	08/07/2019 13:46
09	KC1900326-09	SVO_LL ICAL @ 7.0ppm | SVM61-59I	J:\MS29\DATA\080719B\0807B011.D	08/07/2019 14:14
10	KC1900326-10	SVO_LL ICAL @ 10ppm | SVM61-59J	J:\MS29\DATA\080719B\0807B012.D	08/07/2019 14:43

Analyte

Bis(2-ethylhexyl) Phthalate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	50.000	0.6787	02	100.000	0.754	03	200.000	0.6522	04	500.000	0.6643
05	1000.000	0.7221	06	2000.000	0.7687	07	3000.000	0.7798	08	5000.000	0.814
09	7000.000	0.8532	10	10000.000	0.8111						

p-Terphenyl-d14

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	50.000	0.8576	02	100.000	0.8716	03	200.000	0.7924	04	500.000	0.7917
05	1000.000	0.7621	06	2000.000	0.7742	07	3000.000	0.7875	08	5000.000	0.8037
09	7000.000	0.8561	10	10000.000	0.8093						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/7/2019

Initial Calibration Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1900326 **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	9.2	≤20	0.7498	0.010
p-Terphenyl-d14	SURR	Average RF	% RSD	4.7	≤20	0.8106	0.010

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/7/2019

Initial Calibration Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1900336 **Signal ID:** 1
Instrument ID: K-MS-29

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900336-01	SVO_LL ICAL @ 0.05ppm | SVM61-59A	J:\MS29\DATA\080719\0807F003.D	08/07/2019 10:27
02	KC1900336-02	SVO_LL ICAL @ 0.10ppm | SVM61-59B	J:\MS29\DATA\080719\0807F004.D	08/07/2019 10:56
03	KC1900336-03	SVO_LL ICAL @ 0.20ppm | SVM61-59C	J:\MS29\DATA\080719\0807F005.D	08/07/2019 11:24
04	KC1900336-04	SVO_LL ICAL @ 0.50ppm | SVM61-59D	J:\MS29\DATA\080719\0807F006.D	08/07/2019 11:52
05	KC1900336-05	SVO_LL ICAL @ 1.0ppm | SVM61-59E	J:\MS29\DATA\080719\0807F007.D	08/07/2019 12:21
06	KC1900336-06	SVO_LL ICAL @ 2.0ppm | SVM61-59F	J:\MS29\DATA\080719\0807F008.D	08/07/2019 12:49
07	KC1900336-07	SVO_LL ICAL @ 3.0ppm | SVM61-59G	J:\MS29\DATA\080719\0807F009.D	08/07/2019 13:18
08	KC1900336-08	SVO_LL ICAL @ 5.0ppm | SVM61-59H	J:\MS29\DATA\080719\0807F010.D	08/07/2019 13:46
09	KC1900336-09	SVO_LL ICAL @ 7.0ppm | SVM61-59I	J:\MS29\DATA\080719\0807F011.D	08/07/2019 14:14
10	KC1900336-10	SVO_LL ICAL @ 10ppm | SVM61-59J	J:\MS29\DATA\080719\0807F012.D	08/07/2019 14:43

Analyte

Bis(2-ethylhexyl) Phthalate

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	50.000	0.6787	02	100.000	0.754	03	200.000	0.6522	04	500.000	0.6643
05	1000.000	0.7221	06	2000.000	0.7687	07	3000.000	0.7798	08	5000.000	0.8141
09	7000.000	0.8533	10	10000.000	0.8111						

p-Terphenyl-d14

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	50.000	0.8576	02	100.000	0.8716	03	200.000	0.7924	04	500.000	0.7917
05	1000.000	0.7621	06	2000.000	0.7742	07	3000.000	0.7875	08	5000.000	0.8037
09	7000.000	0.8561	10	10000.000	0.8093						

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/7/2019

Initial Calibration Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1900336 **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	9.2	≤20	0.7498	0.010
p-Terphenyl-d14	SURR	Average RF	% RSD	4.7	≤20	0.8106	0.010

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/7/2019

Initial Calibration Verification Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1900326 **Signal ID:** 1
Instrument ID: K-MS-29

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1900326-11	SVO_LL ICV @ 3.0ppm | SVM61-57B	J:\MS29\DATA\080719B\0807B013.D	08/07/2019 15:11

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	3000	3010	7.498E-1	7.527E-1	0.379	±30	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
p-Terphenyl-d14	3000	2910	8.106E-1	7.86E-1	-3.038	±30	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 8/7/2019

Initial Calibration Verification Summary
Low Level Semivolatile Organic Compounds by GC/MS

Calibration ID: KC1900336 **Signal ID:** 1
Instrument ID: K-MS-29

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC1900336-11	SVO_LL ICV @ 3.0ppm | SVM61-57B	J:\MS29\DATA\080719\0807F013.D	08/07/2019 15:11

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	3000	3010	7.498E-1	7.527E-1	0.377	±30	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
p-Terphenyl-d14	3000	2910	8.106E-1	7.86E-1	-3.038	±30	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/13/19 16:46

Continuing Calibration Verification (CCV) Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Calibration Date:**	8/7/2019
File ID:	J:\MS29\DATA\081319\0813F002.D\	**Calibration ID:**	KC1900336
Signal ID:	1	**Analysis Lot:**	646700
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	3000	3220	0.7498	0.8055	7.4	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
p-Terphenyl-d14	3000	3280	0.8106	0.8872	9.4	NA	±20	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/09/19 19:16

Continuing Calibration Verification (CCV) Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method:	8270D	**Calibration Date:**	8/7/2019
File ID:	J:\MS29\DATA\080919\0809F015.D\	**Calibration ID:**	KC1900326
Signal ID:	1	**Analysis Lot:**	646720
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Bis(2-ethylhexyl) Phthalate	3000	3300	0.7498	0.8248	10.0	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
p-Terphenyl-d14	3000	3140	0.8106	0.849	4.7	NA	±20	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**646700
Instrument ID:K-MS-29

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS29\DATA\081319\0813F014.D\	ZZZZZZZ	ZZZZZZZ	3/13/2019	22:47:00	
J:\MS29\DATA\081319\0813F001.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	16:18:00	
J:\MS29\DATA\081319\0813F001.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	16:18:00	
J:\MS29\DATA\081319\0813F002.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	16:46:00	
J:\MS29\DATA\081319\0813F002.D\	Continuing Calibration Verification	KQ1911229-04	8/13/2019	16:46:00	
J:\MS29\DATA\081319\0813F005.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	18:14:00	
J:\MS29\DATA\081319\0813F006.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	18:42:00	
J:\MS29\DATA\081319\0813F007.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	19:11:00	
J:\MS29\DATA\081319\0813F008.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	19:40:00	
J:\MS29\DATA\081319\0813F009.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	20:08:00	
J:\MS29\DATA\081319\0813F010.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	20:37:00	
J:\MS29\DATA\081319\0813F011.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	21:13:00	
J:\MS29\DATA\081319\0813F012.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	21:42:00	
J:\MS29\DATA\081319\0813F013.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	22:10:00	
J:\MS29\DATA\081319\0813F014.D\	ZZZZZZZ	ZZZZZZZ	8/13/2019	22:47:00	
J:\MS29\DATA\081319\0813F015.D\	M4-0to26-101918	K1906902-003	8/13/2019	23:24:00	
J:\MS29\DATA\081319\0813F016.D\	A4-0to25-100818	K1906902-007	8/13/2019	23:52:00	
J:\MS29\DATA\081319\0813F017.D\	H2-0to30-101218	K1906902-015	8/14/2019	00:20:00	
J:\MS29\DATA\081319\0813F018.D\	515-0to26-101918 MS	KQ1910713-01	8/14/2019	00:49:00	
J:\MS29\DATA\081319\0813F019.D\	515-0to26-101918 DMS	KQ1910713-02	8/14/2019	01:17:00	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Low Level Semivolatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**646720
Instrument ID:K-MS-29

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS29\DATA\080919\0809F014.D\	ZZZZZZZ	ZZZZZZZ	8/9/2019	18:47:00	
J:\MS29\DATA\080919\0809F015.D\	Continuing Calibration Verification	KQ1911243-02	8/9/2019	19:16:00	
J:\MS29\DATA\080919\0809F016.D\	Method Blank	KQ1910713-04	8/9/2019	19:44:00	
J:\MS29\DATA\080919\0809F017.D\	Lab Control Sample	KQ1910713-03	8/9/2019	20:12:00	
J:\MS29\DATA\080919\0809F020.D\	O7-0to27-101918	K1906902-001	8/9/2019	21:37:00	
J:\MS29\DATA\080919\0809F021.D\	515-0to26-101918	K1906902-002	8/9/2019	22:05:00	
J:\MS29\DATA\080919\0809F022.D\	M4-0to26-101918	K1906902-003	8/9/2019	22:33:00	
J:\MS29\DATA\080919\0809F023.D\	A1-0to30-102018	K1906902-004	8/9/2019	23:02:00	
J:\MS29\DATA\080919\0809F024.D\	Q6-0to27-102018	K1906902-005	8/9/2019	23:30:00	
J:\MS29\DATA\080919\0809F025.D\	A5-0to25-100818	K1906902-006	8/9/2019	23:58:00	
J:\MS29\DATA\080919\0809F026.D\	A4-0to25-100818	K1906902-007	8/10/2019	00:26:00	
J:\MS29\DATA\080919\0809F027.D\	A3-0to31-100818	K1906902-008	8/10/2019	00:55:00	
J:\MS29\DATA\080919\0809F028.D\	A2-0to26-100818	K1906902-009	8/10/2019	01:23:00	
J:\MS29\DATA\080919\0809F029.D\	A6-0to23-100818	K1906902-010	8/10/2019	01:51:00	
J:\MS29\DATA\080919\0809F030.D\	C4-0to27-100918	K1906902-011	8/10/2019	02:19:00	
J:\MS29\DATA\080919\0809F031.D\	A7-0to26-100918	K1906902-012	8/10/2019	02:48:00	
J:\MS29\DATA\080919\0809F032.D\	D2-0to19-101018	K1906902-013	8/10/2019	03:16:00	
J:\MS29\DATA\080919\0809F033.D\	F2-0to19-101018	K1906902-014	8/10/2019	03:44:00	
J:\MS29\DATA\080919\0809F034.D\	H2-0to30-101218	K1906902-015	8/10/2019	04:12:00	
J:\MS29\DATA\080919\0809F035.D\	J2A3-0to18-101218	K1906902-016	8/10/2019	04:41:00	
J:\MS29\DATA\080919\0809F036.D\	Q2-0to13-101818	K1906902-017	8/10/2019	05:09:00	
J:\MS29\DATA\080919\0809F037.D\	G6-0to27-101818	K1906902-018	8/10/2019	05:37:00	
J:\MS29\DATA\080919\0809F038.D\	T6-0to29-101618	K1906902-019	8/10/2019	06:05:00	

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

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

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
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:** 341603
Analytical Method: 8270D **Extraction Date:** 08/01/19 10:08

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
O7-0to27-101918	K1906902-001	10/19/18	10/22/18	40.480 g	2 mL	38.8
515-0to26-101918	K1906902-002	10/19/18	10/22/18	40.126 g	2 mL	47.2
M4-0to26-101918	K1906902-003	10/19/18	10/22/18	40.040 g	2 mL	44.7
A1-0to30-102018	K1906902-004	10/20/18	10/22/18	40.376 g	2 mL	56.0
Q6-0to27-102018	K1906902-005	10/20/18	10/22/18	40.366 g	2 mL	36.0
A5-0to25-100818	K1906902-006	10/8/18	10/10/18	40.161 g	2 mL	47.3
A4-0to25-100818	K1906902-007	10/8/18	10/10/18	40.122 g	2 mL	48.9
A3-0to31-100818	K1906902-008	10/8/18	10/10/18	40.250 g	2 mL	44.1
A2-0to26-100818	K1906902-009	10/8/18	10/10/18	40.103 g	2 mL	46.1
A6-0to23-100818	K1906902-010	10/8/18	10/10/18	40.246 g	2 mL	44.1
C4-0to27-100918	K1906902-011	10/9/18	10/10/18	40.423 g	2 mL	40.3
A7-0to26-100918	K1906902-012	10/9/18	10/10/18	40.341 g	2 mL	52.6
D2-0to19-101018	K1906902-013	10/10/18	10/15/18	40.086 g	2 mL	71.5
F2-0to19-101018	K1906902-014	10/10/18	10/15/18	40.440 g	2 mL	72.6
H2-0to30-101218	K1906902-015	10/12/18	10/15/18	40.326 g	2 mL	48.9
J2A3-0to18-101218	K1906902-016	10/12/18	10/15/18	40.201 g	2 mL	77.7
Q2-0to13-101818	K1906902-017	10/18/18	10/19/18	40.066 g	2 mL	68.6
G6-0to27-101818	K1906902-018	10/18/18	10/19/18	40.385 g	2 mL	50.7
T6-0to29-101618	K1906902-019	10/16/18	10/19/18	40.094 g	2 mL	38.1
Matrix Spike	KQ1910713-01MS	10/19/18	10/22/18	38.062 g	2 mL	47.2
Duplicate Matrix Spike	KQ1910713-02DMS	10/19/18	10/22/18	40.257 g	2 mL	47.2
Lab Control Sample	KQ1910713-03LCS	NA	NA	20.00 g	2 mL	
Method Blank	KQ1910713-04MB	NA	NA	40.4800 g	2 mL	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 15:36
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	O7-0to27-101918	**Units:**	ug/Kg
Lab Code:	K1906902-001	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**0.22** J	1.3	0.16	1	08/05/19 15:32	7/31/19	
Acenaphthene	**0.77**	0.64	0.061	1	08/05/19 15:32	7/31/19	
Acenaphthylene	**0.78**	0.64	0.060	1	08/05/19 15:32	7/31/19	
Anthracene	**2.3**	0.64	0.049	1	08/05/19 15:32	7/31/19	
Benz(a)anthracene	**10**	0.64	0.049	1	08/05/19 15:32	7/31/19	
Benzo(a)pyrene	**19**	0.64	0.090	1	08/05/19 15:32	7/31/19	
Benzo(b)fluoranthene	**22**	0.64	0.085	1	08/05/19 15:32	7/31/19	
Benzo(g,h,i)perylene	**16**	0.64	0.13	1	08/05/19 15:32	7/31/19	
Benzo(k)fluoranthene	**8.4**	0.64	0.074	1	08/05/19 15:32	7/31/19	
Chrysene	**14**	0.64	0.071	1	08/05/19 15:32	7/31/19	
Dibenz(a,h)anthracene	**3.4**	0.64	0.12	1	08/05/19 15:32	7/31/19	
Dibenzofuran	**0.37** J	0.64	0.058	1	08/05/19 15:32	7/31/19	
Fluoranthene	**17**	0.64	0.063	1	08/05/19 15:32	7/31/19	
Fluorene	**0.98**	0.64	0.067	1	08/05/19 15:32	7/31/19	
Indeno(1,2,3-cd)pyrene	**16**	0.64	0.13	1	08/05/19 15:32	7/31/19	
Naphthalene	**0.44** J	1.3	0.20	1	08/05/19 15:32	7/31/19	
Phenanthrene	**6.1**	0.64	0.085	1	08/05/19 15:32	7/31/19	
Pyrene	**22**	0.64	0.065	1	08/05/19 15:32	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	61	23 - 110	08/05/19 15:32	
Fluorene-d10	70	26 - 102	08/05/19 15:32	
Terphenyl-d14	79	27 - 115	08/05/19 15:32	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 13:11
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	515-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-002	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**12**	5.3	0.64	5	08/06/19 06:58	7/31/19	
Acenaphthene	**65**	2.6	0.25	5	08/06/19 06:58	7/31/19	
Acenaphthylene	**7.0**	2.6	0.25	5	08/06/19 06:58	7/31/19	
Anthracene	**190**	2.6	0.21	5	08/06/19 06:58	7/31/19	
Benz(a)anthracene	**420**	2.6	0.21	5	08/06/19 06:58	7/31/19	
Benzo(a)pyrene	**410**	2.6	0.38	5	08/06/19 06:58	7/31/19	
Benzo(b)fluoranthene	**480**	2.6	0.35	5	08/06/19 06:58	7/31/19	
Benzo(g,h,i)perylene	**220**	2.6	0.51	5	08/06/19 06:58	7/31/19	
Benzo(k)fluoranthene	**190**	2.6	0.31	5	08/06/19 06:58	7/31/19	
Chrysene	**440**	2.6	0.30	5	08/06/19 06:58	7/31/19	
Dibenz(a,h)anthracene	**67**	2.6	0.46	5	08/06/19 06:58	7/31/19	
Dibenzofuran	**30**	2.6	0.24	5	08/06/19 06:58	7/31/19	
Fluoranthene	**730**	2.6	0.26	5	08/06/19 06:58	7/31/19	
Fluorene	**78**	2.6	0.28	5	08/06/19 06:58	7/31/19	
Indeno(1,2,3-cd)pyrene	**260**	2.6	0.51	5	08/06/19 06:58	7/31/19	
Naphthalene	**16**	5.3	0.80	5	08/06/19 06:58	7/31/19	
Phenanthrene	**620**	2.6	0.35	5	08/06/19 06:58	7/31/19	
Pyrene	**760**	2.6	0.27	5	08/06/19 06:58	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	70	23 - 110	08/06/19 06:58	
Fluorene-d10	70	26 - 102	08/06/19 06:58	
Terphenyl-d14	86	27 - 115	08/06/19 06:58	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18 13:11
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	M4-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-003	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**3.4**	1.1	0.14	1	08/06/19 10:10	7/31/19	
Acenaphthene	**13**	0.56	0.053	1	08/06/19 10:10	7/31/19	
Acenaphthylene	**8.9**	0.56	0.052	1	08/06/19 10:10	7/31/19	
Anthracene	**19**	0.56	0.043	1	08/06/19 10:10	7/31/19	
Benz(a)anthracene	**81**	0.56	0.043	1	08/06/19 10:10	7/31/19	
Benzo(a)pyrene	**93**	0.56	0.079	1	08/06/19 10:10	7/31/19	
Benzo(b)fluoranthene	**130**	0.56	0.074	1	08/06/19 10:10	7/31/19	
Benzo(g,h,i)perylene	**68**	0.56	0.11	1	08/06/19 10:10	7/31/19	
Benzo(k)fluoranthene	**47**	0.56	0.064	1	08/06/19 10:10	7/31/19	
Chrysene	**120**	0.56	0.062	1	08/06/19 10:10	7/31/19	
Dibenz(a,h)anthracene	**16**	0.56	0.097	1	08/06/19 10:10	7/31/19	
Dibenzofuran	**3.6**	0.56	0.051	1	08/06/19 10:10	7/31/19	
Fluoranthene	**140**	0.56	0.055	1	08/06/19 10:10	7/31/19	
Fluorene	**6.6**	0.56	0.059	1	08/06/19 10:10	7/31/19	
Indeno(1,2,3-cd)pyrene	**71**	0.56	0.11	1	08/06/19 10:10	7/31/19	
Naphthalene	**6.9**	1.1	0.17	1	08/06/19 10:10	7/31/19	
Phenanthrene	**73**	0.56	0.074	1	08/06/19 10:10	7/31/19	
Pyrene	**170**	0.56	0.056	1	08/06/19 10:10	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	56	23 - 110	08/06/19 10:10	
Fluorene-d10	62	26 - 102	08/06/19 10:10	
Terphenyl-d14	71	27 - 115	08/06/19 10:10	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
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:	K1906902-004	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	ND	U	0.88	0.12	1	08/05/19 16:00	7/31/19	
Acenaphthene	ND	U	0.44	0.047	1	08/05/19 16:00	7/31/19	
Acenaphthylene	ND	U	0.44	0.046	1	08/05/19 16:00	7/31/19	
Anthracene	ND	U	0.44	0.038	1	08/05/19 16:00	7/31/19	
Benz(a)anthracene	**0.056**	**J**	0.44	0.038	1	08/05/19 16:00	7/31/19	
Benzo(a)pyrene	ND	Ui	0.44	0.11	1	08/05/19 16:00	7/31/19	
Benzo(b)fluoranthene	ND	U	0.44	0.066	1	08/05/19 16:00	7/31/19	
Benzo(g,h,i)perylene	ND	U	0.44	0.095	1	08/05/19 16:00	7/31/19	
Benzo(k)fluoranthene	ND	U	0.44	0.057	1	08/05/19 16:00	7/31/19	
Chrysene	ND	U	0.44	0.055	1	08/05/19 16:00	7/31/19	
Dibenz(a,h)anthracene	ND	U	0.44	0.086	1	08/05/19 16:00	7/31/19	
Dibenzofuran	ND	U	0.44	0.045	1	08/05/19 16:00	7/31/19	
Fluoranthene	**0.053**	**J**	0.44	0.049	1	08/05/19 16:00	7/31/19	
Fluorene	ND	U	0.44	0.052	1	08/05/19 16:00	7/31/19	
Indeno(1,2,3-cd)pyrene	ND	U	0.44	0.096	1	08/05/19 16:00	7/31/19	
Naphthalene	ND	U	0.88	0.15	1	08/05/19 16:00	7/31/19	
Phenanthrene	**0.11**	**J**	0.44	0.066	1	08/05/19 16:00	7/31/19	
Pyrene	**0.061**	**J**	0.44	0.050	1	08/05/19 16:00	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	54	23 - 110	08/05/19 16:00	
Fluorene-d10	63	26 - 102	08/05/19 16:00	
Terphenyl-d14	68	27 - 115	08/05/19 16:00	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/20/18 09:19
Sample Matrix:	Sediment	**Date Received:**	10/22/18 10:45
Sample Name:	Q6-0to27-102018	**Units:**	ug/Kg
Lab Code:	K1906902-005	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	ND	U	1.4	0.17	1	08/05/19 16:29	7/31/19	
Acenaphthene	**0.29**	**J**	0.69	0.066	1	08/05/19 16:29	7/31/19	
Acenaphthylene	**0.60**	**J**	0.69	0.064	1	08/05/19 16:29	7/31/19	
Anthracene	**1.3**		0.69	0.053	1	08/05/19 16:29	7/31/19	
Benz(a)anthracene	**4.8**		0.69	0.053	1	08/05/19 16:29	7/31/19	
Benzo(a)pyrene	**5.4**		0.69	0.097	1	08/05/19 16:29	7/31/19	
Benzo(b)fluoranthene	**8.0**		0.69	0.092	1	08/05/19 16:29	7/31/19	
Benzo(g,h,i)perylene	**4.2**		0.69	0.14	1	08/05/19 16:29	7/31/19	
Benzo(k)fluoranthene	**3.5**		0.69	0.079	1	08/05/19 16:29	7/31/19	
Chrysene	**9.3**		0.69	0.077	1	08/05/19 16:29	7/31/19	
Dibenz(a,h)anthracene	**0.95**		0.69	0.12	1	08/05/19 16:29	7/31/19	
Dibenzofuran	**0.24**	**J**	0.69	0.063	1	08/05/19 16:29	7/31/19	
Fluoranthene	**8.1**		0.69	0.068	1	08/05/19 16:29	7/31/19	
Fluorene	**0.48**	**J**	0.69	0.073	1	08/05/19 16:29	7/31/19	
Indeno(1,2,3-cd)pyrene	**4.2**		0.69	0.14	1	08/05/19 16:29	7/31/19	
Naphthalene	**0.33**	**J**	1.4	0.21	1	08/05/19 16:29	7/31/19	
Phenanthrene	**3.3**		0.69	0.092	1	08/05/19 16:29	7/31/19	
Pyrene	**10**		0.69	0.070	1	08/05/19 16:29	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	54	23 - 110	08/05/19 16:29	
Fluorene-d10	60	26 - 102	08/05/19 16:29	
Terphenyl-d14	68	27 - 115	08/05/19 16:29	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 14:38
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A5-0to25-100818	**Units:**	ug/Kg
Lab Code:	K1906902-006	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**1.8**	1.1	0.13	1	08/05/19 16:57	7/31/19	
Acenaphthene	**3.7**	0.53	0.050	1	08/05/19 16:57	7/31/19	
Acenaphthylene	**4.1**	0.53	0.049	1	08/05/19 16:57	7/31/19	
Anthracene	**7.8**	0.53	0.040	1	08/05/19 16:57	7/31/19	
Benz(a)anthracene	**36**	0.53	0.040	1	08/05/19 16:57	7/31/19	
Benzo(a)pyrene	**43**	0.53	0.074	1	08/05/19 16:57	7/31/19	
Benzo(b)fluoranthene	**67**	0.53	0.070	1	08/05/19 16:57	7/31/19	
Benzo(g,h,i)perylene	**33**	0.53	0.10	1	08/05/19 16:57	7/31/19	
Benzo(k)fluoranthene	**24**	0.53	0.060	1	08/05/19 16:57	7/31/19	
Chrysene	**68**	0.53	0.058	1	08/05/19 16:57	7/31/19	
Dibenz(a,h)anthracene	**7.0**	0.53	0.091	1	08/05/19 16:57	7/31/19	
Dibenzofuran	**1.8**	0.53	0.048	1	08/05/19 16:57	7/31/19	
Fluoranthene	**74**	0.53	0.052	1	08/05/19 16:57	7/31/19	
Fluorene	**3.7**	0.53	0.055	1	08/05/19 16:57	7/31/19	
Indeno(1,2,3-cd)pyrene	**34**	0.53	0.11	1	08/05/19 16:57	7/31/19	
Naphthalene	**4.2**	1.1	0.16	1	08/05/19 16:57	7/31/19	
Phenanthrene	**35**	0.53	0.070	1	08/05/19 16:57	7/31/19	
Pyrene	**87**	0.53	0.053	1	08/05/19 16:57	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	49	23 - 110	08/05/19 16:57	
Fluorene-d10	58	26 - 102	08/05/19 16:57	
Terphenyl-d14	65	27 - 115	08/05/19 16:57	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 13:26
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A4-0to25-100818	**Units:**	ug/Kg
Lab Code:	K1906902-007	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**16**	5.1	0.61	5	08/06/19 07:25	7/31/19	
Acenaphthene	**23**	2.5	0.24	5	08/06/19 07:25	7/31/19	
Acenaphthylene	**20**	2.5	0.24	5	08/06/19 07:25	7/31/19	
Anthracene	**41**	2.5	0.20	5	08/06/19 07:25	7/31/19	
Benz(a)anthracene	**150**	2.5	0.20	5	08/06/19 07:25	7/31/19	
Benzo(a)pyrene	**190**	2.5	0.36	5	08/06/19 07:25	7/31/19	
Benzo(b)fluoranthene	**240**	2.5	0.34	5	08/06/19 07:25	7/31/19	
Benzo(g,h,i)perylene	**150**	2.5	0.49	5	08/06/19 07:25	7/31/19	
Benzo(k)fluoranthene	**89**	2.5	0.29	5	08/06/19 07:25	7/31/19	
Chrysene	**230**	2.5	0.28	5	08/06/19 07:25	7/31/19	
Dibenz(a,h)anthracene	**29**	2.5	0.44	5	08/06/19 07:25	7/31/19	
Dibenzofuran	**13**	2.5	0.23	5	08/06/19 07:25	7/31/19	
Fluoranthene	**310**	2.5	0.25	5	08/06/19 07:25	7/31/19	
Fluorene	**20**	2.5	0.27	5	08/06/19 07:25	7/31/19	
Indeno(1,2,3-cd)pyrene	**150**	2.5	0.49	5	08/06/19 07:25	7/31/19	
Naphthalene	**29**	5.1	0.76	5	08/06/19 07:25	7/31/19	
Phenanthrene	**190**	2.5	0.34	5	08/06/19 07:25	7/31/19	
Pyrene	**390**	2.5	0.26	5	08/06/19 07:25	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	89	23 - 110	08/06/19 07:25	
Fluorene-d10	90	26 - 102	08/06/19 07:25	
Terphenyl-d14	103	27 - 115	08/06/19 07:25	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 11:14
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A3-0to31-100818	**Units:**	ug/Kg
Lab Code:	K1906902-008	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**1.4**	1.1	0.14	1	08/05/19 17:25	7/31/19	
Acenaphthene	**1.8**	0.56	0.053	1	08/05/19 17:25	7/31/19	
Acenaphthylene	**8.0**	0.56	0.052	1	08/05/19 17:25	7/31/19	
Anthracene	**12**	0.56	0.043	1	08/05/19 17:25	7/31/19	
Benz(a)anthracene	**170**	0.56	0.043	1	08/05/19 17:25	7/31/19	
Benzo(a)pyrene	**93**	0.56	0.079	1	08/05/19 17:25	7/31/19	
Benzo(b)fluoranthene	**190**	0.56	0.075	1	08/05/19 17:25	7/31/19	
Benzo(g,h,i)perylene	**34**	0.56	0.11	1	08/05/19 17:25	7/31/19	
Benzo(k)fluoranthene	**70**	0.56	0.064	1	08/05/19 17:25	7/31/19	
Chrysene	**250**	2.8	0.31	5	08/06/19 12:01	7/31/19	
Dibenz(a,h)anthracene	**11**	0.56	0.097	1	08/05/19 17:25	7/31/19	
Dibenzofuran	**1.1**	0.56	0.051	1	08/05/19 17:25	7/31/19	
Fluoranthene	**170**	0.56	0.055	1	08/05/19 17:25	7/31/19	
Fluorene	**2.9**	0.56	0.059	1	08/05/19 17:25	7/31/19	
Indeno(1,2,3-cd)pyrene	**46**	0.56	0.11	1	08/05/19 17:25	7/31/19	
Naphthalene	**2.0**	1.1	0.17	1	08/05/19 17:25	7/31/19	
Phenanthrene	**22**	0.56	0.075	1	08/05/19 17:25	7/31/19	
Pyrene	**210**	0.56	0.057	1	08/05/19 17:25	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	60	23 - 110	08/05/19 17:25	
Fluorene-d10	69	26 - 102	08/05/19 17:25	
Terphenyl-d14	82	27 - 115	08/05/19 17:25	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 14:04
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A2-0to26-100818	**Units:**	ug/Kg
Lab Code:	K1906902-009	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**7.0**	5.4	0.65	5	08/06/19 07:52	7/31/19	
Acenaphthene	**13**	2.7	0.26	5	08/06/19 07:52	7/31/19	
Acenaphthylene	**23**	2.7	0.25	5	08/06/19 07:52	7/31/19	
Anthracene	**51**	2.7	0.21	5	08/06/19 07:52	7/31/19	
Benz(a)anthracene	**210**	2.7	0.21	5	08/06/19 07:52	7/31/19	
Benzo(a)pyrene	**230**	2.7	0.38	5	08/06/19 07:52	7/31/19	
Benzo(b)fluoranthene	**320**	2.7	0.36	5	08/06/19 07:52	7/31/19	
Benzo(g,h,i)perylene	**170**	2.7	0.52	5	08/06/19 07:52	7/31/19	
Benzo(k)fluoranthene	**110**	2.7	0.31	5	08/06/19 07:52	7/31/19	
Chrysene	**380**	2.7	0.30	5	08/06/19 07:52	7/31/19	
Dibenz(a,h)anthracene	**37**	2.7	0.47	5	08/06/19 07:52	7/31/19	
Dibenzofuran	**8.3**	2.7	0.25	5	08/06/19 07:52	7/31/19	
Fluoranthene	**530**	2.7	0.27	5	08/06/19 07:52	7/31/19	
Fluorene	**19**	2.7	0.29	5	08/06/19 07:52	7/31/19	
Indeno(1,2,3-cd)pyrene	**180**	2.7	0.52	5	08/06/19 07:52	7/31/19	
Naphthalene	**17**	5.4	0.82	5	08/06/19 07:52	7/31/19	
Phenanthrene	**140**	2.7	0.36	5	08/06/19 07:52	7/31/19	
Pyrene	**520**	2.7	0.28	5	08/06/19 07:52	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	66	23 - 110	08/06/19 07:52	
Fluorene-d10	64	26 - 102	08/06/19 07:52	
Terphenyl-d14	78	27 - 115	08/06/19 07:52	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/08/18 16:08
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A6-0to23-100818	**Units:**	ug/Kg
Lab Code:	K1906902-010	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**0.80** J	1.1	0.14	1	08/05/19 17:54	7/31/19	
Acenaphthene	**1.6**	0.57	0.054	1	08/05/19 17:54	7/31/19	
Acenaphthylene	**1.6**	0.57	0.053	1	08/05/19 17:54	7/31/19	
Anthracene	**3.3**	0.57	0.043	1	08/05/19 17:54	7/31/19	
Benz(a)anthracene	**21**	0.57	0.043	1	08/05/19 17:54	7/31/19	
Benzo(a)pyrene	**22**	0.57	0.080	1	08/05/19 17:54	7/31/19	
Benzo(b)fluoranthene	**34**	0.57	0.075	1	08/05/19 17:54	7/31/19	
Benzo(g,h,i)perylene	**15**	0.57	0.11	1	08/05/19 17:54	7/31/19	
Benzo(k)fluoranthene	**13**	0.57	0.065	1	08/05/19 17:54	7/31/19	
Chrysene	**32**	0.57	0.063	1	08/05/19 17:54	7/31/19	
Dibenz(a,h)anthracene	**3.7**	0.57	0.098	1	08/05/19 17:54	7/31/19	
Dibenzofuran	**0.80**	0.57	0.051	1	08/05/19 17:54	7/31/19	
Fluoranthene	**33**	0.57	0.056	1	08/05/19 17:54	7/31/19	
Fluorene	**1.5**	0.57	0.059	1	08/05/19 17:54	7/31/19	
Indeno(1,2,3-cd)pyrene	**17**	0.57	0.11	1	08/05/19 17:54	7/31/19	
Naphthalene	**1.8**	1.1	0.17	1	08/05/19 17:54	7/31/19	
Phenanthrene	**13**	0.57	0.075	1	08/05/19 17:54	7/31/19	
Pyrene	**40**	0.57	0.057	1	08/05/19 17:54	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	47	23 - 110	08/05/19 17:54	
Fluorene-d10	52	26 - 102	08/05/19 17:54	
Terphenyl-d14	61	27 - 115	08/05/19 17:54	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/09/18 08:28
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	C4-0to27-100918	**Units:**	ug/Kg
Lab Code:	K1906902-011	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**2.4** J	6.2	0.75	5	08/06/19 08:19	7/31/19	
Acenaphthene	**9.8**	3.1	0.30	5	08/06/19 08:19	7/31/19	
Acenaphthylene	**8.2**	3.1	0.29	5	08/06/19 08:19	7/31/19	
Anthracene	**170**	3.1	0.24	5	08/06/19 08:19	7/31/19	
Benz(a)anthracene	**1100**	3.1	0.24	5	08/06/19 08:19	7/31/19	
Benzo(a)pyrene	**800**	3.1	0.44	5	08/06/19 08:19	7/31/19	
Benzo(b)fluoranthene	**1100**	3.1	0.41	5	08/06/19 08:19	7/31/19	
Benzo(g,h,i)perylene	**400**	3.1	0.59	5	08/06/19 08:19	7/31/19	
Benzo(k)fluoranthene	**370**	3.1	0.36	5	08/06/19 08:19	7/31/19	
Chrysene	**1500**	12	1.4	20	08/06/19 12:30	7/31/19	
Dibenz(a,h)anthracene	**150**	3.1	0.54	5	08/06/19 08:19	7/31/19	
Dibenzofuran	**2.9** J	3.1	0.28	5	08/06/19 08:19	7/31/19	
Fluoranthene	**1100**	3.1	0.31	5	08/06/19 08:19	7/31/19	
Fluorene	**27**	3.1	0.33	5	08/06/19 08:19	7/31/19	
Indeno(1,2,3-cd)pyrene	**470**	3.1	0.60	5	08/06/19 08:19	7/31/19	
Naphthalene	**4.3** J	6.2	0.93	5	08/06/19 08:19	7/31/19	
Phenanthrene	**240**	3.1	0.41	5	08/06/19 08:19	7/31/19	
Pyrene	**1100**	3.1	0.31	5	08/06/19 08:19	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	66	23 - 110	08/06/19 08:19	
Fluorene-d10	66	26 - 102	08/06/19 08:19	
Terphenyl-d14	84	27 - 115	08/06/19 08:19	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/09/18 13:23
Sample Matrix:	Sediment	**Date Received:**	10/10/18 08:55
Sample Name:	A7-0to26-100918	**Units:**	ug/Kg
Lab Code:	K1906902-012	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**0.83** J	0.95	0.12	1	08/05/19 18:22	7/31/19	
Acenaphthene	**1.4**	0.47	0.047	1	08/05/19 18:22	7/31/19	
Acenaphthylene	**1.7**	0.47	0.046	1	08/05/19 18:22	7/31/19	
Anthracene	**3.5**	0.47	0.038	1	08/05/19 18:22	7/31/19	
Benz(a)anthracene	**15**	0.47	0.038	1	08/05/19 18:22	7/31/19	
Benzo(a)pyrene	**18**	0.47	0.070	1	08/05/19 18:22	7/31/19	
Benzo(b)fluoranthene	**30**	0.47	0.066	1	08/05/19 18:22	7/31/19	
Benzo(g,h,i)perylene	**15**	0.47	0.095	1	08/05/19 18:22	7/31/19	
Benzo(k)fluoranthene	**11**	0.47	0.057	1	08/05/19 18:22	7/31/19	
Chrysene	**33**	0.47	0.055	1	08/05/19 18:22	7/31/19	
Dibenz(a,h)anthracene	**3.4**	0.47	0.086	1	08/05/19 18:22	7/31/19	
Dibenzofuran	**0.90**	0.47	0.045	1	08/05/19 18:22	7/31/19	
Fluoranthene	**26**	0.47	0.049	1	08/05/19 18:22	7/31/19	
Fluorene	**1.6**	0.47	0.052	1	08/05/19 18:22	7/31/19	
Indeno(1,2,3-cd)pyrene	**15**	0.47	0.096	1	08/05/19 18:22	7/31/19	
Naphthalene	**2.2**	0.95	0.15	1	08/05/19 18:22	7/31/19	
Phenanthrene	**12**	0.47	0.066	1	08/05/19 18:22	7/31/19	
Pyrene	**32**	0.47	0.050	1	08/05/19 18:22	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	55	23 - 110	08/05/19 18:22	
Fluorene-d10	62	26 - 102	08/05/19 18:22	
Terphenyl-d14	73	27 - 115	08/05/19 18:22	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/10/18 15:21
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	D2-0to19-101018	**Units:**	ug/Kg
Lab Code:	K1906902-013	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**4.2**	3.5	0.60	5	08/06/19 08:47	7/31/19	
Acenaphthene	**9.8**	1.7	0.24	5	08/06/19 08:47	7/31/19	
Acenaphthylene	**11**	1.7	0.23	5	08/06/19 08:47	7/31/19	
Anthracene	**20**	1.7	0.19	5	08/06/19 08:47	7/31/19	
Benz(a)anthracene	**110**	1.7	0.19	5	08/06/19 08:47	7/31/19	
Benzo(a)pyrene	**90**	1.7	0.35	5	08/06/19 08:47	7/31/19	
Benzo(b)fluoranthene	**140**	1.7	0.33	5	08/06/19 08:47	7/31/19	
Benzo(g,h,i)perylene	**55**	1.7	0.48	5	08/06/19 08:47	7/31/19	
Benzo(k)fluoranthene	**55**	1.7	0.29	5	08/06/19 08:47	7/31/19	
Chrysene	**170**	1.7	0.28	5	08/06/19 08:47	7/31/19	
Dibenz(a,h)anthracene	**12**	1.7	0.43	5	08/06/19 08:47	7/31/19	
Dibenzofuran	**4.0**	1.7	0.23	5	08/06/19 08:47	7/31/19	
Fluoranthene	**320**	1.7	0.25	5	08/06/19 08:47	7/31/19	
Fluorene	**12**	1.7	0.26	5	08/06/19 08:47	7/31/19	
Indeno(1,2,3-cd)pyrene	**61**	1.7	0.48	5	08/06/19 08:47	7/31/19	
Naphthalene	**5.4**	3.5	0.75	5	08/06/19 08:47	7/31/19	
Phenanthrene	**76**	1.7	0.33	5	08/06/19 08:47	7/31/19	
Pyrene	**280**	1.7	0.25	5	08/06/19 08:47	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	51	23 - 110	08/06/19 08:47	
Fluorene-d10	50	26 - 102	08/06/19 08:47	
Terphenyl-d14	60	27 - 115	08/06/19 08:47	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/10/18 16:36
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	F2-0to19-101018	**Units:**	ug/Kg
Lab Code:	K1906902-014	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**5.6**	0.68	0.12	1	08/05/19 18:50	7/31/19	
Acenaphthene	**9.7**	0.34	0.047	1	08/05/19 18:50	7/31/19	
Acenaphthylene	**6.2**	0.34	0.046	1	08/05/19 18:50	7/31/19	
Anthracene	**7.4**	0.34	0.038	1	08/05/19 18:50	7/31/19	
Benz(a)anthracene	**27**	0.34	0.038	1	08/05/19 18:50	7/31/19	
Benzo(a)pyrene	**38**	0.34	0.070	1	08/05/19 18:50	7/31/19	
Benzo(b)fluoranthene	**54**	0.34	0.066	1	08/05/19 18:50	7/31/19	
Benzo(g,h,i)perylene	**23**	0.34	0.095	1	08/05/19 18:50	7/31/19	
Benzo(k)fluoranthene	**21**	0.34	0.057	1	08/05/19 18:50	7/31/19	
Chrysene	**46**	0.34	0.055	1	08/05/19 18:50	7/31/19	
Dibenz(a,h)anthracene	**5.3**	0.34	0.086	1	08/05/19 18:50	7/31/19	
Dibenzofuran	**5.3**	0.34	0.045	1	08/05/19 18:50	7/31/19	
Fluoranthene	**72**	0.34	0.049	1	08/05/19 18:50	7/31/19	
Fluorene	**9.4**	0.34	0.052	1	08/05/19 18:50	7/31/19	
Indeno(1,2,3-cd)pyrene	**27**	0.34	0.096	1	08/05/19 18:50	7/31/19	
Naphthalene	**6.8**	0.68	0.15	1	08/05/19 18:50	7/31/19	
Phenanthrene	**33**	0.34	0.066	1	08/05/19 18:50	7/31/19	
Pyrene	**82**	0.34	0.050	1	08/05/19 18:50	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	50	23 - 110	08/05/19 18:50	
Fluorene-d10	58	26 - 102	08/05/19 18:50	
Terphenyl-d14	69	27 - 115	08/05/19 18:50	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/12/18 10:28
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	H2-0to30-101218	**Units:**	ug/Kg
Lab Code:	K1906902-015	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**10**	5.1	0.62	5	08/06/19 10:38	7/31/19	
Acenaphthene	**35**	2.6	0.24	5	08/06/19 10:38	7/31/19	
Acenaphthylene	**37**	2.6	0.24	5	08/06/19 10:38	7/31/19	
Anthracene	**84**	2.6	0.20	5	08/06/19 10:38	7/31/19	
Benz(a)anthracene	**250**	2.6	0.20	5	08/06/19 10:38	7/31/19	
Benzo(a)pyrene	**270**	2.6	0.36	5	08/06/19 10:38	7/31/19	
Benzo(b)fluoranthene	**350**	2.6	0.34	5	08/06/19 10:38	7/31/19	
Benzo(g,h,i)perylene	**190**	2.6	0.49	5	08/06/19 10:38	7/31/19	
Benzo(k)fluoranthene	**140**	2.6	0.30	5	08/06/19 10:38	7/31/19	
Chrysene	**360**	2.6	0.29	5	08/06/19 10:38	7/31/19	
Dibenz(a,h)anthracene	**42**	2.6	0.44	5	08/06/19 10:38	7/31/19	
Dibenzofuran	**11**	2.6	0.23	5	08/06/19 10:38	7/31/19	
Fluoranthene	**570**	2.6	0.25	5	08/06/19 10:38	7/31/19	
Fluorene	**38**	2.6	0.27	5	08/06/19 10:38	7/31/19	
Indeno(1,2,3-cd)pyrene	**200**	2.6	0.49	5	08/06/19 10:38	7/31/19	
Naphthalene	**28**	5.1	0.77	5	08/06/19 10:38	7/31/19	
Phenanthrene	**300**	2.6	0.34	5	08/06/19 10:38	7/31/19	
Pyrene	**630**	2.6	0.26	5	08/06/19 10:38	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	66	23 - 110	08/06/19 10:38	
Fluorene-d10	70	26 - 102	08/06/19 10:38	
Terphenyl-d14	80	27 - 115	08/06/19 10:38	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/12/18 12:57
Sample Matrix:	Sediment	**Date Received:**	10/15/18 12:15
Sample Name:	J2A3-0to18-101218	**Units:**	ug/Kg
Lab Code:	K1906902-016	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**3.1**	J	3.2	0.60	5	08/06/19 12:57	7/31/19	
Acenaphthene	**5.9**		1.6	0.24	5	08/06/19 12:57	7/31/19	
Acenaphthylene	**4.1**		1.6	0.23	5	08/06/19 12:57	7/31/19	
Anthracene	**22**		1.6	0.19	5	08/06/19 12:57	7/31/19	
Benz(a)anthracene	**93**		1.6	0.19	5	08/06/19 12:57	7/31/19	
Benzo(a)pyrene	**110**		1.6	0.35	5	08/06/19 12:57	7/31/19	
Benzo(b)fluoranthene	**150**		1.6	0.33	5	08/06/19 12:57	7/31/19	
Benzo(g,h,i)perylene	**89**		1.6	0.48	5	08/06/19 12:57	7/31/19	
Benzo(k)fluoranthene	**62**		1.6	0.29	5	08/06/19 12:57	7/31/19	
Chrysene	**120**		1.6	0.28	5	08/06/19 12:57	7/31/19	
Dibenz(a,h)anthracene	**20**		1.6	0.43	5	08/06/19 12:57	7/31/19	
Dibenzofuran	**5.4**		1.6	0.23	5	08/06/19 12:57	7/31/19	
Fluoranthene	**190**		1.6	0.25	5	08/06/19 12:57	7/31/19	
Fluorene	**12**		1.6	0.26	5	08/06/19 12:57	7/31/19	
Indeno(1,2,3-cd)pyrene	**91**		1.6	0.48	5	08/06/19 12:57	7/31/19	
Naphthalene	**4.3**		3.2	0.75	5	08/06/19 12:57	7/31/19	
Phenanthrene	**98**		1.6	0.33	5	08/06/19 12:57	7/31/19	
Pyrene	**190**		1.6	0.25	5	08/06/19 12:57	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	58	23 - 110	08/06/19 12:57	
Fluorene-d10	65	26 - 102	08/06/19 12:57	
Terphenyl-d14	72	27 - 115	08/06/19 12:57	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/18/18 09:39
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	Q2-0to13-101818	**Units:**	ug/Kg
Lab Code:	K1906902-017	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	ND	U	0.72	0.12	1	08/05/19 19:17	7/31/19	
Acenaphthene	**0.30**	**J**	0.36	0.047	1	08/05/19 19:17	7/31/19	
Acenaphthylene	**0.97**		0.36	0.046	1	08/05/19 19:17	7/31/19	
Anthracene	**1.2**		0.36	0.038	1	08/05/19 19:17	7/31/19	
Benz(a)anthracene	**5.4**		0.36	0.038	1	08/05/19 19:17	7/31/19	
Benzo(a)pyrene	**8.3**		0.36	0.070	1	08/05/19 19:17	7/31/19	
Benzo(b)fluoranthene	**11**		0.36	0.066	1	08/05/19 19:17	7/31/19	
Benzo(g,h,i)perylene	**9.0**		0.36	0.095	1	08/05/19 19:17	7/31/19	
Benzo(k)fluoranthene	**4.0**		0.36	0.057	1	08/05/19 19:17	7/31/19	
Chrysene	**8.7**		0.36	0.055	1	08/05/19 19:17	7/31/19	
Dibenz(a,h)anthracene	**1.4**		0.36	0.086	1	08/05/19 19:17	7/31/19	
Dibenzofuran	**0.25**	**J**	0.36	0.045	1	08/05/19 19:17	7/31/19	
Fluoranthene	**15**		0.36	0.049	1	08/05/19 19:17	7/31/19	
Fluorene	**0.27**	**J**	0.36	0.052	1	08/05/19 19:17	7/31/19	
Indeno(1,2,3-cd)pyrene	**8.8**		0.36	0.096	1	08/05/19 19:17	7/31/19	
Naphthalene	**0.23**	**J**	0.72	0.15	1	08/05/19 19:17	7/31/19	
Phenanthrene	**8.7**		0.36	0.066	1	08/05/19 19:17	7/31/19	
Pyrene	**18**		0.36	0.050	1	08/05/19 19:17	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	56	23 - 110	08/05/19 19:17	
Fluorene-d10	62	26 - 102	08/05/19 19:17	
Terphenyl-d14	71	27 - 115	08/05/19 19:17	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/18/18 14:12
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	G6-0to27-101818	**Units:**	ug/Kg
Lab Code:	K1906902-018	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**3.7**	2.0	0.24	2	08/06/19 13:25	7/31/19	
Acenaphthene	**6.5**	0.99	0.094	2	08/06/19 13:25	7/31/19	
Acenaphthylene	**7.3**	0.99	0.092	2	08/06/19 13:25	7/31/19	
Anthracene	**15**	0.99	0.076	2	08/06/19 13:25	7/31/19	
Benz(a)anthracene	**60**	0.99	0.076	2	08/06/19 13:25	7/31/19	
Benzo(a)pyrene	**65**	0.99	0.14	2	08/06/19 13:25	7/31/19	
Benzo(b)fluoranthene	**100**	0.99	0.14	2	08/06/19 13:25	7/31/19	
Benzo(g,h,i)perylene	**51**	0.99	0.19	2	08/06/19 13:25	7/31/19	
Benzo(k)fluoranthene	**32**	0.99	0.12	2	08/06/19 13:25	7/31/19	
Chrysene	**100**	0.99	0.11	2	08/06/19 13:25	7/31/19	
Dibenz(a,h)anthracene	**11**	0.99	0.18	2	08/06/19 13:25	7/31/19	
Dibenzofuran	**3.7**	0.99	0.090	2	08/06/19 13:25	7/31/19	
Fluoranthene	**140**	0.99	0.098	2	08/06/19 13:25	7/31/19	
Fluorene	**6.6**	0.99	0.11	2	08/06/19 13:25	7/31/19	
Indeno(1,2,3-cd)pyrene	**51**	0.99	0.20	2	08/06/19 13:25	7/31/19	
Naphthalene	**5.9**	2.0	0.30	2	08/06/19 13:25	7/31/19	
Phenanthrene	**56**	0.99	0.14	2	08/06/19 13:25	7/31/19	
Pyrene	**160**	0.99	0.10	2	08/06/19 13:25	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	54	23 - 110	08/06/19 13:25	
Fluorene-d10	57	26 - 102	08/06/19 13:25	
Terphenyl-d14	66	27 - 115	08/06/19 13:25	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/16/18 14:38
Sample Matrix:	Sediment	**Date Received:**	10/19/18 12:30
Sample Name:	T6-0to29-101618	**Units:**	ug/Kg
Lab Code:	K1906902-019	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	**0.16** J	1.3	0.16	1	08/05/19 19:44	7/31/19	
Acenaphthene	**0.60** J	0.65	0.062	1	08/05/19 19:44	7/31/19	
Acenaphthylene	**0.68**	0.65	0.060	1	08/05/19 19:44	7/31/19	
Anthracene	**0.85**	0.65	0.050	1	08/05/19 19:44	7/31/19	
Benz(a)anthracene	**4.3**	0.65	0.050	1	08/05/19 19:44	7/31/19	
Benzo(a)pyrene	**6.4**	0.65	0.092	1	08/05/19 19:44	7/31/19	
Benzo(b)fluoranthene	**8.1**	0.65	0.087	1	08/05/19 19:44	7/31/19	
Benzo(g,h,i)perylene	**6.2**	0.65	0.13	1	08/05/19 19:44	7/31/19	
Benzo(k)fluoranthene	**3.0**	0.65	0.075	1	08/05/19 19:44	7/31/19	
Chrysene	**6.5**	0.65	0.072	1	08/05/19 19:44	7/31/19	
Dibenz(a,h)anthracene	**0.94**	0.65	0.12	1	08/05/19 19:44	7/31/19	
Dibenzofuran	**0.19** J	0.65	0.059	1	08/05/19 19:44	7/31/19	
Fluoranthene	**12**	0.65	0.064	1	08/05/19 19:44	7/31/19	
Fluorene	**0.44** J	0.65	0.068	1	08/05/19 19:44	7/31/19	
Indeno(1,2,3-cd)pyrene	**5.7**	0.65	0.13	1	08/05/19 19:44	7/31/19	
Naphthalene	**0.30** J	1.3	0.20	1	08/05/19 19:44	7/31/19	
Phenanthrene	**5.0**	0.65	0.087	1	08/05/19 19:44	7/31/19	
Pyrene	**16**	0.65	0.066	1	08/05/19 19:44	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	35	23 - 110	08/05/19 19:44	
Fluorene-d10	39	26 - 102	08/05/19 19:44	
Terphenyl-d14	42	27 - 115	08/05/19 19:44	

Analytical Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
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:	KQ1910711-04	**Basis:**	Dry

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	ND	U	1.0	0.12	1	08/06/19 06:02	7/31/19	
Acenaphthene	ND	U	0.50	0.047	1	08/06/19 06:02	7/31/19	
Acenaphthylene	ND	U	0.50	0.046	1	08/06/19 06:02	7/31/19	
Anthracene	**0.063**	**J**	0.50	0.038	1	08/06/19 06:02	7/31/19	
Benz(a)anthracene	**0.094**	**J**	0.50	0.038	1	08/06/19 06:02	7/31/19	
Benzo(a)pyrene	ND	U	0.50	0.070	1	08/06/19 06:02	7/31/19	
Benzo(b)fluoranthene	ND	U	0.50	0.066	1	08/06/19 06:02	7/31/19	
Benzo(g,h,i)perylene	ND	U	0.50	0.095	1	08/06/19 06:02	7/31/19	
Benzo(k)fluoranthene	ND	U	0.50	0.057	1	08/06/19 06:02	7/31/19	
Chrysene	**0.089**	**J**	0.50	0.055	1	08/06/19 06:02	7/31/19	
Dibenz(a,h)anthracene	ND	U	0.50	0.086	1	08/06/19 06:02	7/31/19	
Dibenzofuran	**0.068**	**J**	0.50	0.045	1	08/06/19 06:02	7/31/19	
Fluoranthene	**0.14**	**J**	0.50	0.049	1	08/06/19 06:02	7/31/19	
Fluorene	ND	U	0.50	0.052	1	08/06/19 06:02	7/31/19	
Indeno(1,2,3-cd)pyrene	ND	U	0.50	0.096	1	08/06/19 06:02	7/31/19	
Naphthalene	ND	U	1.0	0.15	1	08/06/19 06:02	7/31/19	
Phenanthrene	**0.11**	**J**	0.50	0.066	1	08/06/19 06:02	7/31/19	
Pyrene	**0.16**	**J**	0.50	0.050	1	08/06/19 06:02	7/31/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	71	23 - 110	08/06/19 06:02	
Fluorene-d10	78	26 - 102	08/06/19 06:02	
Terphenyl-d14	93	27 - 115	08/06/19 06:02	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

SURROGATE RECOVERY SUMMARY

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: 8270D
Extraction Method: EPA 3541

Sample Name	Lab Code	Fluoranthene-d10 23-110	Fluorene-d10 26-102	Terphenyl-d14 27-115
O7-0to27-101918	K1906902-001	61	70	79
515-0to26-101918	K1906902-002	70	70	86
M4-0to26-101918	K1906902-003	56	62	71
A1-0to30-102018	K1906902-004	54	63	68
Q6-0to27-102018	K1906902-005	54	60	68
A5-0to25-100818	K1906902-006	49	58	65
A4-0to25-100818	K1906902-007	89	90	103
A3-0to31-100818	K1906902-008	60	69	82
A2-0to26-100818	K1906902-009	66	64	78
A6-0to23-100818	K1906902-010	47	52	61
C4-0to27-100918	K1906902-011	66	66	84
A7-0to26-100918	K1906902-012	55	62	73
D2-0to19-101018	K1906902-013	51	50	60
F2-0to19-101018	K1906902-014	50	58	69
H2-0to30-101218	K1906902-015	66	70	80
J2A3-0to18-101218	K1906902-016	58	65	72
Q2-0to13-101818	K1906902-017	56	62	71
G6-0to27-101818	K1906902-018	54	57	66
T6-0to29-101618	K1906902-019	35	39	42
Method Blank	KQ1910711-04	71	78	93
Lab Control Sample	KQ1910711-03	41	45	52
M4-0to26-101918	KQ1910711-01	57	66	76
M4-0to26-101918	KQ1910711-02	57	63	76

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QA/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/05/19 08:39

Internal Standard Area and RT SUMMARY

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

File ID: J:\MS14\DATA\080519A\0805F002.D\ **Lab Code:**KQ1910937-01
Instrument ID: K-MS-14 **Analysis Lot:**645972
Analysis Method: 8270D **Signal ID:**1

		Acenaphthene-d10		Chrysene-d12		Naphthalene-d8	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	26,327	6.26	65,958	9.98	54,712	4.70
	Upper Limit ==>	52,654	6.76	131,916	10.48	109,424	5.20
	Lower Limit ==>	13,164	5.76	32,979	9.48	27,356	4.20
Associated Analyses							
O7-0to27-101918	K1906902-001	35274	6.26	79398	9.99	70435	4.70
A1-0to30-102018	K1906902-004	34901	6.26	82066	9.99	70574	4.70
Q6-0to27-102018	K1906902-005	34258	6.26	79083	9.99	69102	4.70
A5-0to25-100818	K1906902-006	34671	6.26	76237	10.00	67421	4.70
A3-0to31-100818	K1906902-008	33282	6.26	71879	10.00	67260	4.70
A6-0to23-100818	K1906902-010	34657	6.26	77919	9.99	68146	4.70
A7-0to26-100918	K1906902-012	34636	6.26	76816	9.99	68960	4.70
F2-0to19-101018	K1906902-014	33974	6.26	70832	10.02	67494	4.70
Q2-0to13-101818	K1906902-017	32678	6.26	74700	9.99	63799	4.70
T6-0to29-101618	K1906902-019	34140	6.26	78076	10.00	66671	4.70

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/05/19 08:39

Internal Standard Area and RT SUMMARY

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

File ID: J:\MS14\DATA\080519A\0805F002.D\ **Lab Code:**KQ1910937-01
Instrument ID: K-MS-14 **Analysis Lot:**645972
Analysis Method: 8270D **Signal ID:**1

		Perylene-d12		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**
	Result ==>	73,987	12.98	48,070	7.49
	Upper Limit ==>	147,974	13.48	96,140	7.99
	Lower Limit ==>	36,994	12.48	24,035	6.99
Associated Analyses					
O7-0to27-101918	K1906902-001	94727	13.00	69358	7.49
A1-0to30-102018	K1906902-004	93229	12.99	66801	7.49
Q6-0to27-102018	K1906902-005	93469	13.00	65540	7.49
A5-0to25-100818	K1906902-006	90984	13.03	63526	7.49
A3-0to31-100818	K1906902-008	89799	13.02	65374	7.49
A6-0to23-100818	K1906902-010	93125	13.02	65868	7.49
A7-0to26-100918	K1906902-012	91347	13.02	66252	7.50
F2-0to19-101018	K1906902-014	84355	13.06	64776	7.50
Q2-0to13-101818	K1906902-017	89380	13.02	63333	7.50
T6-0to29-101618	K1906902-019	91997	13.02	65912	7.50

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QA/QC Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/06/19 05:30

Internal Standard Area and RT SUMMARY

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

File ID: J:\MS14\DATA\080619\0806F002.D\ **Lab Code:**KQ1911012-01
Instrument ID: K-MS-14 **Analysis Lot:**646168
Analysis Method: 8270D **Signal ID:**1

		Acenaphthene-d10		Chrysene-d12		Naphthalene-d8	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	29,880	6.26	73,888	9.99	60,984	4.70
	Upper Limit ==>	59,760	6.76	147,776	10.49	121,968	5.20
	Lower Limit ==>	14,940	5.76	36,944	9.49	30,492	4.20
Associated Analyses							
Method Blank	KQ1910711-04	37251	6.26	74776	10.00	77379	4.70
Lab Control Sample	KQ1910711-03	38798	6.26	85529	9.99	83838	4.70
515-0to26-101918	K1906902-002	30586	6.26	75524	9.99	53690	4.69
A4-0to25-100818	K1906902-007	31761	6.26	84445	10.00	58078	4.69
A2-0to26-100818	K1906902-009	31154	6.26	81613	9.99	59450	4.69
C4-0to27-100918	K1906902-011	32567	6.26	77958	10.00	57855	4.69
D2-0to19-101018	K1906902-013	32055	6.26	81518	9.99	60387	4.69
M4-0to26-101918MS	KQ1910711-01	38955	6.26	87069	10.00	78848	4.70
M4-0to26-101918DMS	KQ1910711-02	36866	6.26	81075	10.00	74023	4.70
M4-0to26-101918	K1906902-003	39887	6.26	85079	10.02	75839	4.70
H2-0to30-101218	K1906902-015	30310	6.27	78216	10.01	53993	4.70
A3-0to31-100818	K1906902-008	32191	6.26	80941	10.00	60007	4.69
C4-0to27-100918	K1906902-011	30740	6.26	76352	10.00	50235	4.70
J2A3-0to18-101218	K1906902-016	32128	6.26	82452	10.01	55490	4.69
G6-0to27-101818	K1906902-018	36273	6.27	84709	10.02	66426	4.69

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/06/19 05:30

Internal Standard Area and RT SUMMARY

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

File ID: J:\MS14\DATA\080619\0806F002.D\ **Lab Code:**KQ1911012-01
Instrument ID: K-MS-14 **Analysis Lot:**646168
Analysis Method: 8270D **Signal ID:**1

		Perylene-d12		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**
	Result ==>	85,279	13.01	55,210	7.50
	Upper Limit ==>	170,558	13.51	110,420	8.00
	Lower Limit ==>	42,640	12.51	27,605	7.00
Associated Analyses					
Method Blank	KQ1910711-04	82721	13.01	69122	7.50
Lab Control Sample	KQ1910711-03	99316	13.00	73985	7.49
515-0to26-101918	K1906902-002	96845	13.02	60900	7.49
A4-0to25-100818	K1906902-007	99942	13.05	65558	7.50
A2-0to26-100818	K1906902-009	101656	13.02	62045	7.50
C4-0to27-100918	K1906902-011	102294	13.02	62823	7.50
D2-0to19-101018	K1906902-013	101089	13.01	63346	7.50
M4-0to26-101918MS	KQ1910711-01	107456	13.02	77579	7.49
M4-0to26-101918DMS	KQ1910711-02	99783	13.05	70861	7.50
M4-0to26-101918	K1906902-003	99666	13.10	72527	7.50
H2-0to30-101218	K1906902-015	96142	13.06	63227	7.50
A3-0to31-100818	K1906902-008	98445	13.03	61202	7.51
C4-0to27-100918	K1906902-011	93752	13.03	60109	7.50
J2A3-0to18-101218	K1906902-016	94979	13.09	65960	7.50
G6-0to27-101818	K1906902-018	100617	13.10	68510	7.51

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Collected:**	10/19/18
Sample Matrix:	Sediment	**Date Received:**	10/22/18
		Date Analyzed:	08/6/19
		Date Extracted:	07/31/19

Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Sample Name:	M4-0to26-101918	**Units:**	ug/Kg
Lab Code:	K1906902-003	**Basis:**	Dry
Analysis Method:	8270D		
Prep Method:	EPA 3541		

		Matrix Spike KQ1910711-01			**Duplicate Matrix Spike** KQ1910711-02					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2-Methylnaphthalene	3.4	59.3	111	50 *	55.0	111	47 *	70-130	8	40
Acenaphthene	13	71.9	111	53 *	66.0	111	48 *	70-130	9	40
Acenaphthylene	8.9	66.1	111	51 *	65.8	111	51 *	70-130	<1	40
Anthracene	19	79.4	111	55 *	91.9	111	66 *	70-130	15	40
Benz(a)anthracene	81	90.6	111	8 *	144	111	57 *	70-130	46*	40
Benzo(a)pyrene	93	89.9	111	-3 *	132	111	35 *	70-130	38	40
Benzo(b)fluoranthene	130	90.4	111	-32 *	145	111	18 *	70-130	47*	40
Benzo(g,h,i)perylene	68	77.8	111	8 *	104	111	32 *	70-130	29	40
Benzo(k)fluoranthene	47	80.0	111	29 *	104	111	51 *	70-130	26	40
Chrysene	120	95.3	111	-23 *	218	111	88	70-130	78*	40
Dibenz(a,h)anthracene	16	72.8	111	51 *	74.8	111	53 *	70-130	3	40
Dibenzofuran	3.6	69.7	111	60 *	64.0	111	54 *	70-130	9	40
Fluoranthene	140	89.7	111	-43 *	132	111	-5 *	70-130	38	40
Fluorene	6.6	75.6	111	62 *	70.6	111	58 *	70-130	7	40
Indeno(1,2,3-cd)pyrene	71	81.5	111	9 *	111	111	36 *	70-130	31	40
Naphthalene	6.9	59.4	111	47 *	55.1	111	43 *	70-130	8	40
Phenanthrene	73	88.5	111	14 *	105	111	28 *	70-130	17	40
Pyrene	170	119	111	-50 *	165	111	-9 *	70-130	32	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:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/06/19
Sample Matrix:	Sediment	**Date Extracted:**	07/31/19

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method:	8270D	**Units:**	ug/Kg
Prep Method:	EPA 3541	**Basis:**	Dry
		Analysis Lot:	646168

Lab Control Sample
KQ1910711-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2-Methylnaphthalene	56.1	100	56	52-85
Acenaphthene	61.3	100	61	51-82
Acenaphthylene	63.3	100	63	51-80
Anthracene	68.7	100	69	56-87
Benz(a)anthracene	66.7	100	67	65-97
Benzo(a)pyrene	68.7	100	69	64-103
Benzo(b)fluoranthene	69.6	100	70	63-99
Benzo(g,h,i)perylene	65.3	100	65	56-101
Benzo(k)fluoranthene	67.9	100	68	62-99
Chrysene	66.0	100	66	63-100
Dibenz(a,h)anthracene	64.9	100	65	56-104
Dibenzofuran	66.1	100	66	14-125
Fluoranthene	54.7	100	55	45-96
Fluorene	65.4	100	65	52-83
Indeno(1,2,3-cd)pyrene	66.0	100	66	61-105
Naphthalene	57.1	100	57	48-77
Phenanthrene	58.7	100	59	48-85
Pyrene	70.4	100	70	59-98

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/06/19 06:02
Sample Matrix:	Sediment	**Date Extracted:**	07/31/19

Method Blank Summary

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Sample Name:	Method Blank	**Instrument ID:**	K-MS-14
Lab Code:	KQ1910711-04	**File ID:**	J:\MS14\DATA\080619\0806F003.D\
Analysis Method:	8270D	**Analysis Lot:**	645972,646168
Prep Method:	EPA 3541	**Extraction Lot:**	341602

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
O7-0to27-101918	K1906902-001	J:\MS14\DATA\080519A\0805F015.D\	08/05/19 15:32
A1-0to30-102018	K1906902-004	J:\MS14\DATA\080519A\0805F016.D\	08/05/19 16:00
Q6-0to27-102018	K1906902-005	J:\MS14\DATA\080519A\0805F017.D\	08/05/19 16:29
A5-0to25-100818	K1906902-006	J:\MS14\DATA\080519A\0805F018.D\	08/05/19 16:57
A3-0to31-100818	K1906902-008	J:\MS14\DATA\080519A\0805F019.D\	08/05/19 17:25
A6-0to23-100818	K1906902-010	J:\MS14\DATA\080519A\0805F020.D\	08/05/19 17:54
A7-0to26-100918	K1906902-012	J:\MS14\DATA\080519A\0805F021.D\	08/05/19 18:22
F2-0to19-101018	K1906902-014	J:\MS14\DATA\080519A\0805F022.D\	08/05/19 18:50
Q2-0to13-101818	K1906902-017	J:\MS14\DATA\080519A\0805F023.D\	08/05/19 19:17
T6-0to29-101618	K1906902-019	J:\MS14\DATA\080519A\0805F024.D\	08/05/19 19:44
Lab Control Sample	KQ1910711-03	J:\MS14\DATA\080619\0806F004.D\	08/06/19 06:29
515-0to26-101918	K1906902-002	J:\MS14\DATA\080619\0806F005.D\	08/06/19 06:58
A4-0to25-100818	K1906902-007	J:\MS14\DATA\080619\0806F006.D\	08/06/19 07:25
A2-0to26-100818	K1906902-009	J:\MS14\DATA\080619\0806F007.D\	08/06/19 07:52
C4-0to27-100918	K1906902-011	J:\MS14\DATA\080619\0806F008.D\	08/06/19 08:19
D2-0to19-101018	K1906902-013	J:\MS14\DATA\080619\0806F009.D\	08/06/19 08:47
M4-0to26-101918MS	KQ1910711-01	J:\MS14\DATA\080619\0806F010.D\	08/06/19 09:15
M4-0to26-101918DMS	KQ1910711-02	J:\MS14\DATA\080619\0806F011.D\	08/06/19 09:42
M4-0to26-101918	K1906902-003	J:\MS14\DATA\080619\0806F012.D\	08/06/19 10:10
H2-0to30-101218	K1906902-015	J:\MS14\DATA\080619\0806F013.D\	08/06/19 10:38
A3-0to31-100818	K1906902-008	J:\MS14\DATA\080619\0806F016.D\	08/06/19 12:01
C4-0to27-100918	K1906902-011	J:\MS14\DATA\080619\0806F017.D\	08/06/19 12:30
J2A3-0to18-101218	K1906902-016	J:\MS14\DATA\080619\0806F018.D\	08/06/19 12:57
G6-0to27-101818	K1906902-018	J:\MS14\DATA\080619\0806F019.D\	08/06/19 13:25

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QA/QC Report

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/06/19 06:29
Sample Matrix:	Sediment	**Date Extracted:**	07/31/19

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Sample Name:	Lab Control Sample	**Instrument ID:**	K-MS-14
Lab Code:	KQ1910711-03	**File ID:**	J:\MS14\DATA\080619\0806F004.D\
Analysis Method:	8270D	**Analysis Lot:**	645972,646168
Prep Method:	EPA 3541	**Extraction Lot:**	341602

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
O7-0to27-101918	K1906902-001	J:\MS14\DATA\080519A\0805F015.D\	08/05/19 15:32
A1-0to30-102018	K1906902-004	J:\MS14\DATA\080519A\0805F016.D\	08/05/19 16:00
Q6-0to27-102018	K1906902-005	J:\MS14\DATA\080519A\0805F017.D\	08/05/19 16:29
A5-0to25-100818	K1906902-006	J:\MS14\DATA\080519A\0805F018.D\	08/05/19 16:57
A3-0to31-100818	K1906902-008	J:\MS14\DATA\080519A\0805F019.D\	08/05/19 17:25
A6-0to23-100818	K1906902-010	J:\MS14\DATA\080519A\0805F020.D\	08/05/19 17:54
A7-0to26-100918	K1906902-012	J:\MS14\DATA\080519A\0805F021.D\	08/05/19 18:22
F2-0to19-101018	K1906902-014	J:\MS14\DATA\080519A\0805F022.D\	08/05/19 18:50
Q2-0to13-101818	K1906902-017	J:\MS14\DATA\080519A\0805F023.D\	08/05/19 19:17
T6-0to29-101618	K1906902-019	J:\MS14\DATA\080519A\0805F024.D\	08/05/19 19:44
Method Blank	KQ1910711-04	J:\MS14\DATA\080619\0806F003.D\	08/06/19 06:02
515-0to26-101918	K1906902-002	J:\MS14\DATA\080619\0806F005.D\	08/06/19 06:58
A4-0to25-100818	K1906902-007	J:\MS14\DATA\080619\0806F006.D\	08/06/19 07:25
A2-0to26-100818	K1906902-009	J:\MS14\DATA\080619\0806F007.D\	08/06/19 07:52
C4-0to27-100918	K1906902-011	J:\MS14\DATA\080619\0806F008.D\	08/06/19 08:19
D2-0to19-101018	K1906902-013	J:\MS14\DATA\080619\0806F009.D\	08/06/19 08:47
M4-0to26-101918MS	KQ1910711-01	J:\MS14\DATA\080619\0806F010.D\	08/06/19 09:15
M4-0to26-101918DMS	KQ1910711-02	J:\MS14\DATA\080619\0806F011.D\	08/06/19 09:42
M4-0to26-101918	K1906902-003	J:\MS14\DATA\080619\0806F012.D\	08/06/19 10:10
H2-0to30-101218	K1906902-015	J:\MS14\DATA\080619\0806F013.D\	08/06/19 10:38
A3-0to31-100818	K1906902-008	J:\MS14\DATA\080619\0806F016.D\	08/06/19 12:01
C4-0to27-100918	K1906902-011	J:\MS14\DATA\080619\0806F017.D\	08/06/19 12:30
J2A3-0to18-101218	K1906902-016	J:\MS14\DATA\080619\0806F018.D\	08/06/19 12:57
G6-0to27-101818	K1906902-018	J:\MS14\DATA\080619\0806F019.D\	08/06/19 13:25

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/05/19 08:12

Tune Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

File ID: J:\MS14\DATA\080519A\0805F001.D\ **Analytical Method:** 8270D
Instrument ID: K-MS-14 **Analysis Lot:** 645972

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	23.71	110860	Pass
68	69	0	2	0.00	0	Pass
69	198	0	100	27.54	128772	Pass
70	69	0	2	0.55	713	Pass
127	198	10	80	38.09	178133	Pass
197	198	0	2	0.00	0	Pass
198	442	30	100	38.91	467616	Pass
199	198	5	9	6.54	30585	Pass
275	198	10	60	38.47	179909	Pass
365	442	1	50	2.08	24994	Pass
441	443	0.01	100	75.54	177472	Pass
442	442	30	100	100.00	1201664	Pass
443	442	15	24	19.55	234944	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1910937-01	J:\MS14\DATA\080519A\0805F002.D\	08/05/19 08:39	
O7-0to27-101918	K1906902-001	J:\MS14\DATA\080519A\0805F015.D\	08/05/19 15:32	
A1-0to30-102018	K1906902-004	J:\MS14\DATA\080519A\0805F016.D\	08/05/19 16:00	
Q6-0to27-102018	K1906902-005	J:\MS14\DATA\080519A\0805F017.D\	08/05/19 16:29	
A5-0to25-100818	K1906902-006	J:\MS14\DATA\080519A\0805F018.D\	08/05/19 16:57	
A3-0to31-100818	K1906902-008	J:\MS14\DATA\080519A\0805F019.D\	08/05/19 17:25	
A6-0to23-100818	K1906902-010	J:\MS14\DATA\080519A\0805F020.D\	08/05/19 17:54	
A7-0to26-100918	K1906902-012	J:\MS14\DATA\080519A\0805F021.D\	08/05/19 18:22	
F2-0to19-101018	K1906902-014	J:\MS14\DATA\080519A\0805F022.D\	08/05/19 18:50	
Q2-0to13-101818	K1906902-017	J:\MS14\DATA\080519A\0805F023.D\	08/05/19 19:17	
T6-0to29-101618	K1906902-019	J:\MS14\DATA\080519A\0805F024.D\	08/05/19 19:44	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115 **Date Analyzed:**08/06/19 05:03

Tune Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

File ID: J:\MS14\DATA\080619\0806F001.D\ **Analytical Method:** 8270D
Instrument ID: K-MS-14 **Analysis Lot:** 646168

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	26.47	166122	Pass
68	69	0	2	0.00	0	Pass
69	198	0	100	30.49	191317	Pass
70	69	0	2	0.54	1039	Pass
127	198	10	80	40.37	253333	Pass
197	198	0	2	0.00	0	Pass
198	442	30	100	45.70	627498	Pass
199	198	5	9	6.89	43210	Pass
275	198	10	60	36.93	231752	Pass
365	442	1	50	2.33	31985	Pass
441	443	0.01	100	73.95	202264	Pass
442	442	30	100	100.00	1373034	Pass
443	442	15	24	19.92	273520	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ1911012-01	J:\MS14\DATA\080619\0806F002.D\	08/06/19 05:30	
Method Blank	KQ1910711-04	J:\MS14\DATA\080619\0806F003.D\	08/06/19 06:02	
Lab Control Sample	KQ1910711-03	J:\MS14\DATA\080619\0806F004.D\	08/06/19 06:29	
515-0to26-101918	K1906902-002	J:\MS14\DATA\080619\0806F005.D\	08/06/19 06:58	
A4-0to25-100818	K1906902-007	J:\MS14\DATA\080619\0806F006.D\	08/06/19 07:25	
A2-0to26-100818	K1906902-009	J:\MS14\DATA\080619\0806F007.D\	08/06/19 07:52	
C4-0to27-100918	K1906902-011	J:\MS14\DATA\080619\0806F008.D\	08/06/19 08:19	
D2-0to19-101018	K1906902-013	J:\MS14\DATA\080619\0806F009.D\	08/06/19 08:47	
M4-0to26-101918	KQ1910711-01	J:\MS14\DATA\080619\0806F010.D\	08/06/19 09:15	
M4-0to26-101918	KQ1910711-02	J:\MS14\DATA\080619\0806F011.D\	08/06/19 09:42	
M4-0to26-101918	K1906902-003	J:\MS14\DATA\080619\0806F012.D\	08/06/19 10:10	
H2-0to30-101218	K1906902-015	J:\MS14\DATA\080619\0806F013.D\	08/06/19 10:38	
A3-0to31-100818	K1906902-008	J:\MS14\DATA\080619\0806F016.D\	08/06/19 12:01	
C4-0to27-100918	K1906902-011	J:\MS14\DATA\080619\0806F017.D\	08/06/19 12:30	
J2A3-0to18-101218	K1906902-016	J:\MS14\DATA\080619\0806F018.D\	08/06/19 12:57	
G6-0to27-101818	K1906902-018	J:\MS14\DATA\080619\0806F019.D\	08/06/19 13:25	

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 6/17/2019

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Calibration ID: KC1900232 **Signal ID:** 1
Instrument ID: K-MS-14

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC1900232-01	SIM-PAH @ 0.004ug/mL SVM61-6B	J:\MS14\DATA\061719\0617F008.D	06/17/2019 09:58
02	KC1900232-02	SIM-PAH @ 0.008ug/mL SVM61-6C	J:\MS14\DATA\061719\0617F009.D	06/17/2019 10:26
03	KC1900232-03	SIM-PAH @ 0.02ug/mL SVM61-6D	J:\MS14\DATA\061719\0617F010.D	06/17/2019 10:54
04	KC1900232-04	SIM-PAH @ 0.1ug/mL SVM61-6E	J:\MS14\DATA\061719\0617F011.D	06/17/2019 11:22
05	KC1900232-05	SIM-PAH @ 0.2ug/mL SVM61-6F	J:\MS14\DATA\061719\0617F012.D	06/17/2019 11:50
06	KC1900232-06	SIM-PAH @ 0.4ug/mL SVM61-6G	J:\MS14\DATA\061719\0617F013.D	06/17/2019 12:17
07	KC1900232-07	SIM-PAH @ 1.0ug/mL SVM61-6H	J:\MS14\DATA\061719\0617F014.D	06/17/2019 12:46
08	KC1900232-08	SIM-PAH @ 1.6ug/mL SVM61-6I	J:\MS14\DATA\061719\0617F015.D	06/17/2019 13:14
09	KC1900232-09	SIM-PAH @ 2.0ug/mL SVM61-6J	J:\MS14\DATA\061719\0617F016.D	06/17/2019 13:42

Analyte

2-Methylnaphthalene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	0.7645	02	8.000	0.7452	03	20.000	0.7555	04	100.000	0.7403
05	200.000	0.7129	06	400.000	0.6966	07	1000.000	0.6553	08	1600.000	0.6586
09	2000.000	0.6418									

Acenaphthene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.327	02	8.000	1.266	03	20.000	1.29	04	100.000	1.304
05	200.000	1.272	06	400.000	1.298	07	1000.000	1.248	08	1600.000	1.264
09	2000.000	1.226									

Acenaphthylene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	2.357	02	8.000	2.196	03	20.000	2.105	04	100.000	2.122
05	200.000	2.096	06	400.000	2.136	07	1000.000	2.085	08	1600.000	2.107
09	2000.000	2.039									

Anthracene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.161	02	8.000	1.163	03	20.000	1.17	04	100.000	1.195
05	200.000	1.148	06	400.000	1.175	07	1000.000	1.15	08	1600.000	1.161
09	2000.000	1.126									

Benz(a)anthracene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.287	02	8.000	1.246	03	20.000	1.201	04	100.000	1.208
05	200.000	1.206	06	400.000	1.258	07	1000.000	1.285	08	1600.000	1.304
09	2000.000	1.278									

Benzo(a)pyrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.126	02	8.000	1.082	03	20.000	1.069	04	100.000	1.057
05	200.000	1.042	06	400.000	1.068	07	1000.000	1.04	08	1600.000	1.056

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 6/17/2019

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Calibration ID: KC1900232 **Signal ID:** 1
Instrument ID: K-MS-14

Analyte

Benzo(a)pyrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
09	2000.000	1.023									

Benzo(b)fluoranthene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.14	02	8.000	1.129	03	20.000	1.146	04	100.000	1.189
05	200.000	1.202	06	400.000	1.242	07	1000.000	1.183	08	1600.000	1.202
09	2000.000	1.161									

Benzo(g,h,i)perylene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.344	02	8.000	1.337	03	20.000	1.354	04	100.000	1.343
05	200.000	1.303	06	400.000	1.262	07	1000.000	1.078	08	1600.000	1.02
09	2000.000	0.95									

Benzo(k)fluoranthene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.118	02	8.000	1.14	03	20.000	1.136	04	100.000	1.183
05	200.000	1.186	06	400.000	1.184	07	1000.000	1.126	08	1600.000	1.132
09	2000.000	1.095									

Chrysene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.184	02	8.000	1.176	03	20.000	1.197	04	100.000	1.203
05	200.000	1.192	06	400.000	1.21	07	1000.000	1.195	08	1600.000	1.222
09	2000.000	1.199									

Dibenz(a,h)anthracene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.136	02	8.000	1.172	03	20.000	1.236	04	100.000	1.296
05	200.000	1.279	06	400.000	1.245	07	1000.000	1.117	08	1600.000	1.095
09	2000.000	1.02									

Dibenzofuran

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.972	02	8.000	1.966	03	20.000	2.013	04	100.000	2.041
05	200.000	1.979	06	400.000	1.993	07	1000.000	1.982	08	1600.000	1.919
09	2000.000	1.855									

Fluoranthene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.636	02	8.000	1.669	03	20.000	1.678	04	100.000	1.66
05	200.000	1.553	06	400.000	1.557	07	1000.000	1.686	08	1600.000	1.736
09	2000.000	1.686									

Fluoranthene-d10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.323	02	8.000	1.38	03	20.000	1.339	04	100.000	1.303

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 6/17/2019

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Calibration ID: KC1900232 **Signal ID:** 1
Instrument ID: K-MS-14

Analyte

Fluoranthene-d10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
05	200.000	1.24	06	400.000	1.292	07	1000.000	1.45	08	1600.000	1.512
09	2000.000	1.466									

Fluorene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.548	02	8.000	1.54	03	20.000	1.468	04	100.000	1.472
05	200.000	1.437	06	400.000	1.461	07	1000.000	1.399	08	1600.000	1.412
09	2000.000	1.376									

Fluorene-d10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.179	02	8.000	1.134	03	20.000	1.097	04	100.000	1.094
05	200.000	1.066	06	400.000	1.099	07	1000.000	1.064	08	1600.000	1.079
09	2000.000	1.053									

Indeno(1,2,3-cd)pyrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.068	02	8.000	1.031	03	20.000	1.083	04	100.000	1.116
05	200.000	1.112	06	400.000	1.104	07	1000.000	0.9799	08	1600.000	0.9629
09	2000.000	0.9022									

Naphthalene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.079	02	8.000	1.191	03	20.000	1.168	04	100.000	1.138
05	200.000	1.112	06	400.000	1.122	07	1000.000	1.089	08	1600.000	1.097
09	2000.000	1.07									

Phenanthrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.286	02	8.000	1.272	03	20.000	1.228	04	100.000	1.233
05	200.000	1.195	06	400.000	1.231	07	1000.000	1.196	08	1600.000	1.199
09	2000.000	1.168									

Pyrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	1.269	02	8.000	1.256	03	20.000	1.213	04	100.000	1.118
05	200.000	1.053	06	400.000	1.051	07	1000.000	1.187	08	1600.000	1.275
09	2000.000	1.275									

Terphenyl-d14

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	4.000	0.9105	02	8.000	0.9217	03	20.000	0.9015	04	100.000	0.8587
05	200.000	0.8214	06	400.000	0.8367	07	1000.000	0.8537	08	1600.000	0.8754
09	2000.000	0.8483									

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 6/17/2019

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Calibration ID: KC1900232 **Signal ID:** 1
Instrument ID: K-MS-14

		Calibration Evaluation				Calibration Evaluation	
Analyte Name	Compound Type	Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
2-Methylnaphthalene	TRG	Average RF	% RSD	6.6	≤20	0.7079	0.40
Acenaphthene	TRG	Average RF	% RSD	2.4	≤20	1.277	0.90
Acenaphthylene	TRG	Average RF	% RSD	4.3	≤20	2.138	0.90
Anthracene	TRG	Average RF	% RSD	1.7	≤20	1.161	0.70
Benz(a)anthracene	TRG	Average RF	% RSD	3.2	≤20	1.253	0.80
Benzo(a)pyrene	TRG	Average RF	% RSD	2.8	≤20	1.062	0.70
Benzo(b)fluoranthene	TRG	Average RF	% RSD	3.1	≤20	1.177	0.70
Benzo(g,h,i)perylene	TRG	Average RF	% RSD	13.1	≤20	1.221	0.50
Benzo(k)fluoranthene	TRG	Average RF	% RSD	2.8	≤20	1.145	0.70
Chrysene	TRG	Average RF	% RSD	1.2	≤20	1.198	0.70
Dibenz(a,h)anthracene	TRG	Average RF	% RSD	7.9	≤20	1.177	0.40
Dibenzofuran	TRG	Average RF	% RSD	2.7	≤20	1.969	0.80
Fluoranthene	TRG	Average RF	% RSD	3.7	≤20	1.651	0.60
Fluoranthene-d10	SURR	Average RF	% RSD	6.7	≤20	1.367	0.01
Fluorene	TRG	Average RF	% RSD	4.1	≤20	1.457	0.90
Fluorene-d10	SURR	Average RF	% RSD	3.6	≤20	1.096	0.01
Indeno(1,2,3-cd)pyrene	TRG	Average RF	% RSD	7.3	≤20	1.04	0.50
Naphthalene	TRG	Average RF	% RSD	3.7	≤20	1.118	0.70
Phenanthrene	TRG	Average RF	% RSD	3.1	≤20	1.223	0.70
Pyrene	TRG	Average RF	% RSD	7.8	≤20	1.188	0.60
Terphenyl-d14	SURR	Average RF	% RSD	4.0	≤20	0.8698	0.01

Client: Pacific Groundwater Group (PGG) **Service Request:** K1906902
Project: DTNA Swan Island Lagoon Sediment **Calibration Date:** 6/17/2019

Initial Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Calibration ID: KC1900232 **Signal ID:** 1
Instrument ID: K-MS-14

#	Lab Code	Sample Name	File Location	Acquisition Date
10	KC1900232-10	SIM-PAH ICV @ 0.4ug/mL SVM61-6K	J:\MS14\DATA\061719\0617F017.D	06/17/2019 14:10

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
2-Methylnaphthalene	400	363	7.079E-1	6.42E-1	-9.303	±30	Average RF
Acenaphthene	400	365	1.277E0	1.166E0	-8.708	±30	Average RF
Acenaphthylene	400	387	2.138E0	2.066E0	-3.368	±30	Average RF
Anthracene	400	388	1.161E0	1.125E0	-3.102	±30	Average RF
Benz(a)anthracene	400	374	1.253E0	1.171E0	-6.559	±30	Average RF
Benzo(a)pyrene	400	387	1.062E0	1.028E0	-3.271	±30	Average RF
Benzo(b)fluoranthene	400	403	1.177E0	1.187E0	0.823	±30	Average RF
Benzo(g,h,i)perylene	400	328	1.221E0	1.002E0	-17.973	±30	Average RF
Benzo(k)fluoranthene	400	399	1.145E0	1.142E0	-0.249	±30	Average RF
Chrysene	400	363	1.198E0	1.087E0	-9.267	±30	Average RF
Dibenz(a,h)anthracene	400	345	1.177E0	1.014E0	-13.853	±30	Average RF
Dibenzofuran	400	344	1.969E0	1.694E0	-13.954	±30	Average RF
Fluoranthene	400	377	1.651E0	1.555E0	-5.809	±30	Average RF
Fluorene	400	377	1.457E0	1.372E0	-5.862	±30	Average RF
Indeno(1,2,3-cd)pyrene	400	384	1.04E0	9.972E-1	-4.083	±30	Average RF
Naphthalene	400	380	1.118E0	1.062E0	-5.062	±30	Average RF
Phenanthrene	400	365	1.223E0	1.116E0	-8.735	±30	Average RF
Pyrene	400	334	1.188E0	9.925E-1	-16.483	±30	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Fluoranthene-d10	400	391	1.367E0	1.336E0	-2.264	±30	Average RF
Fluorene-d10	400	410	1.096E0	1.124E0	2.49	±30	Average RF
Terphenyl-d14	400	403	8.698E-1	8.765E-1	0.774	±30	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/05/19 08:39

Continuing Calibration Verification (CCV) Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method:	8270D	**Calibration Date:**	6/17/2019
File ID:	J:\MS14\DATA\080519A\0805F002.D\	**Calibration ID:**	KC1900232
Signal ID:	1	**Analysis Lot:**	645972
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2-Methylnaphthalene	400	370	0.7079	0.6549	-7.5	NA	±20	Average RF
Acenaphthene	400	381	1.2771	1.2178	-4.6	NA	±20	Average RF
Acenaphthylene	400	385	2.1381	2.0557	-3.9	NA	±20	Average RF
Anthracene	400	405	1.161	1.1769	1.4	NA	±20	Average RF
Benz(a)anthracene	400	374	1.2528	1.1704	-6.6	NA	±20	Average RF
Benzo(a)pyrene	400	401	1.0625	1.0649	0.2	NA	±20	Average RF
Benzo(b)fluoranthene	400	404	1.1771	1.1879	0.9	NA	±20	Average RF
Benzo(g,h,i)perylene	400	402	1.2212	1.2281	0.6	NA	±20	Average RF
Benzo(k)fluoranthene	400	419	1.1445	1.1982	4.7	NA	±20	Average RF
Chrysene	400	387	1.1975	1.1582	-3.3	NA	±20	Average RF
Dibenz(a,h)anthracene	400	399	1.1773	1.1746	-0.2	NA	±20	Average RF
Dibenzofuran	400	401	1.9689	1.9722	0.2	NA	±20	Average RF
Fluoranthene	400	356	1.6512	1.4692	-11.0	NA	±20	Average RF
Fluorene	400	390	1.457	1.42	-2.5	NA	±20	Average RF
Indeno(1,2,3-cd)pyrene	400	385	1.0397	0.9996	-3.9	NA	±20	Average RF
Naphthalene	400	374	1.1184	1.0461	-6.5	NA	±20	Average RF
Phenanthrene	400	356	1.2231	1.0892	-11.0	NA	±20	Average RF
Pyrene	400	384	1.1884	1.1416	-3.9	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Fluoranthene-d10	400	386	1.3672	1.3209	-3.4	NA	±20	Average RF
Fluorene-d10	400	421	1.0963	1.1526	5.1	NA	±20	Average RF
Terphenyl-d14	400	396	0.8698	0.8603	-1.1	NA	±20	Average RF

Client:	Pacific Groundwater Group (PGG)	**Service Request:**	K1906902
Project:	DTNA Swan Island Lagoon Sediment/2006-00115	**Date Analyzed:**	08/06/19 05:30

Continuing Calibration Verification (CCV) Summary
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method:	8270D	**Calibration Date:**	6/17/2019
File ID:	J:\MS14\DATA\080619\0806F002.D\	**Calibration ID:**	KC1900232
Signal ID:	1	**Analysis Lot:**	646168
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
2-Methylnaphthalene	400	365	0.7079	0.6461	-8.7	NA	±20	Average RF
Acenaphthene	400	381	1.2771	1.215	-4.9	NA	±20	Average RF
Acenaphthylene	400	377	2.1381	2.0142	-5.8	NA	±20	Average RF
Anthracene	400	417	1.161	1.2104	4.2	NA	±20	Average RF
Benz(a)anthracene	400	368	1.2528	1.1535	-7.9	NA	±20	Average RF
Benzo(a)pyrene	400	401	1.0625	1.0652	0.3	NA	±20	Average RF
Benzo(b)fluoranthene	400	393	1.1771	1.1564	-1.8	NA	±20	Average RF
Benzo(g,h,i)perylene	400	413	1.2212	1.2614	3.3	NA	±20	Average RF
Benzo(k)fluoranthene	400	405	1.1445	1.16	1.3	NA	±20	Average RF
Chrysene	400	383	1.1975	1.1453	-4.4	NA	±20	Average RF
Dibenz(a,h)anthracene	400	410	1.1773	1.2079	2.6	NA	±20	Average RF
Dibenzofuran	400	391	1.9689	1.9249	-2.2	NA	±20	Average RF
Fluoranthene	400	360	1.6512	1.4878	-9.9	NA	±20	Average RF
Fluorene	400	385	1.457	1.4026	-3.7	NA	±20	Average RF
Indeno(1,2,3-cd)pyrene	400	424	1.0397	1.1016	6.0	NA	±20	Average RF
Naphthalene	400	370	1.1184	1.0351	-7.4	NA	±20	Average RF
Phenanthrene	400	345	1.2231	1.0545	-13.8	NA	±20	Average RF
Pyrene	400	396	1.1884	1.1771	-1.0	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Fluoranthene-d10	400	391	1.3672	1.3362	-2.3	NA	±20	Average RF
Fluorene-d10	400	421	1.0963	1.1546	5.3	NA	±20	Average RF
Terphenyl-d14	400	408	0.8698	0.8865	1.9	NA	±20	Average RF

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: **Analysis Lot:**645972
Instrument ID:K-MS-14

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS14\DATA\080519A\0805F001.D\	ZZZZZZZ	ZZZZZZZ	8/5/2019	08:12:00	
J:\MS14\DATA\080519A\0805F002.D\	Continuing Calibration Verification	KQ1910937-01	8/5/2019	08:39:00	
J:\MS14\DATA\080519A\0805F015.D\	O7-0to27-101918	K1906902-001	8/5/2019	15:32:00	
J:\MS14\DATA\080519A\0805F016.D\	A1-0to30-102018	K1906902-004	8/5/2019	16:00:00	
J:\MS14\DATA\080519A\0805F017.D\	Q6-0to27-102018	K1906902-005	8/5/2019	16:29:00	
J:\MS14\DATA\080519A\0805F018.D\	A5-0to25-100818	K1906902-006	8/5/2019	16:57:00	
J:\MS14\DATA\080519A\0805F019.D\	A3-0to31-100818	K1906902-008	8/5/2019	17:25:00	
J:\MS14\DATA\080519A\0805F020.D\	A6-0to23-100818	K1906902-010	8/5/2019	17:54:00	
J:\MS14\DATA\080519A\0805F021.D\	A7-0to26-100918	K1906902-012	8/5/2019	18:22:00	
J:\MS14\DATA\080519A\0805F022.D\	F2-0to19-101018	K1906902-014	8/5/2019	18:50:00	
J:\MS14\DATA\080519A\0805F023.D\	Q2-0to13-101818	K1906902-017	8/5/2019	19:17:00	
J:\MS14\DATA\080519A\0805F024.D\	T6-0to29-101618	K1906902-019	8/5/2019	19:44:00	

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115

Analysis Run Log
Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Analysis Method: **Analysis Lot:**646168
Instrument ID:K-MS-14

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS14\DATA\080619\0806F001.D\	ZZZZZZZ	ZZZZZZZ	8/6/2019	05:03:00	
J:\MS14\DATA\080619\0806F002.D\	Continuing Calibration Verification	KQ1911012-01	8/6/2019	05:30:00	
J:\MS14\DATA\080619\0806F003.D\	Method Blank	KQ1910711-04	8/6/2019	06:02:00	
J:\MS14\DATA\080619\0806F004.D\	Lab Control Sample	KQ1910711-03	8/6/2019	06:29:00	
J:\MS14\DATA\080619\0806F005.D\	515-0to26-101918	K1906902-002	8/6/2019	06:58:00	
J:\MS14\DATA\080619\0806F006.D\	A4-0to25-100818	K1906902-007	8/6/2019	07:25:00	
J:\MS14\DATA\080619\0806F007.D\	A2-0to26-100818	K1906902-009	8/6/2019	07:52:00	
J:\MS14\DATA\080619\0806F008.D\	C4-0to27-100918	K1906902-011	8/6/2019	08:19:00	
J:\MS14\DATA\080619\0806F009.D\	D2-0to19-101018	K1906902-013	8/6/2019	08:47:00	
J:\MS14\DATA\080619\0806F010.D\	M4-0to26-101918 MS	KQ1910711-01	8/6/2019	09:15:00	
J:\MS14\DATA\080619\0806F011.D\	M4-0to26-101918 DMS	KQ1910711-02	8/6/2019	09:42:00	
J:\MS14\DATA\080619\0806F012.D\	M4-0to26-101918	K1906902-003	8/6/2019	10:10:00	
J:\MS14\DATA\080619\0806F013.D\	H2-0to30-101218	K1906902-015	8/6/2019	10:38:00	
J:\MS14\DATA\080619\0806F016.D\	A3-0to31-100818	K1906902-008	8/6/2019	12:01:00	
J:\MS14\DATA\080619\0806F017.D\	C4-0to27-100918	K1906902-011	8/6/2019	12:30:00	
J:\MS14\DATA\080619\0806F018.D\	J2A3-0to18-101218	K1906902-016	8/6/2019	12:57:00	
J:\MS14\DATA\080619\0806F019.D\	G6-0to27-101818	K1906902-018	8/6/2019	13:25:00	

Prep Summary Report

Client: Pacific Groundwater Group (PGG) **Service Request:**K1906902
Project: DTNA Swan Island Lagoon Sediment/2006-00115
Sample Matrix: Sediment

Polynuclear Aromatic Hydrocarbons by GC/MS SIM Ultra Low Level

Prep Method: EPA 3541 **Extraction Lot:** 341602
Analytical Method: 8270D **Extraction Date:** 07/31/19 13:01

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
O7-0to27-101918	K1906902-001	10/19/18	10/22/18	40.094 g	2 mL	38.8
515-0to26-101918	K1906902-002	10/19/18	10/22/18	40.071 g	2 mL	47.2
M4-0to26-101918	K1906902-003	10/19/18	10/22/18	40.057 g	2 mL	44.7
A1-0to30-102018	K1906902-004	10/20/18	10/22/18	40.448 g	2 mL	56.0
Q6-0to27-102018	K1906902-005	10/20/18	10/22/18	40.115 g	2 mL	36.0
A5-0to25-100818	K1906902-006	10/8/18	10/10/18	40.206 g	2 mL	47.3
A4-0to25-100818	K1906902-007	10/8/18	10/10/18	40.417 g	2 mL	48.9
A3-0to31-100818	K1906902-008	10/8/18	10/10/18	40.431 g	2 mL	44.1
A2-0to26-100818	K1906902-009	10/8/18	10/10/18	40.160 g	2 mL	46.1
A6-0to23-100818	K1906902-010	10/8/18	10/10/18	40.112 g	2 mL	44.1
C4-0to27-100918	K1906902-011	10/9/18	10/10/18	40.127 g	2 mL	40.3
A7-0to26-100918	K1906902-012	10/9/18	10/10/18	40.072 g	2 mL	52.6
D2-0to19-101018	K1906902-013	10/10/18	10/15/18	40.060 g	2 mL	71.5
F2-0to19-101018	K1906902-014	10/10/18	10/15/18	40.434 g	2 mL	72.6
H2-0to30-101218	K1906902-015	10/12/18	10/15/18	40.087 g	2 mL	48.9
J2A3-0to18-101218	K1906902-016	10/12/18	10/15/18	40.087 g	2 mL	77.7
Q2-0to13-101818	K1906902-017	10/18/18	10/19/18	40.415 g	2 mL	68.6
G6-0to27-101818	K1906902-018	10/18/18	10/19/18	40.007 g	2 mL	50.7
T6-0to29-101618	K1906902-019	10/16/18	10/19/18	40.257 g	2 mL	38.1
Matrix Spike	KQ1910711-01MS	10/19/18	10/22/18	40.301 g	2 mL	44.7
Duplicate Matrix Spike	KQ1910711-02DMS	10/19/18	10/22/18	40.310 g	2 mL	44.7
Lab Control Sample	KQ1910711-03LCS	NA	NA	20.00 g	2 mL	
Method Blank	KQ1910711-04MB	NA	NA	20.00 g	2 mL	