MONITORING PROGRAM ANNUAL REPORT

JANUARY - DECEMBER 2011

ANCHORAGE WATER AND WASTEWATER UTILITY

JOHN M. ASPLUND WATER POLLUTION CONTROL FACILITY
AT POINT WORONZOF

APPENDICES

Prepared for:

Prepared by:

KINNETIC LABORATORIES INCORPORATED
1102 West 7th Ave., Anchorage, AK 99501
(907) 276-6178

February 2012

APPENDICES

APPENDIX A Toxic Pollutant and Pesticide Monitoring, June Sampling

A1 Oil & Grease, Cyanide, Metals, Priority Pollutants, Dioxin, Pesticides, and Hydrocarbons
Columbia Analytical Services

A2 Asbestos
Solar Environmental Services, Inc. and IATL

A3 Enterococci
AWWU Asplund Laboratory

APPENDIX B Toxic Pollutant and Pesticide Monitoring, August Sampling

B1 Oil & Grease, Cyanide, Metals, Priority Pollutants, Dioxin, Pesticides, and Hydrocarbons
Columbia Analytical Services

B2 Asbestos
Solar Environmental Services, Inc. and IATL

B3 Enterococci
AWWU Asplund Laboratory

APPENDIX C Receiving Water Quality Monitoring

C1 Total Suspended Solids and Cyanide
Soil Control Lab

C2 Aromatic Hydrocarbons and Color
Columbia Analytical Services, & Analytica International Inc.

C3 Polycyclic Aromatic Hydrocarbons
Texas A&M GERG

C4 Trace Metals
Calscience Environmental Laboratories Inc.

C5 Intertidal & Receiving Water Bacteria
AWWU Asplund Laboratory

C6 Total Residual Chlorine and Turbidity
Kinnetic Laboratories, Inc.

C7 Hydrographic Data Profiles
Kinnetic Laboratories, Inc.

C8 Field Data Sheets
Kinnetic Laboratories, Inc.

APPENDIX A

Toxic Pollutant and Pesticide Monitoring, June Sampling

A1 Oil & Grease, Cyanide, Metals, Priority Pollutants, Dioxin, Pesticides, and Hydrocarbons

Columbia Analytical Services

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105471

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105471.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105471

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 624. Detection limits as per method.

MATRIX: Water	**Preservative:** HCl,6°C	**Type of Container:** 40-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOP001	INF CMP #1	3	06/14/11 0852		
MOA11VOP002	INF CMP #2	3	1206		
MOA11VOP003	INF CMP #3	3	1503		
MOA11VOP004	INF CMP #4	3	1805		
MOA11VOP005	INF CMP #5	3	2100		
MOA11VOP006	INF CMP #6	3	2400		
MOA11VOP007	INF CMP #7	3	6/15/11 0300		
MOA11VOP008	INF CMP #8	3	6/15/11 0600		

SAMPLES LISTED ON THIS COC SHOULD BE COMPOSITED IN AN EIGHT-PART COMPOSITE IN A VAPOR-TYPE SYRINGE PRIOR TO ANALYSIS.

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	hand	[signature]	6/15 1015
Mary Millington	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

PC H 2

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request *K11* 5471

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	289			X

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. 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
MOA11V0P002	1x 40 ml			X					BT	

Notes, Discrepancies, & Resolutions: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105471
Date Collected: 06/15/2011
Date Received: 06/17/2011

Volatile Organic Compounds

Sample Name: MOA11VOP001 - 008 COMP
Lab Code: K1105471-009

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	06/23/11	06/23/11	KWG1105760	
Chloromethane	ND	U	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	
Vinyl Chloride	ND	U	0.50	0.053	1	06/23/11	06/23/11	KWG1105760	
Bromomethane	ND	U	0.50	0.32	1	06/23/11	06/23/11	KWG1105760	
Chloroethane	ND	U	0.50	0.32	1	06/23/11	06/23/11	KWG1105760	
Trichlorofluoromethane	ND	U	0.50	0.048	1	06/23/11	06/23/11	KWG1105760	
Acrolein†	ND	U	50	2.1	1	06/23/11	06/23/11	KWG1105760	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	06/23/11	06/23/11	KWG1105760	
1,1-Dichloroethene	ND	U	0.50	0.37	1	06/23/11	06/23/11	KWG1105760	
Acetone	**150**		20	4.3	1	06/23/11	06/23/11	KWG1105760	
Carbon Disulfide	**0.23**	J	0.50	0.048	1	06/23/11	06/23/11	KWG1105760	
Methylene Chloride	**1.5**	J	2.0	0.093	1	06/23/11	06/23/11	KWG1105760	
Acrylonitrile†	ND	U	10	0.28	1	06/23/11	06/23/11	KWG1105760	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	06/23/11	06/23/11	KWG1105760	
1,1-Dichloroethane	ND	U	0.50	0.041	1	06/23/11	06/23/11	KWG1105760	
Vinyl Acetate	ND	U	10	0.21	1	06/23/11	06/23/11	KWG1105760	
cis-1,2-Dichloroethene	**0.090**	J	0.50	0.042	1	06/23/11	06/23/11	KWG1105760	
2-Butanone (MEK)	**22**		20	3.4	1	06/23/11	06/23/11	KWG1105760	
Chloroform	**2.4**		0.50	0.038	1	06/23/11	06/23/11	KWG1105760	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	06/23/11	06/23/11	KWG1105760	
Carbon Tetrachloride	ND	U	0.50	0.26	1	06/23/11	06/23/11	KWG1105760	
Benzene	**0.12**	J	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	06/23/11	06/23/11	KWG1105760	
Trichloroethene (TCE)	**0.11**	J	0.50	0.044	1	06/23/11	06/23/11	KWG1105760	
1,2-Dichloropropane	ND	U	0.50	0.044	1	06/23/11	06/23/11	KWG1105760	
Bromodichloromethane	**0.090**	J	0.50	0.047	1	06/23/11	06/23/11	KWG1105760	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	06/23/11	06/23/11	KWG1105760	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	06/23/11	06/23/11	KWG1105760	
Toluene	**9.8**		0.50	0.039	1	06/23/11	06/23/11	KWG1105760	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	06/23/11	06/23/11	KWG1105760	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	06/23/11	06/23/11	KWG1105760	
Tetrachloroethene (PCE)	**0.58**		0.50	0.043	1	06/23/11	06/23/11	KWG1105760	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105471
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP001 - 008 COMP	**Units:**	ug/L
Lab Code:	K1105471-009	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
2-Hexanone	ND	U	20	1.8	1	06/23/11	06/23/11	KWG1105760	
Dibromochloromethane	ND	U	0.50	0.081	1	06/23/11	06/23/11	KWG1105760	
Chlorobenzene	ND	U	0.50	0.031	1	06/23/11	06/23/11	KWG1105760	
Ethylbenzene	**0.61**		0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
m,p-Xylenes	**0.91**	J	1.0	0.14	1	06/23/11	06/23/11	KWG1105760	
o-Xylene	**0.36**	J	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	
Styrene	**0.50**		0.50	0.025	1	06/23/11	06/23/11	KWG1105760	
Bromoform	ND	U	0.50	0.11	1	06/23/11	06/23/11	KWG1105760	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	06/23/11	06/23/11	KWG1105760	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	06/23/11	06/23/11	KWG1105760	
1,4-Dichlorobenzene	**0.78**		0.50	0.073	1	06/23/11	06/23/11	KWG1105760	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	06/23/11	06/23/11	KWG1105760	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	108	61-121	06/23/11	Acceptable
Toluene-d8	97	72-122	06/23/11	Acceptable
4-Bromofluorobenzene	92	70-120	06/23/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105471
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1105760-2

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	06/23/11	06/23/11	KWG1105760	
Chloromethane	**0.060**	J	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	
Vinyl Chloride	ND	U	0.50	0.053	1	06/23/11	06/23/11	KWG1105760	
Bromomethane	ND	U	0.50	0.32	1	06/23/11	06/23/11	KWG1105760	
Chloroethane	ND	U	0.50	0.32	1	06/23/11	06/23/11	KWG1105760	
Trichlorofluoromethane	ND	U	0.50	0.048	1	06/23/11	06/23/11	KWG1105760	
Acrolein†	ND	U	50	2.1	1	06/23/11	06/23/11	KWG1105760	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	06/23/11	06/23/11	KWG1105760	
1,1-Dichloroethene	ND	U	0.50	0.37	1	06/23/11	06/23/11	KWG1105760	
Acetone	ND	U	20	4.3	1	06/23/11	06/23/11	KWG1105760	
Carbon Disulfide	ND	U	0.50	0.048	1	06/23/11	06/23/11	KWG1105760	
Methylene Chloride	ND	U	2.0	0.093	1	06/23/11	06/23/11	KWG1105760	
Acrylonitrile†	ND	U	10	0.28	1	06/23/11	06/23/11	KWG1105760	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	06/23/11	06/23/11	KWG1105760	
1,1-Dichloroethane	ND	U	0.50	0.041	1	06/23/11	06/23/11	KWG1105760	
Vinyl Acetate	ND	U	10	0.21	1	06/23/11	06/23/11	KWG1105760	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	06/23/11	06/23/11	KWG1105760	
2-Butanone (MEK)	ND	U	20	3.4	1	06/23/11	06/23/11	KWG1105760	
Chloroform	ND	U	0.50	0.038	1	06/23/11	06/23/11	KWG1105760	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	06/23/11	06/23/11	KWG1105760	
Carbon Tetrachloride	ND	U	0.50	0.26	1	06/23/11	06/23/11	KWG1105760	
Benzene	ND	U	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	06/23/11	06/23/11	KWG1105760	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	06/23/11	06/23/11	KWG1105760	
1,2-Dichloropropane	ND	U	0.50	0.044	1	06/23/11	06/23/11	KWG1105760	
Bromodichloromethane	ND	U	0.50	0.047	1	06/23/11	06/23/11	KWG1105760	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	06/23/11	06/23/11	KWG1105760	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	06/23/11	06/23/11	KWG1105760	
Toluene	ND	U	0.50	0.039	1	06/23/11	06/23/11	KWG1105760	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	06/23/11	06/23/11	KWG1105760	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	06/23/11	06/23/11	KWG1105760	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	06/23/11	06/23/11	KWG1105760	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105471
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1105760-2	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
2-Hexanone	ND	U	20	1.8	1	06/23/11	06/23/11	KWG1105760	
Dibromochloromethane	ND	U	0.50	0.081	1	06/23/11	06/23/11	KWG1105760	
Chlorobenzene	ND	U	0.50	0.031	1	06/23/11	06/23/11	KWG1105760	
Ethylbenzene	ND	U	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
m,p-Xylenes	ND	U	1.0	0.14	1	06/23/11	06/23/11	KWG1105760	
o-Xylene	ND	U	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	
Styrene	ND	U	0.50	0.025	1	06/23/11	06/23/11	KWG1105760	
Bromoform	ND	U	0.50	0.11	1	06/23/11	06/23/11	KWG1105760	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	06/23/11	06/23/11	KWG1105760	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	06/23/11	06/23/11	KWG1105760	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	06/23/11	06/23/11	KWG1105760	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	06/23/11	06/23/11	KWG1105760	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	61-121	06/23/11	Acceptable
Toluene-d8	97	72-122	06/23/11	Acceptable
4-Bromofluorobenzene	88	70-120	06/23/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105471

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
Batch QC	K1105467-005	108	97	91
MOA11VOP001 - 008 COMP	K1105471-009	108	97	92
Method Blank	KWG1105760-2	106	97	88
Batch QCMS	KWG1105760-3	107	106	96
Batch QCDMS	KWG1105760-4	106	105	97
Lab Control Sample	KWG1105760-1	106	106	97

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	61-121
Sur2 =	Toluene-d8	72-122
Sur3 =	4-Bromofluorobenzene	70-120

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105471
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/23/2011
Sample Matrix:	Water	**Date Analyzed:**	06/23/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1105467-005	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624	**Extraction Lot:**	KWG1105760

		Batch QCMS KWG1105760-3 Matrix Spike			Batch QCDMS KWG1105760-4 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
1,1-Dichloroethene	ND	10.1	10.0	101	9.09	10.0	91	64-151	10	30
Benzene	0.88	11.5	10.0	106	10.6	10.0	97	61-145	8	30
Trichloroethene (TCE)	ND	10.7	10.0	107	9.57	10.0	96	23-193	11	30
Toluene	1.6	11.7	10.0	101	10.9	10.0	93	69-137	7	30
Chlorobenzene	ND	11.2	10.0	112	10.7	10.0	107	76-128	5	30
1,2-Dichlorobenzene	ND	10.5	10.0	105	10.2	10.0	102	71-135	3	30

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105471
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/23/2011
Sample Matrix:	Water	**Date Analyzed:**	06/23/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	624	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105760

	Lab Control Sample KWG1105760-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dichlorodifluoromethane	9.48	10.0	95	37-147
Chloromethane	10.1	10.0	101	66-139
Vinyl Chloride	9.18	10.0	92	71-136
Bromomethane	8.69	10.0	87	61-154
Chloroethane	8.75	10.0	88	69-130
Trichlorofluoromethane	8.62	10.0	86	65-127
Acrolein	78.5	100	79	27-200
Trichlorotrifluoroethane	9.47	10.0	95	72-134
1,1-Dichloroethene	10.4	10.0	104	79-147
Acetone	49.0	50.0	98	79-146
Carbon Disulfide	17.9	20.0	90	41-174
Methylene Chloride	11.1	10.0	111	67-144
Acrylonitrile	11.1	10.0	111	82-138
trans-1,2-Dichloroethene	11.3	10.0	113	78-140
1,1-Dichloroethane	10.8	10.0	108	79-135
Vinyl Acetate	20.4	20.0	102	60-157
cis-1,2-Dichloroethene	10.5	10.0	105	80-134
2-Butanone (MEK)	56.6	50.0	113	82-140
Chloroform	10.9	10.0	109	81-136
1,1,1-Trichloroethane (TCA)	9.82	10.0	98	77-139
Carbon Tetrachloride	10.8	10.0	108	69-144
Benzene	11.1	10.0	111	81-140
1,2-Dichloroethane (EDC)	10.2	10.0	102	74-140
Trichloroethene (TCE)	10.6	10.0	106	81-133
1,2-Dichloropropane	10.4	10.0	104	80-134
Bromodichloromethane	10.3	10.0	103	80-136
2-Chloroethyl Vinyl Ether	8.30	10.0	83	61-141
cis-1,3-Dichloropropene	9.00	10.0	90	77-137
4-Methyl-2-pentanone (MIBK)	41.5	50.0	83	81-127
Toluene	11.1	10.0	111	80-139
trans-1,3-Dichloropropene	7.47	10.0	75	73-122
1,1,2-Trichloroethane	10.7	10.0	107	87-129
Tetrachloroethene (PCE)	11.8	10.0	118	82-129
2-Hexanone	42.8	50.0	86	80-123
Dibromochloromethane	10.0	10.0	100	82-128

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

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

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105471
Date Extracted: 06/23/2011
Date Analyzed: 06/23/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1105760

	Lab Control Sample KWG1105760-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Chlorobenzene	11.2	10.0	112	87-126
Ethylbenzene	10.9	10.0	109	86-128
m,p-Xylenes	21.5	20.0	108	85-129
o-Xylene	9.96	10.0	100	89-125
Styrene	9.97	10.0	100	84-129
Bromoform	9.94	10.0	99	61-144
1,1,2,2-Tetrachloroethane	9.66	10.0	97	78-144
1,3-Dichlorobenzene	10.7	10.0	107	78-142
1,4-Dichlorobenzene	10.5	10.0	105	77-144
1,2-Dichlorobenzene	10.6	10.0	106	77-143

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

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

Columbia Analytical Services
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105468

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105468.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105468

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 624. Detection limits as per method. Please perform MS/SD on the composited sample.

MATRIX: Water	**Preservative:** HCl, 6°C Effluent samples contain L- Ascorbic Acid	**Type of Container:** 40-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOP009	EFF CMP #1	3	6/14/11 0905		
MOA11VOP010	EFF CMP #2	3	1203		
MOA11VOP011	EFF CMP #3	3	1522		
MOA11VOP012	EFF CMP #4	3	1757		
MOA11VOP013	EFF CMP #5	3	2103		
MOA11VOP014	EFF CMP #6	3	6/15/11 0067		
MOA11VOP015	EFF CMP #7	3	0300		
MOA11VOP016	EFF CMP #8	3	0603		

SAMPLES LISTED ON THIS COC SHOULD BE COMPOSITED IN AN EIGHT-PART COMPOSITE IN A VAPOR-TYPE SYRINGE PRIOR TO ANALYSIS.

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6-15-11 1015	hand	[signature]	6/15 1015
Gary Billingham	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

SAMPLED BY (NAME/SIGNATURE): _____

C:\Projects\MOA\MOA11\COC's dry\MOA11_dry_CAS_COC.doc

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC #2

Client / Project: Kinnetic Service Request K11 5468

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	280			X

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105468
Date Collected: 06/15/2011
Date Received: 06/17/2011

Volatile Organic Compounds

Sample Name: MOA11VOP009 - 016 COMP
Lab Code: K1105468-009

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	06/22/11	06/22/11	KWG1105698	
Chloromethane	**0.51**		0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Vinyl Chloride	ND	U	0.50	0.053	1	06/22/11	06/22/11	KWG1105698	
Bromomethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Chloroethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Trichlorofluoromethane	ND	U	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Acrolein†	ND	U	50	2.1	1	06/22/11	06/22/11	KWG1105698	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethene	ND	U	0.50	0.37	1	06/22/11	06/22/11	KWG1105698	
Acetone	**140**		20	4.3	1	06/22/11	06/22/11	KWG1105698	
Carbon Disulfide	**0.38**	J	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Methylene Chloride	**1.7**	J	2.0	0.093	1	06/22/11	06/22/11	KWG1105698	
Acrylonitrile†	ND	U	10	0.28	1	06/22/11	06/22/11	KWG1105698	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethane	ND	U	0.50	0.041	1	06/22/11	06/22/11	KWG1105698	
Vinyl Acetate	ND	U	10	0.21	1	06/22/11	06/22/11	KWG1105698	
cis-1,2-Dichloroethene	**0.070**	J	0.50	0.042	1	06/22/11	06/22/11	KWG1105698	
2-Butanone (MEK)	**20**		20	3.4	1	06/22/11	06/22/11	KWG1105698	
Chloroform	**3.6**		0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Carbon Tetrachloride	ND	U	0.50	0.26	1	06/22/11	06/22/11	KWG1105698	
Benzene	**0.10**	J	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
Trichloroethene (TCE)	**0.070**	J	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloropropane	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Bromodichloromethane	**0.29**	J	0.50	0.047	1	06/22/11	06/22/11	KWG1105698	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	06/22/11	06/22/11	KWG1105698	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	06/22/11	06/22/11	KWG1105698	
Toluene	**8.1**		0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	06/22/11	06/22/11	KWG1105698	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	06/22/11	06/22/11	KWG1105698	
Tetrachloroethene (PCE)	**0.47**	J	0.50	0.043	1	06/22/11	06/22/11	KWG1105698	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105468
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP009 - 016 COMP	**Units:**	ug/L
Lab Code:	K1105468-009	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
2-Hexanone	ND	U	20	1.8	1	06/22/11	06/22/11	KWG1105698	
Dibromochloromethane	ND	U	0.50	0.081	1	06/22/11	06/22/11	KWG1105698	
Chlorobenzene	**0.040**	J	0.50	0.031	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	**0.47**	J	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	**1.1**		1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	**0.41**	J	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Styrene	**0.34**	J	0.50	0.025	1	06/22/11	06/22/11	KWG1105698	
Bromoform	ND	U	0.50	0.11	1	06/22/11	06/22/11	KWG1105698	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	06/22/11	06/22/11	KWG1105698	
1,4-Dichlorobenzene	**0.73**		0.50	0.073	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	105	61-121	06/22/11	Acceptable
Toluene-d8	95	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	95	70-120	06/22/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105468
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1105698-4

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	06/22/11	06/22/11	KWG1105698	
Chloromethane	**0.070**	J	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Vinyl Chloride	ND	U	0.50	0.053	1	06/22/11	06/22/11	KWG1105698	
Bromomethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Chloroethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Trichlorofluoromethane	ND	U	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Acrolein†	ND	U	50	2.1	1	06/22/11	06/22/11	KWG1105698	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethene	ND	U	0.50	0.37	1	06/22/11	06/22/11	KWG1105698	
Acetone	ND	U	20	4.3	1	06/22/11	06/22/11	KWG1105698	
Carbon Disulfide	ND	U	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Methylene Chloride	**0.27**	J	2.0	0.093	1	06/22/11	06/22/11	KWG1105698	
Acrylonitrile†	ND	U	10	0.28	1	06/22/11	06/22/11	KWG1105698	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethane	ND	U	0.50	0.041	1	06/22/11	06/22/11	KWG1105698	
Vinyl Acetate	ND	U	10	0.21	1	06/22/11	06/22/11	KWG1105698	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	06/22/11	06/22/11	KWG1105698	
2-Butanone (MEK)	ND	U	20	3.4	1	06/22/11	06/22/11	KWG1105698	
Chloroform	ND	U	0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Carbon Tetrachloride	ND	U	0.50	0.26	1	06/22/11	06/22/11	KWG1105698	
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloropropane	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Bromodichloromethane	ND	U	0.50	0.047	1	06/22/11	06/22/11	KWG1105698	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	06/22/11	06/22/11	KWG1105698	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.050**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	06/22/11	06/22/11	KWG1105698	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	06/22/11	06/22/11	KWG1105698	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	06/22/11	06/22/11	KWG1105698	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105468
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1105698-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
2-Hexanone	ND	U	20	1.8	1	06/22/11	06/22/11	KWG1105698	
Dibromochloromethane	ND	U	0.50	0.081	1	06/22/11	06/22/11	KWG1105698	
Chlorobenzene	ND	U	0.50	0.031	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Styrene	ND	U	0.50	0.025	1	06/22/11	06/22/11	KWG1105698	
Bromoform	ND	U	0.50	0.11	1	06/22/11	06/22/11	KWG1105698	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	06/22/11	06/22/11	KWG1105698	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	61-121	06/22/11	Acceptable
Toluene-d8	99	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	89	70-120	06/22/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105468

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MOA11VOP009 - 016 COMP	K1105468-009	105	95	95
Method Blank	KWG1105698-4	106	99	89
MOA11VOP009 - 016 COMPMS	KWG1105698-1	103	104	95
MOA11VOP009 - 016 COMPDM	KWG1105698-2	102	103	96
Lab Control Sample	KWG1105698-3	108	105	98

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	61-121
Sur2 =	Toluene-d8	72-122
Sur3 =	4-Bromofluorobenzene	70-120

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105468
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/22/2011
Sample Matrix:	Water	**Date Analyzed:**	06/22/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	MOA11VOP009 - 016 COMP	**Units:**	ug/L
Lab Code:	K1105468-009	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624	**Extraction Lot:**	KWG1105698

		MOA11VOP009 - 016 COMPMS KWG1105698-1 Matrix Spike			MOA11VOP009 - 016 COMPDMS KWG1105698-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
1,1-Dichloroethene	ND	11.1	10.0	111	10.1	10.0	101	64-151	10	30
Benzene	0.10	11.8	10.0	117	10.7	10.0	106	61-145	9	30
Trichloroethene (TCE)	0.070	11.1	10.0	111	10.2	10.0	101	23-193	9	30
Toluene	8.1	19.0	10.0	109	17.2	10.0	91	69-137	10	30
Chlorobenzene	0.040	11.9	10.0	119	11.2	10.0	111	76-128	6	30
1,2-Dichlorobenzene	ND	11.3	10.0	113	10.6	10.0	106	71-135	6	30

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105468
Date Extracted: 06/22/2011
Date Analyzed: 06/22/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1105698

	Lab Control Sample KWG1105698-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dichlorodifluoromethane	9.36	10.0	94	37-147
Chloromethane	10.1	10.0	101	66-139
Vinyl Chloride	8.79	10.0	88	71-136
Bromomethane	7.89	10.0	79	61-154
Chloroethane	8.55	10.0	86	69-130
Trichlorofluoromethane	8.23	10.0	82	65-127
Acrolein	77.8	100	78	27-200
Trichlorotrifluoroethane	8.88	10.0	89	72-134
1,1-Dichloroethene	9.72	10.0	97	79-147
Acetone	48.8	50.0	98	79-146
Carbon Disulfide	17.4	20.0	87	41-174
Methylene Chloride	10.9	10.0	109	67-144
Acrylonitrile	10.7	10.0	107	82-138
trans-1,2-Dichloroethene	11.0	10.0	110	78-140
1,1-Dichloroethane	10.4	10.0	104	79-135
Vinyl Acetate	19.9	20.0	99	60-157
cis-1,2-Dichloroethene	10.1	10.0	101	80-134
2-Butanone (MEK)	54.1	50.0	108	82-140
Chloroform	10.6	10.0	106	81-136
1,1,1-Trichloroethane (TCA)	9.49	10.0	95	77-139
Carbon Tetrachloride	10.4	10.0	104	69-144
Benzene	10.9	10.0	109	81-140
1,2-Dichloroethane (EDC)	10.0	10.0	100	74-140
Trichloroethene (TCE)	10.4	10.0	104	81-133
1,2-Dichloropropane	10.1	10.0	101	80-134
Bromodichloromethane	10.1	10.0	101	80-136
2-Chloroethyl Vinyl Ether	8.37	10.0	84	61-141
cis-1,3-Dichloropropene	8.91	10.0	89	77-137
4-Methyl-2-pentanone (MIBK)	41.2	50.0	82	81-127
Toluene	10.9	10.0	109	80-139
trans-1,3-Dichloropropene	7.68	10.0	77	73-122
1,1,2-Trichloroethane	10.6	10.0	106	87-129
Tetrachloroethene (PCE)	11.6	10.0	116	82-129
2-Hexanone	42.3	50.0	85	80-123
Dibromochloromethane	10.2	10.0	102	82-128

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105468
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/22/2011
Sample Matrix:	Water	**Date Analyzed:**	06/22/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	624	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105698

	Lab Control Sample KWG1105698-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Chlorobenzene	11.1	10.0	111	87-126
Ethylbenzene	10.8	10.0	108	86-128
m,p-Xylenes	21.1	20.0	106	85-129
o-Xylene	9.92	10.0	99	89-125
Styrene	9.87	10.0	99	84-129
Bromoform	10.0	10.0	100	61-144
1,1,2,2-Tetrachloroethane	9.26	10.0	93	78-144
1,3-Dichlorobenzene	10.6	10.0	106	78-142
1,4-Dichlorobenzene	10.7	10.0	107	77-144
1,2-Dichlorobenzene	10.4	10.0	104	77-143

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

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

Columbia Analytical Services
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105450

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the sample submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105450.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1105450
Project:	Asplund WWTF	**Date Received:**	6/17/11
Sample Matrix:	Sludge		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

One sample was received for analysis at Columbia Analytical Services on 6/17/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Volatile Organic Compounds by EPA Method 8260

Calibration Verification Exceptions:
The following analytes were incorrectly flagged as being outside the upper control criterion for Continuing Calibration Verification (CCV) J:\MS24\0627F005.D: Acrolein, 2-Butanone (MEK), 4-Methyl-2-pentanone (MIBK), 2-Hexanone, and Toluene-d8. As long as 80% or more of the analytes in the CCV pass within 20% of the true value, the CAS 8260C SOP allows for 40% RSD for the remaining analytes. The quality of the data had not been affected. No further corrective action was required.

Lab Control Sample Exceptions:
The advisory criterion was exceeded for 2-Butanone (MEK) in Laboratory Control Sample (LCS) KWG1105888-3 and Duplicate Control Sample (DLCS) KWG1105888-4. As per the CAS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

The upper control criterion was exceeded for 2-Hexanone in Duplicate Laboratory Control Sample (DLCS) KWG1105888-4. The DLCS is used to evaluate batch precision, which is acceptable. The recovery in the Laboratory Control Sample (LCS) was acceptable indicating the batch was in control. The sample data was not significantly affected. No further corrective action was appropriate.

Matrix Spike Recovery Exceptions:
The matrix spike recovery of 1,2-Dichlorobenzene for sample MOA11VOP019MS KWG1105888-1 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for 1,2-Dichlorobenzene in the replicate matrix spike for sample MOA11VOP019 was outside control criterion. The spike recoveries and the RPD in the LCS/DLCS for the analyte in question were within control criteria, indicating the analytical batch was in control. No further corrective action was appropriate.

Approved by Howard Holmes **Date** 8-5-11

Calibration Range Exceedence:
Sample MOA11VOP019 was originally analyzed without Acetone requested as a target. This compound was added to the report list at a later date and was over range in the analyses. The results are flagged as an estimate for Acetone.

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

Approved by Howard Holum **Date** 8-5-11

Kinnetic Laboratories, Inc. Chain of Custody Record K1105450

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 8260. **Report using EPA 624 analyte list.** Detection limits as per method. Please report in dry weight..

MATRIX: Water	**Preservative:** None, 6° C	**Type of Container:** 250-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOP019	Sludge	1	06/15/11 0610		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1615	hand	[signature]	6/15 1615
Gary Gillingham	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

PC H2

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request K11 5450

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	280			X

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105450

Total Solids

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

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
MOA11VOP019	K1105450-001	06/15/2011	06/17/2011	06/27/2011	29.3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105450
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Sludge, solid	**Date Received:**	06/17/2011
		Date Analyzed:	06/27/2011

Duplicate Sample Summary

Total Solids

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

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
MOA11VOP019	K1105450-001	29.3	28.6	29.0	2	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105450
Date Collected: 06/15/2011
Date Received: 06/17/2011

Volatile Organic Compounds

Sample Name: MOA11VOP019
Lab Code: K1105450-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 5030A
Analysis Method: 8260C

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	17	0.41	1	06/27/11	06/27/11	KWG1105888	
Chloromethane	ND	U	17	0.61	1	06/27/11	06/27/11	KWG1105888	
Vinyl Chloride	ND	U	17	0.61	1	06/27/11	06/27/11	KWG1105888	
Bromomethane	ND	U	17	0.68	1	06/27/11	06/27/11	KWG1105888	
Chloroethane	ND	U	17	2.5	1	06/27/11	06/27/11	KWG1105888	
Trichlorofluoromethane	ND	U	17	0.29	1	06/27/11	06/27/11	KWG1105888	
Acrolein	ND	U	340	5.8	1	06/27/11	06/27/11	KWG1105888	
Trichlorotrifluoroethane	ND	U	17	0.81	1	06/27/11	06/27/11	KWG1105888	
1,1-Dichloroethene	ND	U	17	0.84	1	06/27/11	06/27/11	KWG1105888	
Acetone	**4100**	E	68	9.8	1	06/27/11	06/27/11	KWG1105888	
Carbon Disulfide	**66**		17	0.31	1	06/27/11	06/27/11	KWG1105888	
Methylene Chloride	**6.6**	J	34	0.54	1	06/27/11	06/27/11	KWG1105888	
Acrylonitrile	ND	U	68	1.5	1	06/27/11	06/27/11	KWG1105888	
trans-1,2-Dichloroethene	ND	U	17	0.41	1	06/27/11	06/27/11	KWG1105888	
1,1-Dichloroethane	ND	U	17	0.41	1	06/27/11	06/27/11	KWG1105888	
Vinyl Acetate	ND	U	68	1.1	1	06/27/11	06/27/11	KWG1105888	
cis-1,2-Dichloroethene	ND	U	17	0.41	1	06/27/11	06/27/11	KWG1105888	
2-Butanone (MEK)	**1200**		68	3.1	1	06/27/11	06/27/11	KWG1105888	
Chloroform	**1.8**	J	17	0.37	1	06/27/11	06/27/11	KWG1105888	
1,1,1-Trichloroethane (TCA)	ND	U	17	0.37	1	06/27/11	06/27/11	KWG1105888	
Carbon Tetrachloride	ND	U	17	0.32	1	06/27/11	06/27/11	KWG1105888	
Benzene	**3.5**	J	17	0.19	1	06/27/11	06/27/11	KWG1105888	
1,2-Dichloroethane (EDC)	ND	U	17	0.24	1	06/27/11	06/27/11	KWG1105888	
Trichloroethene (TCE)	ND	U	17	0.51	1	06/27/11	06/27/11	KWG1105888	
1,2-Dichloropropane	ND	U	17	0.44	1	06/27/11	06/27/11	KWG1105888	
Bromodichloromethane	ND	U	17	0.54	1	06/27/11	06/27/11	KWG1105888	
2-Chloroethyl Vinyl Ether	ND	U	34	1.5	1	06/27/11	06/27/11	KWG1105888	
cis-1,3-Dichloropropene	ND	U	17	0.44	1	06/27/11	06/27/11	KWG1105888	
4-Methyl-2-pentanone (MIBK)	ND	U	68	6.1	1	06/27/11	06/27/11	KWG1105888	
Toluene	**310**		17	0.51	1	06/27/11	06/27/11	KWG1105888	
trans-1,3-Dichloropropene	ND	U	17	0.37	1	06/27/11	06/27/11	KWG1105888	
1,1,2-Trichloroethane	ND	U	17	0.51	1	06/27/11	06/27/11	KWG1105888	
Tetrachloroethene (PCE)	**23**		17	0.54	1	06/27/11	06/27/11	KWG1105888	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105450
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Sludge, solid	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP019	**Units:**	ug/Kg
Lab Code:	K1105450-001	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
2-Hexanone	ND	U	68	3.2	1	06/27/11	06/27/11	KWG1105888	
Dibromochloromethane	ND	U	17	0.61	1	06/27/11	06/27/11	KWG1105888	
Chlorobenzene	ND	U	17	0.22	1	06/27/11	06/27/11	KWG1105888	
Ethylbenzene	**13**	J	17	0.32	1	06/27/11	06/27/11	KWG1105888	
m,p-Xylenes	**40**		17	0.34	1	06/27/11	06/27/11	KWG1105888	
o-Xylene	**14**	J	17	0.28	1	06/27/11	06/27/11	KWG1105888	
Styrene	**7.6**	J	17	0.48	1	06/27/11	06/27/11	KWG1105888	
Bromoform	ND	U	17	0.48	1	06/27/11	06/27/11	KWG1105888	
1,1,2,2-Tetrachloroethane	ND	U	17	0.44	1	06/27/11	06/27/11	KWG1105888	
1,3-Dichlorobenzene	ND	U	17	0.32	1	06/27/11	06/27/11	KWG1105888	
1,4-Dichlorobenzene	**17**	J	17	0.29	1	06/27/11	06/27/11	KWG1105888	
1,2-Dichlorobenzene	ND	U	17	0.26	1	06/27/11	06/27/11	KWG1105888	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	119	83-128	06/27/11	Acceptable
Toluene-d8	119	90-125	06/27/11	Acceptable
4-Bromofluorobenzene	110	77-124	06/27/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105450
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1105888-5

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 5030A
Analysis Method: 8260C

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	5.0	0.12	1	06/27/11	06/27/11	KWG1105888	
Chloromethane	ND	U	5.0	0.18	1	06/27/11	06/27/11	KWG1105888	
Vinyl Chloride	ND	U	5.0	0.18	1	06/27/11	06/27/11	KWG1105888	
Bromomethane	ND	U	5.0	0.20	1	06/27/11	06/27/11	KWG1105888	
Chloroethane	ND	U	5.0	0.74	1	06/27/11	06/27/11	KWG1105888	
Trichlorofluoromethane	ND	U	5.0	0.085	1	06/27/11	06/27/11	KWG1105888	
Acrolein	ND	U	100	1.7	1	06/27/11	06/27/11	KWG1105888	
Trichlorotrifluoroethane	ND	U	5.0	0.24	1	06/27/11	06/27/11	KWG1105888	
1,1-Dichloroethene	ND	U	5.0	0.25	1	06/27/11	06/27/11	KWG1105888	
Acetone	**7.7**	J	20	2.9	1	06/27/11	06/27/11	KWG1105888	
Carbon Disulfide	ND	U	5.0	0.092	1	06/27/11	06/27/11	KWG1105888	
Methylene Chloride	**0.91**	J	10	0.16	1	06/27/11	06/27/11	KWG1105888	
Acrylonitrile	ND	U	20	0.43	1	06/27/11	06/27/11	KWG1105888	
trans-1,2-Dichloroethene	ND	U	5.0	0.12	1	06/27/11	06/27/11	KWG1105888	
1,1-Dichloroethane	ND	U	5.0	0.12	1	06/27/11	06/27/11	KWG1105888	
Vinyl Acetate	ND	U	20	0.31	1	06/27/11	06/27/11	KWG1105888	
cis-1,2-Dichloroethene	ND	U	5.0	0.12	1	06/27/11	06/27/11	KWG1105888	
2-Butanone (MEK)	ND	U	20	0.90	1	06/27/11	06/27/11	KWG1105888	
Chloroform	ND	U	5.0	0.11	1	06/27/11	06/27/11	KWG1105888	
1,1,1-Trichloroethane (TCA)	ND	U	5.0	0.11	1	06/27/11	06/27/11	KWG1105888	
Carbon Tetrachloride	ND	U	5.0	0.094	1	06/27/11	06/27/11	KWG1105888	
Benzene	ND	U	5.0	0.054	1	06/27/11	06/27/11	KWG1105888	
1,2-Dichloroethane (EDC)	ND	U	5.0	0.070	1	06/27/11	06/27/11	KWG1105888	
Trichloroethene (TCE)	ND	U	5.0	0.15	1	06/27/11	06/27/11	KWG1105888	
1,2-Dichloropropane	ND	U	5.0	0.13	1	06/27/11	06/27/11	KWG1105888	
Bromodichloromethane	ND	U	5.0	0.16	1	06/27/11	06/27/11	KWG1105888	
2-Chloroethyl Vinyl Ether	ND	U	10	0.43	1	06/27/11	06/27/11	KWG1105888	
cis-1,3-Dichloropropene	ND	U	5.0	0.13	1	06/27/11	06/27/11	KWG1105888	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1.8	1	06/27/11	06/27/11	KWG1105888	
Toluene	**0.21**	J	5.0	0.15	1	06/27/11	06/27/11	KWG1105888	
trans-1,3-Dichloropropene	ND	U	5.0	0.11	1	06/27/11	06/27/11	KWG1105888	
1,1,2-Trichloroethane	ND	U	5.0	0.15	1	06/27/11	06/27/11	KWG1105888	
Tetrachloroethene (PCE)	ND	U	5.0	0.16	1	06/27/11	06/27/11	KWG1105888	

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105450
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1105888-5

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 5030A
Analysis Method: 8260C

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
2-Hexanone	ND	U	20	0.93	1	06/27/11	06/27/11	KWG1105888	
Dibromochloromethane	ND	U	5.0	0.18	1	06/27/11	06/27/11	KWG1105888	
Chlorobenzene	ND	U	5.0	0.065	1	06/27/11	06/27/11	KWG1105888	
Ethylbenzene	ND	U	5.0	0.094	1	06/27/11	06/27/11	KWG1105888	
m,p-Xylenes	ND	U	5.0	0.10	1	06/27/11	06/27/11	KWG1105888	
o-Xylene	ND	U	5.0	0.081	1	06/27/11	06/27/11	KWG1105888	
Styrene	ND	U	5.0	0.14	1	06/27/11	06/27/11	KWG1105888	
Bromoform	ND	U	5.0	0.14	1	06/27/11	06/27/11	KWG1105888	
1,1,2,2-Tetrachloroethane	ND	U	5.0	0.13	1	06/27/11	06/27/11	KWG1105888	
1,3-Dichlorobenzene	ND	U	5.0	0.094	1	06/27/11	06/27/11	KWG1105888	
1,4-Dichlorobenzene	ND	U	5.0	0.086	1	06/27/11	06/27/11	KWG1105888	
1,2-Dichlorobenzene	ND	U	5.0	0.077	1	06/27/11	06/27/11	KWG1105888	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	114	83-128	06/27/11	Acceptable
Toluene-d8	121	90-125	06/27/11	Acceptable
4-Bromofluorobenzene	108	77-124	06/27/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105450

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: EPA 5030A
Analysis Method: 8260C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MOA11VOP019	K1105450-001	119	119	110
Method Blank	KWG1105888-5	114	121	108
MOA11VOP019MS	KWG1105888-1	119	116	108
MOA11VOP019DMS	KWG1105888-2	119	117	106
Lab Control Sample	KWG1105888-3	115	124	111
Duplicate Lab Control Sample	KWG1105888-4	115	125	112

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	83-128
Sur2 =	Toluene-d8	90-125
Sur3 =	4-Bromofluorobenzene	77-124

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105450
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/27/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	06/27/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	MOA11VOP019	**Units:**	ug/Kg
Lab Code:	K1105450-001	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260C	**Extraction Lot:**	KWG1105888

		MOA11VOP019MS KWG1105888-1 Matrix Spike			MOA11VOP019DMS KWG1105888-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Vinyl Chloride	ND	181	171	106	192	167	115	12-160	6	40
1,1-Dichloroethene	ND	166	171	97	178	167	107	31-153	7	40
Chloroform	1.8	92.3	171	53	93.6	167	55	30-138	1	40
Carbon Tetrachloride	ND	107	171	63	132	167	79	10-144	21	40
Benzene	3.5	93.6	171	53	97.0	167	56	30-137	4	40
Trichloroethene (TCE)	ND	77.9	171	46	90.6	167	54	18-145	15	40
Bromodichloromethane	ND	50.6	171	30	50.6	167	30	14-146	0	40
Toluene	310	360	171	27	367	167	32	15-135	2	40
1,1,2-Trichloroethane	ND	55.8	171	33	54.4	167	33	18-141	3	40
2-Hexanone	ND	874	853	102	864	837	103	20-128	1	40
Chlorobenzene	ND	32.4	171	19	39.0	167	23	15-124	19	40
Ethylbenzene	13	45.2	171	19	58.0	167	27	13-128	25	40
1,2-Dichlorobenzene	ND	12.1	171	7 *	20.5	167	12	10-124	52 *	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105450
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/27/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	06/27/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030A
Analysis Method: 8260C

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1105888

	Lab Control Sample KWG1105888-3 Lab Control Spike			Duplicate Lab Control Sample KWG1105888-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dichlorodifluoromethane	63.9	50.0	128	58.5	50.0	117	38-160	9	40
Chloromethane	58.5	50.0	117	56.3	50.0	113	37-146	4	40
Vinyl Chloride	53.5	50.0	107	50.6	50.0	101	54-127	6	40
Bromomethane	55.5	50.0	111	50.0	50.0	100	22-180	11	40
Chloroethane	58.9	50.0	118	56.4	50.0	113	39-147	4	40
Trichlorofluoromethane	54.1	50.0	108	51.7	50.0	103	51-140	5	40
Acrolein	110	100	110	121	100	121	10-218	10	40
Trichlorotrifluoroethane	53.5	50.0	107	52.5	50.0	105	65-129	2	40
1,1-Dichloroethene	58.6	50.0	117	56.5	50.0	113	64-152	4	40
Acetone	272	250	109	298	250	119	43-124	9	40
Carbon Disulfide	108	100	108	101	100	101	55-141	6	40
Methylene Chloride	53.8	50.0	108	53.2	50.0	106	56-131	1	40
Acrylonitrile	141	100	141	153	100	153	41-202	8	40
trans-1,2-Dichloroethene	58.3	50.0	117	56.4	50.0	113	77-127	3	40
1,1-Dichloroethane	55.5	50.0	111	53.3	50.0	107	59-137	4	40
Vinyl Acetate	187	180	104	195	180	109	10-183	4	40
cis-1,2-Dichloroethene	53.7	50.0	107	52.5	50.0	105	62-138	2	40
2-Butanone (MEK)	321	250	128 *	359	250	143 *	54-116	11	40
Chloroform	55.6	50.0	111	54.8	50.0	110	61-137	1	40
1,1,1-Trichloroethane (TCA)	59.3	50.0	119	56.2	50.0	112	59-146	5	40
Carbon Tetrachloride	60.8	50.0	122	57.5	50.0	115	60-152	6	40
Benzene	56.7	50.0	113	54.9	50.0	110	56-148	3	40
1,2-Dichloroethane (EDC)	52.3	50.0	105	52.9	50.0	106	57-139	1	40
Trichloroethene (TCE)	58.2	50.0	116	56.1	50.0	112	76-124	4	40
1,2-Dichloropropane	54.4	50.0	109	53.6	50.0	107	58-135	1	40
Bromodichloromethane	54.9	50.0	110	53.9	50.0	108	61-143	2	40
2-Chloroethyl Vinyl Ether	55.1	50.0	110	57.3	50.0	115	39-167	4	40
cis-1,3-Dichloropropene	56.4	50.0	113	56.3	50.0	113	58-138	0	40
4-Methyl-2-pentanone (MIBK)	315	250	126	342	250	137	44-140	8	40
Toluene	57.5	50.0	115	56.0	50.0	112	75-117	3	40
trans-1,3-Dichloropropene	50.1	50.0	100	51.2	50.0	102	63-121	2	40
1,1,2-Trichloroethane	52.9	50.0	106	53.5	50.0	107	56-133	1	40
Tetrachloroethene (PCE)	57.6	50.0	115	55.5	50.0	111	66-126	4	40
2-Hexanone	298	250	119	327	250	131 *	54-122	9	40
Dibromochloromethane	52.5	50.0	105	52.7	50.0	105	58-140	0	40

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105450
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/27/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	06/27/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	EPA 5030A	**Units:**	ug/Kg
Analysis Method:	8260C	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1105888

	Lab Control Sample KWG1105888-3 Lab Control Spike			Duplicate Lab Control Sample KWG1105888-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Chlorobenzene	52.2	50.0	104	51.4	50.0	103	70-116	2	40
Ethylbenzene	56.1	50.0	112	54.4	50.0	109	70-118	3	40
m,p-Xylenes	113	100	113	110	100	110	58-140	2	40
o-Xylene	54.7	50.0	109	54.0	50.0	108	57-139	1	40
Styrene	56.3	50.0	113	55.6	50.0	111	62-135	1	40
Bromoform	52.5	50.0	105	53.6	50.0	107	62-134	2	40
1,1,2,2-Tetrachloroethane	48.0	50.0	96	50.8	50.0	102	53-133	6	40
1,3-Dichlorobenzene	54.6	50.0	109	52.6	50.0	105	52-131	4	40
1,4-Dichlorobenzene	52.7	50.0	105	51.6	50.0	103	52-128	2	40
1,2-Dichlorobenzene	52.7	50.0	105	51.4	50.0	103	53-128	3	40

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105453

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105453.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record

K1105453

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 624. Detection limits as per method.

MATRIX: Water	**Preservative:** HCl, 6°C Effluent samples contain L- Ascorbic Acid	**Type of Container:** 40-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOP017	C-Station	3	6/14/11 1100		
MOA11VOP018	Trip Blank	2	6/15/11 0600		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	[signature]	[signature]	6/15 1015
Gary Lillingston	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

SAMPLED BY (NAME/SIGNATURE): _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request *K11* 5453

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.4	289			X

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

Sample ID on Bottle	Sample ID on COC	Identified by:
TB1	MOA11V0P016	

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

Notes, Discrepancies, & Resolutions: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105453
Date Collected: 06/14/2011
Date Received: 06/17/2011

Volatile Organic Compounds

Sample Name: MOA11VOP017
Lab Code: K1105453-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	06/22/11	06/22/11	KWG1105698	
Chloromethane	**0.070**	J	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Vinyl Chloride	ND	U	0.50	0.053	1	06/22/11	06/22/11	KWG1105698	
Bromomethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Chloroethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Trichlorofluoromethane	ND	U	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Acrolein†	ND	U	50	2.1	1	06/22/11	06/22/11	KWG1105698	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethene	ND	U	0.50	0.37	1	06/22/11	06/22/11	KWG1105698	
Acetone	ND	U	20	4.3	1	06/22/11	06/22/11	KWG1105698	
Carbon Disulfide	ND	U	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Methylene Chloride	ND	U	2.0	0.093	1	06/22/11	06/22/11	KWG1105698	
Acrylonitrile†	ND	U	10	0.28	1	06/22/11	06/22/11	KWG1105698	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethane	ND	U	0.50	0.041	1	06/22/11	06/22/11	KWG1105698	
Vinyl Acetate	ND	U	10	0.21	1	06/22/11	06/22/11	KWG1105698	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	06/22/11	06/22/11	KWG1105698	
2-Butanone (MEK)	ND	U	20	3.4	1	06/22/11	06/22/11	KWG1105698	
Chloroform	ND	U	0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Carbon Tetrachloride	ND	U	0.50	0.26	1	06/22/11	06/22/11	KWG1105698	
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloropropane	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Bromodichloromethane	ND	U	0.50	0.047	1	06/22/11	06/22/11	KWG1105698	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	06/22/11	06/22/11	KWG1105698	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	06/22/11	06/22/11	KWG1105698	
Toluene	ND	U	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	06/22/11	06/22/11	KWG1105698	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	06/22/11	06/22/11	KWG1105698	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	06/22/11	06/22/11	KWG1105698	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105453
Date Collected: 06/14/2011
Date Received: 06/17/2011

Volatile Organic Compounds

Sample Name: MOA11VOP017
Lab Code: K1105453-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
2-Hexanone	ND	U	20	1.8	1	06/22/11	06/22/11	KWG1105698	
Dibromochloromethane	ND	U	0.50	0.081	1	06/22/11	06/22/11	KWG1105698	
Chlorobenzene	ND	U	0.50	0.031	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Styrene	ND	U	0.50	0.025	1	06/22/11	06/22/11	KWG1105698	
Bromoform	ND	U	0.50	0.11	1	06/22/11	06/22/11	KWG1105698	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	06/22/11	06/22/11	KWG1105698	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	61-121	06/22/11	Acceptable
Toluene-d8	99	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	92	70-120	06/22/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105453
Date Collected: 06/15/2011
Date Received: 06/17/2011

Volatile Organic Compounds

Sample Name: MOA11VOP018
Lab Code: K1105453-002

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	06/22/11	06/22/11	KWG1105698	
Chloromethane	**0.040**	J	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Vinyl Chloride	ND	U	0.50	0.053	1	06/22/11	06/22/11	KWG1105698	
Bromomethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Chloroethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Trichlorofluoromethane	ND	U	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Acrolein†	ND	U	50	2.1	1	06/22/11	06/22/11	KWG1105698	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethene	ND	U	0.50	0.37	1	06/22/11	06/22/11	KWG1105698	
Acetone	ND	U	20	4.3	1	06/22/11	06/22/11	KWG1105698	
Carbon Disulfide	ND	U	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Methylene Chloride	ND	U	2.0	0.093	1	06/22/11	06/22/11	KWG1105698	
Acrylonitrile†	ND	U	10	0.28	1	06/22/11	06/22/11	KWG1105698	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethane	ND	U	0.50	0.041	1	06/22/11	06/22/11	KWG1105698	
Vinyl Acetate	ND	U	10	0.21	1	06/22/11	06/22/11	KWG1105698	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	06/22/11	06/22/11	KWG1105698	
2-Butanone (MEK)	ND	U	20	3.4	1	06/22/11	06/22/11	KWG1105698	
Chloroform	ND	U	0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Carbon Tetrachloride	ND	U	0.50	0.26	1	06/22/11	06/22/11	KWG1105698	
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloropropane	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Bromodichloromethane	ND	U	0.50	0.047	1	06/22/11	06/22/11	KWG1105698	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	06/22/11	06/22/11	KWG1105698	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.080**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	06/22/11	06/22/11	KWG1105698	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	06/22/11	06/22/11	KWG1105698	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	06/22/11	06/22/11	KWG1105698	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105453
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP018	**Units:**	ug/L
Lab Code:	K1105453-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
2-Hexanone	ND	U	20	1.8	1	06/22/11	06/22/11	KWG1105698	
Dibromochloromethane	ND	U	0.50	0.081	1	06/22/11	06/22/11	KWG1105698	
Chlorobenzene	ND	U	0.50	0.031	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Styrene	ND	U	0.50	0.025	1	06/22/11	06/22/11	KWG1105698	
Bromoform	ND	U	0.50	0.11	1	06/22/11	06/22/11	KWG1105698	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	06/22/11	06/22/11	KWG1105698	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	108	61-121	06/22/11	Acceptable
Toluene-d8	99	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	90	70-120	06/22/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105453
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1105698-4

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	06/22/11	06/22/11	KWG1105698	
Chloromethane	**0.070**	J	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Vinyl Chloride	ND	U	0.50	0.053	1	06/22/11	06/22/11	KWG1105698	
Bromomethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Chloroethane	ND	U	0.50	0.32	1	06/22/11	06/22/11	KWG1105698	
Trichlorofluoromethane	ND	U	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Acrolein†	ND	U	50	2.1	1	06/22/11	06/22/11	KWG1105698	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethene	ND	U	0.50	0.37	1	06/22/11	06/22/11	KWG1105698	
Acetone	ND	U	20	4.3	1	06/22/11	06/22/11	KWG1105698	
Carbon Disulfide	ND	U	0.50	0.048	1	06/22/11	06/22/11	KWG1105698	
Methylene Chloride	**0.27**	J	2.0	0.093	1	06/22/11	06/22/11	KWG1105698	
Acrylonitrile†	ND	U	10	0.28	1	06/22/11	06/22/11	KWG1105698	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
1,1-Dichloroethane	ND	U	0.50	0.041	1	06/22/11	06/22/11	KWG1105698	
Vinyl Acetate	ND	U	10	0.21	1	06/22/11	06/22/11	KWG1105698	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	06/22/11	06/22/11	KWG1105698	
2-Butanone (MEK)	ND	U	20	3.4	1	06/22/11	06/22/11	KWG1105698	
Chloroform	ND	U	0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Carbon Tetrachloride	ND	U	0.50	0.26	1	06/22/11	06/22/11	KWG1105698	
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	06/22/11	06/22/11	KWG1105698	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichloropropane	ND	U	0.50	0.044	1	06/22/11	06/22/11	KWG1105698	
Bromodichloromethane	ND	U	0.50	0.047	1	06/22/11	06/22/11	KWG1105698	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	06/22/11	06/22/11	KWG1105698	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.050**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	06/22/11	06/22/11	KWG1105698	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	06/22/11	06/22/11	KWG1105698	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	06/22/11	06/22/11	KWG1105698	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105453
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1105698-4

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
2-Hexanone	ND	U	20	1.8	1	06/22/11	06/22/11	KWG1105698	
Dibromochloromethane	ND	U	0.50	0.081	1	06/22/11	06/22/11	KWG1105698	
Chlorobenzene	ND	U	0.50	0.031	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	
Styrene	ND	U	0.50	0.025	1	06/22/11	06/22/11	KWG1105698	
Bromoform	ND	U	0.50	0.11	1	06/22/11	06/22/11	KWG1105698	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	06/22/11	06/22/11	KWG1105698	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	06/22/11	06/22/11	KWG1105698	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	106	61-121	06/22/11	Acceptable
Toluene-d8	99	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	89	70-120	06/22/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105453

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MOA11VOP017	K1105453-001	106	99	92
MOA11VOP018	K1105453-002	108	99	90
Batch QC	K1105468-009	105	95	95
Method Blank	KWG1105698-4	106	99	89
Batch QCMS	KWG1105698-1	103	104	95
Batch QCDMS	KWG1105698-2	102	103	96
Lab Control Sample	KWG1105698-3	108	105	98

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	61-121
Sur2 =	Toluene-d8	72-122
Sur3 =	4-Bromofluorobenzene	70-120

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105453
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/22/2011
Sample Matrix:	Water	**Date Analyzed:**	06/22/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1105468-009	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624	**Extraction Lot:**	KWG1105698

		Batch QCMS KWG1105698-1 Matrix Spike			Batch QCDMS KWG1105698-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
1,1-Dichloroethene	ND	11.1	10.0	111	10.1	10.0	101	64-151	10	30
Benzene	0.10	11.8	10.0	117	10.7	10.0	106	61-145	9	30
Trichloroethene (TCE)	0.070	11.1	10.0	111	10.2	10.0	101	23-193	9	30
Toluene	8.1	19.0	10.0	109	17.2	10.0	91	69-137	10	30
Chlorobenzene	0.040	11.9	10.0	119	11.2	10.0	111	76-128	6	30
1,2-Dichlorobenzene	ND	11.3	10.0	113	10.6	10.0	106	71-135	6	30

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105453
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/22/2011
Sample Matrix:	Water	**Date Analyzed:**	06/22/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	624	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105698

	Lab Control Sample KWG1105698-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dichlorodifluoromethane	9.36	10.0	94	37-147
Chloromethane	10.1	10.0	101	66-139
Vinyl Chloride	8.79	10.0	88	71-136
Bromomethane	7.89	10.0	79	61-154
Chloroethane	8.55	10.0	86	69-130
Trichlorofluoromethane	8.23	10.0	82	65-127
Acrolein	77.8	100	78	27-200
Trichlorotrifluoroethane	8.88	10.0	89	72-134
1,1-Dichloroethene	9.72	10.0	97	79-147
Acetone	48.8	50.0	98	79-146
Carbon Disulfide	17.4	20.0	87	41-174
Methylene Chloride	10.9	10.0	109	67-144
Acrylonitrile	10.7	10.0	107	82-138
trans-1,2-Dichloroethene	11.0	10.0	110	78-140
1,1-Dichloroethane	10.4	10.0	104	79-135
Vinyl Acetate	19.9	20.0	99	60-157
cis-1,2-Dichloroethene	10.1	10.0	101	80-134
2-Butanone (MEK)	54.1	50.0	108	82-140
Chloroform	10.6	10.0	106	81-136
1,1,1-Trichloroethane (TCA)	9.49	10.0	95	77-139
Carbon Tetrachloride	10.4	10.0	104	69-144
Benzene	10.9	10.0	109	81-140
1,2-Dichloroethane (EDC)	10.0	10.0	100	74-140
Trichloroethene (TCE)	10.4	10.0	104	81-133
1,2-Dichloropropane	10.1	10.0	101	80-134
Bromodichloromethane	10.1	10.0	101	80-136
2-Chloroethyl Vinyl Ether	8.37	10.0	84	61-141
cis-1,3-Dichloropropene	8.91	10.0	89	77-137
4-Methyl-2-pentanone (MIBK)	41.2	50.0	82	81-127
Toluene	10.9	10.0	109	80-139
trans-1,3-Dichloropropene	7.68	10.0	77	73-122
1,1,2-Trichloroethane	10.6	10.0	106	87-129
Tetrachloroethene (PCE)	11.6	10.0	116	82-129
2-Hexanone	42.3	50.0	85	80-123
Dibromochloromethane	10.2	10.0	102	82-128

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105453
Date Extracted: 06/22/2011
Date Analyzed: 06/22/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1105698

	Lab Control Sample KWG1105698-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Chlorobenzene	11.1	10.0	111	87-126
Ethylbenzene	10.8	10.0	108	86-128
m,p-Xylenes	21.1	20.0	106	85-129
o-Xylene	9.92	10.0	99	89-125
Styrene	9.87	10.0	99	84-129
Bromoform	10.0	10.0	100	61-144
1,1,2,2-Tetrachloroethane	9.26	10.0	93	78-144
1,3-Dichlorobenzene	10.6	10.0	106	78-142
1,4-Dichlorobenzene	10.7	10.0	107	77-144
1,2-Dichlorobenzene	10.4	10.0	104	77-143

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105456

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.02

Dear Gary:

Enclosed are the results of the sample submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105456.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record KI105456

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.02

ANALYSIS TYPE: EPA 624 report EPA 602 list plus xylenes. Detection limit 0.5 µg/L.

MATRIX: Water	**Preservative:** HCL, 6°C	**Type of Container:** 40 ml glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOA008	C-Station	3	6/14/11 1330		Fill at AWWU Lab w/ DI water.
					original tubes filled w/ effluent resampled into provided extra tubes, not labeled

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/14/11 2000	hand	[signature]	6/14 2045
Gary Gillingham	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request *K11* 5456

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*

. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*

. 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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	289			X

. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____

. Were custody papers properly filled out (ink, signed, etc.)? NA Y N

. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N

0. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N

1. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N

2. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N

3. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N

4. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N

5. 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: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105456
Project:	Asplund WWTF/506.02	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA008	**Units:**	ug/L
Lab Code:	K1105456-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	ND	U	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	98	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	90	70-120	06/22/11	Acceptable
Dibromofluoromethane	107	61-121	06/22/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105456
Project:	Asplund WWTF/506.02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1105698-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.050**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	99	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	89	70-120	06/22/11	Acceptable
Dibromofluoromethane	106	61-121	06/22/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.02
Sample Matrix: Water

Service Request: K1105456

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MOA11VOA008	K1105456-001	98	90	107
Batch QC	K1105468-009	95	95	105
Method Blank	KWG1105698-4	99	89	106
Batch QCMS	KWG1105698-1	104	95	103
Batch QCDMS	KWG1105698-2	103	96	102
Lab Control Sample	KWG1105698-3	105	98	108

Surrogate Recovery Control Limits (%)

Sur1 =	Toluene-d8	72-122
Sur2 =	4-Bromofluorobenzene	70-120
Sur3 =	Dibromofluoromethane	61-121

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105456
Project:	Asplund WWTF/506.02	**Date Extracted:**	06/22/2011
Sample Matrix:	Water	**Date Analyzed:**	06/22/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1105468-009	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624	**Extraction Lot:**	KWG1105698

		Batch QCMS KWG1105698-1 Matrix Spike			Batch QCDMS KWG1105698-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Benzene	0.10	11.8	10.0	117	10.7	10.0	106	61-145	9	30
Toluene	8.1	19.0	10.0	109	17.2	10.0	91	69-137	10	30
Ethylbenzene	0.47	11.8	10.0	113	11.1	10.0	107	74-131	6	30
m,p-Xylenes	1.1	24.0	20.0	115	22.5	20.0	107	85-129	6	30
o-Xylene	0.41	11.1	10.0	107	10.4	10.0	100	89-125	7	30

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105456
Project:	Asplund WWTF/506.02	**Date Extracted:**	06/22/2011
Sample Matrix:	Water	**Date Analyzed:**	06/22/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	624	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105698

	Lab Control Sample KWG1105698-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Benzene	10.9	10.0	109	81-140
Toluene	10.9	10.0	109	80-139
Ethylbenzene	10.8	10.0	108	86-128
m,p-Xylenes	21.1	20.0	106	85-129
o-Xylene	9.92	10.0	99	89-125

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105459

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105459.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record

K1105459

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax
Required Completion Date: 30 days.	P.O. #: AK11-1002 / KLI Proj. #:506.01

ANALYSIS TYPE: EPA 1664 Oil & Grease

MATRIX: Water | **Preservative:** HCL, 6°C | **Type of Container:** 1-L Amber

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11O&G001	Influent	1	6/14/11 0550		
MOA11O&G002	Effluent	1	6/14/11 0600		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6-15-11 1015	hand	[signature]	6/15 1015
Gary Lillingham	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

SAMPLED BY (NAME/SIGNATURE)

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request *K11* 5459

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.0	N/A	297			X
5.6	1.0	299			X
3.8	2.6	289			X

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105459
Project:	Asplund WWTF/506.01	**Date Collected:**	6/14/11
Sample Matrix:	Water	**Date Received:**	6/17/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	1664	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11O&G001	K1105459-001	**39.1**		4.8	0.8	1	6/21/11	6/21/11 13:30	
MOA11O&G002	K1105459-002	**28.5**		4.7	0.8	1	6/21/11	6/21/11 13:30	
Method Blank	K1105459-MB	ND	U	5.0	0.8	1	6/21/11	6/21/11 13:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105459
Date Analyzed: 6/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105459-LCS			Duplicate Lab Control Sample K1105459-DLCS					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	1664	55.6	60.0	93	56.5	60.0	94	78 - 114	2	20

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

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

Columbia Analytical Services
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 4, 2011 Analytical Report for Service Request No: K1105442

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105442.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1105442
Project:	Asplund WWTF	**Date Received:**	6/17/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Two samples were received for analysis at Columbia Analytical Services on 6/17/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Organochlorine Pesticides by EPA Method 8081

Elevated Detection Limits:
The reporting limit is elevated for several analytes in samples MOA11ORG001 and MOA11ORG002. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the reporting limit. The results are flagged to indicate the matrix interference.

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

Organophosphorus Pesticides by EPA Method 8141

Calibration Verification Exceptions:
The upper control criterion was exceeded for all analytes in Continuing Calibration Verification (CCV) 0630F026, 0630F027, 0630F039, and 0630F040. The field samples analyzed in this sequence did not contain the analyte(s) in question. Since the apparent problem indicated a potential high bias, the data quality was not affected. No further corrective action was required.

The analysis of Organophosphorous Pesticides by EPA 8141 requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Tributyl Phosphate and Triphenyl Phosphate. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

Surrogate Exceptions:
The control criteria were exceeded for Tributyl Phosphate in LCS KWG1105742-1 and DLCS KWG1105742-2. The associated matrix spike recoveries of target compounds and the alternate surrogate Triphenyl Phosphate were in control, indicating the analysis was in control. The surrogate outlier was flagged accordingly. No further corrective action was appropriate.

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

Approved by Howard Holmes **Date** 8-2-11

Semivolatile Organic Compounds by EPA Method 625

Matrix Spike Recovery Exceptions:
The matrix spike recovery of 4-Nitrophenol for sample MOA11ORG002MS was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential high bias in this matrix. No further corrective action was appropriate.

The matrix spike recovery of Pentachlorophenol for sample MOA11ORG002DMS was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential high bias in this matrix. No further corrective action was appropriate.

The matrix spike recovery of Pyrene for sample MOA11ORG002 was outside control criteria because of suspected matrix interference. A matrix spike duplicate was also analyzed, but produced similar results. The result of the original analysis was reported. No further corrective action was appropriate.

Elevated Detection Limits:
The detection limit was elevated for 2,6-Dinitrotoluene in sample MOA11ORG001. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the normal limit. The result was flagged to indicate the matrix interference.

The detection limit was elevated for N-Nitrosodi-n-propylamine and 2,6-Dinitrotoluene in sample MOA11ORG002. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the normal limit. The result was flagged to indicate the matrix interference.

Sample Notes and Discussion:
Various analytes in samples MOA11ORG001 and MOA11ORG002 may contain a slight bias. The chromatograms indicated the presence of non-target background components. The matrix interference may have resulted in a slight high bias in the affected samples. The results were flagged with "X" to indicate the issue.

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

Dioxins and Furans by EPA Method 8290

This analysis was performed by CAS-Houston. Their report is at the end of this report.

Approved by _____ **Date** 8-2-11

Chain of Custody

Kinnetic Laboratories, Inc. Chain of Custody Record

K110 5442

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 625, 8081, 8141 & 8290.

MATRIX: Water	**Preservative:** None, 6°C Effluent samples contain L-Ascorbic Acid	**Type of Container:** 1-L amber glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11ORG001	Influent	5	6/14/11 0550		
MOA11ORG002	Effluent	7	6/14/11 0600		Please run MS/SD for EPA 625 on this sample.

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	hand	[signature]	6/15 1015
Gary Billingham	6/16/11 1400	FED X		
			[signature]	6/17/11 910

SAMPLED BY (NAME/SIGNATURE): _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request *K11* 5442

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	289			X

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

Page 1 *of* _____

Organochlorine Pesticides

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Organochlorine Pesticides

Sample Name:	MOA11ORG001	**Units:**	ug/L
Lab Code:	K1105442-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.0099	0.00044	1	06/21/11	07/01/11	KWG1105725	
Heptachlor	ND	Ui	0.0099	0.0099	1	06/21/11	07/01/11	KWG1105725	
Aldrin	ND	U	0.0099	0.00040	1	06/21/11	07/01/11	KWG1105725	
Heptachlor Epoxide	ND	Ui	0.023	0.023	1	06/21/11	07/01/11	KWG1105725	
gamma-Chlordane†	ND	U	0.0099	0.00032	1	06/21/11	07/01/11	KWG1105725	
Endosulfan I	ND	U	0.0099	0.00044	1	06/21/11	07/01/11	KWG1105725	
alpha-Chlordane	ND	U	0.0099	0.0040	1	06/21/11	07/01/11	KWG1105725	
Dieldrin	ND	Ui	0.0099	0.0015	1	06/21/11	07/01/11	KWG1105725	
4,4'-DDE	ND	Ui	0.0099	0.0024	1	06/21/11	07/01/11	KWG1105725	
Endrin	ND	Ui	0.0099	0.0020	1	06/21/11	07/01/11	KWG1105725	
Endosulfan II	ND	Ui	0.0099	0.0099	1	06/21/11	07/01/11	KWG1105725	
4,4'-DDD	ND	U	0.0099	0.0015	1	06/21/11	07/01/11	KWG1105725	
Endrin Aldehyde	ND	Ui	0.0099	0.0099	1	06/21/11	07/01/11	KWG1105725	
Endosulfan Sulfate	ND	Ui	0.0099	0.0013	1	06/21/11	07/01/11	KWG1105725	
4,4'-DDT	ND	Ui	0.071	0.071	1	06/21/11	07/01/11	KWG1105725	
Endrin Ketone	ND	U	0.0099	0.00066	1	06/21/11	07/01/11	KWG1105725	
Methoxychlor	ND	Ui	0.0099	0.0099	1	06/21/11	07/01/11	KWG1105725	
Toxaphene	ND	Ui	0.75	0.75	1	06/21/11	07/01/11	KWG1105725	
Chlordane	ND	U	0.20	0.015	1	06/21/11	07/01/11	KWG1105725	
Mirex	ND	U	0.0099	0.00081	1	06/21/11	07/01/11	KWG1105725	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	52	20-102	07/01/11	Acceptable
Decachlorobiphenyl	74	35-128	07/01/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Organochlorine Pesticides

Sample Name:	MOA11ORG002	**Units:**	ug/L
Lab Code:	K1105442-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	Ui	0.013	0.013	1	06/21/11	07/01/11	KWG1105725	
Heptachlor	ND	Ui	0.0099	0.0099	1	06/21/11	07/01/11	KWG1105725	
Aldrin	ND	Ui	0.015	0.015	1	06/21/11	07/01/11	KWG1105725	
Heptachlor Epoxide	ND	Ui	0.030	0.030	1	06/21/11	07/01/11	KWG1105725	
gamma-Chlordane†	ND	Ui	0.0099	0.0099	1	06/21/11	07/01/11	KWG1105725	
Endosulfan I	ND	U	0.0099	0.00044	1	06/21/11	07/01/11	KWG1105725	
alpha-Chlordane	ND	U	0.0099	0.0040	1	06/21/11	07/01/11	KWG1105725	
Dieldrin	ND	U	0.0099	0.00035	1	06/21/11	07/01/11	KWG1105725	
4,4'-DDE	ND	Ui	0.0099	0.0099	1	06/21/11	07/01/11	KWG1105725	
Endrin	ND	Ui	0.0099	0.0061	1	06/21/11	07/01/11	KWG1105725	
Endosulfan II	ND	Ui	0.013	0.013	1	06/21/11	07/01/11	KWG1105725	
4,4'-DDD	ND	Ui	0.034	0.034	1	06/21/11	07/01/11	KWG1105725	
Endrin Aldehyde	ND	Ui	0.0099	0.0030	1	06/21/11	07/01/11	KWG1105725	
Endosulfan Sulfate	ND	U	0.0099	0.00047	1	06/21/11	07/01/11	KWG1105725	
4,4'-DDT	ND	Ui	0.099	0.099	1	06/21/11	07/01/11	KWG1105725	
Endrin Ketone	ND	Ui	0.0099	0.00092	1	06/21/11	07/01/11	KWG1105725	
Methoxychlor	ND	Ui	0.024	0.024	1	06/21/11	07/01/11	KWG1105725	
Toxaphene	ND	Ui	0.50	0.50	1	06/21/11	07/01/11	KWG1105725	
Chlordane	ND	Ui	1.1	1.1	1	06/21/11	07/01/11	KWG1105725	
Mirex	ND	U	0.0099	0.00081	1	06/21/11	07/01/11	KWG1105725	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	54	20-102	07/01/11	Acceptable
Decachlorobiphenyl	70	35-128	07/01/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Organochlorine Pesticides

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1105725-5	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.0097	0.00044	1	06/21/11	07/01/11	KWG1105725	
Heptachlor	ND	U	0.0097	0.00036	1	06/21/11	07/01/11	KWG1105725	
Aldrin	ND	U	0.0097	0.00040	1	06/21/11	07/01/11	KWG1105725	
Heptachlor Epoxide	ND	U	0.0097	0.00032	1	06/21/11	07/01/11	KWG1105725	
gamma-Chlordane†	ND	U	0.0097	0.00032	1	06/21/11	07/01/11	KWG1105725	
Endosulfan I	ND	U	0.0097	0.00044	1	06/21/11	07/01/11	KWG1105725	
alpha-Chlordane	ND	U	0.0097	0.0040	1	06/21/11	07/01/11	KWG1105725	
Dieldrin	ND	U	0.0097	0.00035	1	06/21/11	07/01/11	KWG1105725	
4,4'-DDE	ND	U	0.0097	0.00036	1	06/21/11	07/01/11	KWG1105725	
Endrin	ND	U	0.0097	0.00068	1	06/21/11	07/01/11	KWG1105725	
Endosulfan II	ND	U	0.0097	0.00040	1	06/21/11	07/01/11	KWG1105725	
4,4'-DDD	ND	U	0.0097	0.0015	1	06/21/11	07/01/11	KWG1105725	
Endrin Aldehyde	ND	U	0.0097	0.00046	1	06/21/11	07/01/11	KWG1105725	
Endosulfan Sulfate	ND	U	0.0097	0.00047	1	06/21/11	07/01/11	KWG1105725	
4,4'-DDT	ND	U	0.0097	0.00058	1	06/21/11	07/01/11	KWG1105725	
Endrin Ketone	ND	U	0.0097	0.00066	1	06/21/11	07/01/11	KWG1105725	
Methoxychlor	ND	Ui	0.0097	0.0013	1	06/21/11	07/01/11	KWG1105725	
Toxaphene	ND	Ui	0.49	0.045	1	06/21/11	07/01/11	KWG1105725	
Chlordane	ND	U	0.20	0.015	1	06/21/11	07/01/11	KWG1105725	
Mirex	ND	U	0.0097	0.00081	1	06/21/11	07/01/11	KWG1105725	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	45	20-102	07/01/11	Acceptable
Decachlorobiphenyl	59	35-128	07/01/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105442

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3535A
Analysis Method: 8081B

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
MOA11ORG001	K1105442-001	52	74
MOA11ORG002	K1105442-002	54	70
Method Blank	KWG1105725-5	45	59
Lab Control Sample	KWG1105725-1	47	60
Duplicate Lab Control Sample	KWG1105725-2	45	62

Surrogate Recovery Control Limits (%)

Sur1 =	Tetrachloro-m-xylene	20-102
Sur2 =	Decachlorobiphenyl	35-128

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/21/2011
Sample Matrix:	Water	**Date Analyzed:**	07/01/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8081B	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105725

	Lab Control Sample KWG1105725-1 Lab Control Spike			Duplicate Lab Control Sample KWG1105725-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
gamma-BHC (Lindane)	0.129	0.200	65	0.118	0.200	59	44-117	9	30
Heptachlor	0.130	0.200	65	0.114	0.200	57	40-115	13	30
Aldrin	0.114	0.200	57	0.0998	0.200	50	10-102	13	30
Heptachlor Epoxide	0.136	0.200	68	0.125	0.200	62	49-109	9	30
gamma-Chlordane	0.127	0.200	64	0.117	0.200	58	47-113	9	30
Endosulfan I	0.121	0.200	61	0.115	0.200	57	35-115	6	30
alpha-Chlordane	0.126	0.200	63	0.115	0.200	58	45-115	9	30
Dieldrin	0.130	0.200	65	0.120	0.200	60	50-115	8	30
4,4'-DDE	0.125	0.200	62	0.113	0.200	57	41-116	10	30
Endrin	0.139	0.200	69	0.125	0.200	63	48-126	10	30
Endosulfan II	0.127	0.200	64	0.117	0.200	59	28-128	8	30
4,4'-DDD	0.137	0.200	68	0.121	0.200	60	33-132	13	30
Endrin Aldehyde	0.114	0.200	57	0.103	0.200	51	27-104	10	30
Endosulfan Sulfate	0.131	0.200	65	0.121	0.200	60	38-118	8	30
4,4'-DDT	0.149	0.200	75	0.130	0.200	65	42-143	14	30
Endrin Ketone	0.140	0.200	70	0.128	0.200	64	30-124	9	30
Methoxychlor	0.143	0.200	71	0.124	0.200	62	43-143	14	30
Mirex	0.123	0.200	62	0.120	0.200	60	43-126	3	30

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

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

Organophosphorus Pesticides

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Organophosphorus Pesticides

Sample Name:	MOA11ORG001	**Units:**	ug/L
Lab Code:	K1105442-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8141A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	2.0	0.16	1	06/21/11	07/01/11	KWG1105742	
Methyl Parathion	ND	U	0.50	0.020	1	06/21/11	07/01/11	KWG1105742	
Malathion	ND	U	0.20	0.017	1	06/21/11	07/01/11	KWG1105742	
Ethyl Parathion	ND	U	0.50	0.011	1	06/21/11	07/01/11	KWG1105742	
Azinphos-methyl (Guthion)	ND	U	0.99	0.030	1	06/21/11	07/01/11	KWG1105742	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	126	43-148	07/01/11	Acceptable
Triphenyl Phosphate	92	48-142	07/01/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Organophosphorus Pesticides

Sample Name:	MOA11ORG002	**Units:**	ug/L
Lab Code:	K1105442-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8141A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	2.0	0.16	1	06/21/11	07/01/11	KWG1105742	
Methyl Parathion	ND	U	0.49	0.020	1	06/21/11	07/01/11	KWG1105742	
Malathion	ND	U	0.20	0.017	1	06/21/11	07/01/11	KWG1105742	
Ethyl Parathion	ND	U	0.49	0.011	1	06/21/11	07/01/11	KWG1105742	
Azinphos-methyl (Guthion)	ND	U	0.97	0.030	1	06/21/11	07/01/11	KWG1105742	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	95	43-148	07/01/11	Acceptable
Triphenyl Phosphate	72	48-142	07/01/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Organophosphorus Pesticides

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1105742-3	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8141A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	2.0	0.16	1	06/21/11	07/01/11	KWG1105742	
Methyl Parathion	ND	U	0.49	0.020	1	06/21/11	07/01/11	KWG1105742	
Malathion	ND	U	0.20	0.017	1	06/21/11	07/01/11	KWG1105742	
Ethyl Parathion	ND	U	0.49	0.011	1	06/21/11	07/01/11	KWG1105742	
Azinphos-methyl (Guthion)	ND	U	0.97	0.030	1	06/21/11	07/01/11	KWG1105742	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	77	43-148	07/01/11	Acceptable
Triphenyl Phosphate	80	48-142	07/01/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105442

Surrogate Recovery Summary
Organophosphorus Pesticides

Extraction Method: EPA 3535A
Analysis Method: 8141A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1		Sur2
MOA11ORG001	K1105442-001	126		92
MOA11ORG002	K1105442-002	95		72
Method Blank	KWG1105742-3	77		80
Lab Control Sample	KWG1105742-1	199	*	85
Duplicate Lab Control Sample	KWG1105742-2	173	*	82

Surrogate Recovery Control Limits (%)

Sur1 =	Tributyl Phosphate	43-148
Sur2 =	Triphenyl Phosphate	48-142

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/21/2011
Sample Matrix:	Water	**Date Analyzed:**	07/01/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Organophosphorus Pesticides

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8141A	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105742

	Lab Control Sample KWG1105742-1 Lab Control Spike			Duplicate Lab Control Sample KWG1105742-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Demeton-O,S	0.415	2.00	21	0.314	2.00	16	10-130	28	30
Methyl Parathion	1.70	2.00	85	1.50	2.00	75	41-160	13	30
Malathion	1.64	2.00	82	1.45	2.00	72	34-146	12	30
Ethyl Parathion	1.75	2.00	88	1.56	2.00	78	39-140	11	30
Azinphos-methyl (Guthion)	1.57	2.00	78	1.41	2.00	70	31-179	11	30

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

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

Semi-Volatile Organic Compounds

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11ORG001	**Units:**	ug/L
Lab Code:	K1105442-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	24	1.7	1	06/21/11	06/27/11	KWG1105613	
Bis(2-chloroethyl) Ether	ND	U	9.6	0.37	1	06/21/11	06/27/11	KWG1105613	
Phenol	**97**		9.6	0.45	1	06/21/11	06/27/11	KWG1105613	
2-Chlorophenol	ND	U	9.6	0.42	1	06/21/11	06/27/11	KWG1105613	
Bis(2-chloroisopropyl) Ether	ND	U	9.6	0.36	1	06/21/11	06/27/11	KWG1105613	
Hexachloroethane	ND	U	9.6	0.26	1	06/21/11	06/27/11	KWG1105613	
N-Nitrosodi-n-propylamine	ND	U	9.6	0.51	1	06/21/11	06/27/11	KWG1105613	
4-Methylphenol	**120**		9.6	1.2	1	06/21/11	06/27/11	KWG1105613	
Nitrobenzene	ND	U	9.6	0.36	1	06/21/11	06/27/11	KWG1105613	
Isophorone	ND	U	9.6	0.35	1	06/21/11	06/27/11	KWG1105613	
2-Nitrophenol	ND	U	9.6	0.35	1	06/21/11	06/27/11	KWG1105613	
2,4-Dimethylphenol	**1.9**	J	9.6	1.1	1	06/21/11	06/27/11	KWG1105613	
Bis(2-chloroethoxy)methane	ND	U	9.6	0.31	1	06/21/11	06/27/11	KWG1105613	
2,4-Dichlorophenol	ND	U	9.6	0.29	1	06/21/11	06/27/11	KWG1105613	
1,2,4-Trichlorobenzene	ND	U	9.6	0.32	1	06/21/11	06/27/11	KWG1105613	
Naphthalene	ND	U	9.6	0.31	1	06/21/11	06/27/11	KWG1105613	
Hexachlorobutadiene	ND	U	9.6	0.22	1	06/21/11	06/27/11	KWG1105613	
4-Chloro-3-methylphenol	ND	U	9.6	0.48	1	06/21/11	06/27/11	KWG1105613	
Hexachlorocyclopentadiene	ND	U	9.6	0.58	1	06/21/11	06/27/11	KWG1105613	
2,4,6-Trichlorophenol	ND	U	9.6	0.19	1	06/21/11	06/27/11	KWG1105613	
2-Chloronaphthalene	ND	U	9.6	0.43	1	06/21/11	06/27/11	KWG1105613	
Acenaphthylene	ND	U	9.6	0.29	1	06/21/11	06/27/11	KWG1105613	
Dimethyl Phthalate	ND	U	9.6	0.71	1	06/21/11	06/27/11	KWG1105613	
2,6-Dinitrotoluene	ND	Ui	9.6	1.8	1	06/21/11	06/27/11	KWG1105613	
Acenaphthene	ND	U	9.6	0.27	1	06/21/11	06/27/11	KWG1105613	
2,4-Dinitrophenol	ND	U	24	1.0	1	06/21/11	06/27/11	KWG1105613	
4-Nitrophenol	ND	U	24	2.3	1	06/21/11	06/27/11	KWG1105613	
2,4-Dinitrotoluene	ND	U	9.6	0.26	1	06/21/11	06/27/11	KWG1105613	
Fluorene	**0.24**	J	9.6	0.23	1	06/21/11	06/27/11	KWG1105613	
4-Chlorophenyl Phenyl Ether	ND	U	9.6	0.26	1	06/21/11	06/27/11	KWG1105613	
Diethyl Phthalate	**7.2**	J	9.6	0.33	1	06/21/11	06/27/11	KWG1105613	
2-Methyl-4,6-dinitrophenol	ND	U	24	2.3	1	06/21/11	06/27/11	KWG1105613	
N-Nitrosodiphenylamine	**0.78**	J	9.6	0.34	1	06/21/11	06/27/11	KWG1105613	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11ORG001	**Units:**	ug/L
Lab Code:	K1105442-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Diphenylhydrazine†	**3.6**	JX	9.6	0.23	1	06/21/11	06/27/11	KWG1105613	
4-Bromophenyl Phenyl Ether	ND	U	9.6	0.35	1	06/21/11	06/27/11	KWG1105613	
Hexachlorobenzene	ND	U	9.6	0.27	1	06/21/11	06/27/11	KWG1105613	
Pentachlorophenol	ND	U	24	0.38	1	06/21/11	06/27/11	KWG1105613	
Phenanthrene	ND	U	9.6	0.24	1	06/21/11	06/27/11	KWG1105613	
Anthracene	ND	U	9.6	0.33	1	06/21/11	06/27/11	KWG1105613	
Di-n-butyl Phthalate	**1.7**	J	9.6	0.46	1	06/21/11	06/27/11	KWG1105613	
Fluoranthene	**0.87**	J	9.6	0.45	1	06/21/11	06/27/11	KWG1105613	
Benzidine	ND	U	48	29	1	06/21/11	06/27/11	KWG1105613	
Pyrene	ND	U	9.6	0.47	1	06/21/11	06/27/11	KWG1105613	
Butyl Benzyl Phthalate	**3.7**	J	9.6	0.55	1	06/21/11	06/27/11	KWG1105613	
3,3'-Dichlorobenzidine	ND	U	24	0.48	1	06/21/11	06/27/11	KWG1105613	
Benz(a)anthracene	**0.48**	J	9.6	0.25	1	06/21/11	06/27/11	KWG1105613	
Chrysene	ND	U	9.6	0.40	1	06/21/11	06/27/11	KWG1105613	
Bis(2-ethylhexyl) Phthalate	**17**		9.6	0.34	1	06/21/11	06/27/11	KWG1105613	
Di-n-octyl Phthalate	**0.90**	J	9.6	0.38	1	06/21/11	06/27/11	KWG1105613	
Benzo(b)fluoranthene	**0.40**	JX	9.6	0.27	1	06/21/11	06/27/11	KWG1105613	
Benzo(k)fluoranthene	ND	U	9.6	0.32	1	06/21/11	06/27/11	KWG1105613	
Benzo(a)pyrene	ND	U	9.6	0.37	1	06/21/11	06/27/11	KWG1105613	
Indeno(1,2,3-cd)pyrene	ND	U	9.6	0.45	1	06/21/11	06/27/11	KWG1105613	
Dibenz(a,h)anthracene	ND	U	9.6	0.41	1	06/21/11	06/27/11	KWG1105613	
Benzo(g,h,i)perylene	ND	U	9.6	0.41	1	06/21/11	06/27/11	KWG1105613	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	55	34-112	06/27/11	Acceptable
Phenol-d6	66	34-116	06/27/11	Acceptable
Nitrobenzene-d5	88	43-120	06/27/11	Acceptable
2-Fluorobiphenyl	72	45-115	06/27/11	Acceptable
2,4,6-Tribromophenol	96	34-134	06/27/11	Acceptable
Terphenyl-d14	54	13-152	06/27/11	Acceptable

Comments:

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11ORG001	**Units:**	ug/L
Lab Code:	K1105442-001	**Basis:**	NA

† Analyte Comments

1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105442
Date Collected: 06/14/2011
Date Received: 06/17/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name: MOA11ORG002
Lab Code: K1105442-002

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 625

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	**6.5**	JX	25	1.7	1	06/21/11	06/27/11	KWG1105613	
Bis(2-chloroethyl) Ether	ND	U	10	0.37	1	06/21/11	06/27/11	KWG1105613	
Phenol	**28**		10	0.45	1	06/21/11	06/27/11	KWG1105613	
2-Chlorophenol	**0.85**	J	10	0.42	1	06/21/11	06/27/11	KWG1105613	
Bis(2-chloroisopropyl) Ether	ND	U	10	0.36	1	06/21/11	06/27/11	KWG1105613	
Hexachloroethane	ND	U	10	0.26	1	06/21/11	06/27/11	KWG1105613	
N-Nitrosodi-n-propylamine	ND	Ui	10	8.1	1	06/21/11	06/27/11	KWG1105613	
4-Methylphenol	**120**		10	1.2	1	06/21/11	06/27/11	KWG1105613	
Nitrobenzene	ND	U	10	0.36	1	06/21/11	06/27/11	KWG1105613	
Isophorone	ND	U	10	0.35	1	06/21/11	06/27/11	KWG1105613	
2-Nitrophenol	ND	U	10	0.35	1	06/21/11	06/27/11	KWG1105613	
2,4-Dimethylphenol	ND	U	10	1.1	1	06/21/11	06/27/11	KWG1105613	
Bis(2-chloroethoxy)methane	ND	U	10	0.31	1	06/21/11	06/27/11	KWG1105613	
2,4-Dichlorophenol	**0.66**	J	10	0.29	1	06/21/11	06/27/11	KWG1105613	
1,2,4-Trichlorobenzene	ND	U	10	0.32	1	06/21/11	06/27/11	KWG1105613	
Naphthalene	ND	U	10	0.31	1	06/21/11	06/27/11	KWG1105613	
Hexachlorobutadiene	ND	U	10	0.22	1	06/21/11	06/27/11	KWG1105613	
4-Chloro-3-methylphenol	ND	U	10	0.48	1	06/21/11	06/27/11	KWG1105613	
Hexachlorocyclopentadiene	ND	U	10	0.58	1	06/21/11	06/27/11	KWG1105613	
2,4,6-Trichlorophenol	**1.5**	J	10	0.19	1	06/21/11	06/27/11	KWG1105613	
2-Chloronaphthalene	ND	U	10	0.43	1	06/21/11	06/27/11	KWG1105613	
Acenaphthylene	ND	U	10	0.29	1	06/21/11	06/27/11	KWG1105613	
Dimethyl Phthalate	ND	U	10	0.71	1	06/21/11	06/27/11	KWG1105613	
2,6-Dinitrotoluene	ND	Ui	10	1.9	1	06/21/11	06/27/11	KWG1105613	
Acenaphthene	ND	U	10	0.27	1	06/21/11	06/27/11	KWG1105613	
2,4-Dinitrophenol	ND	U	25	1.0	1	06/21/11	06/27/11	KWG1105613	
4-Nitrophenol	ND	U	25	2.3	1	06/21/11	06/27/11	KWG1105613	
2,4-Dinitrotoluene	ND	U	10	0.26	1	06/21/11	06/27/11	KWG1105613	
Fluorene	ND	U	10	0.23	1	06/21/11	06/27/11	KWG1105613	
4-Chlorophenyl Phenyl Ether	ND	U	10	0.26	1	06/21/11	06/27/11	KWG1105613	
Diethyl Phthalate	**7.9**	J	10	0.33	1	06/21/11	06/27/11	KWG1105613	
2-Methyl-4,6-dinitrophenol	ND	U	25	2.3	1	06/21/11	06/27/11	KWG1105613	
N-Nitrosodiphenylamine	ND	U	10	0.34	1	06/21/11	06/27/11	KWG1105613	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11ORG002	**Units:**	ug/L
Lab Code:	K1105442-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Diphenylhydrazine†	**3.6**	JX	10	0.23	1	06/21/11	06/27/11	KWG1105613	
4-Bromophenyl Phenyl Ether	ND	U	10	0.35	1	06/21/11	06/27/11	KWG1105613	
Hexachlorobenzene	ND	U	10	0.27	1	06/21/11	06/27/11	KWG1105613	
Pentachlorophenol	ND	U	25	0.38	1	06/21/11	06/27/11	KWG1105613	
Phenanthrene	ND	U	10	0.24	1	06/21/11	06/27/11	KWG1105613	
Anthracene	ND	U	10	0.33	1	06/21/11	06/27/11	KWG1105613	
Di-n-butyl Phthalate	**2.3**	J	10	0.46	1	06/21/11	06/27/11	KWG1105613	
Fluoranthene	**0.56**	J	10	0.45	1	06/21/11	06/27/11	KWG1105613	
Benzidine	ND	U	50	29	1	06/21/11	06/27/11	KWG1105613	
Pyrene	ND	U	10	0.47	1	06/21/11	06/27/11	KWG1105613	
Butyl Benzyl Phthalate	**3.1**	J	10	0.55	1	06/21/11	06/27/11	KWG1105613	
3,3'-Dichlorobenzidine	ND	U	25	0.48	1	06/21/11	06/27/11	KWG1105613	
Benz(a)anthracene	**0.38**	J	10	0.25	1	06/21/11	06/27/11	KWG1105613	
Chrysene	ND	U	10	0.40	1	06/21/11	06/27/11	KWG1105613	
Bis(2-ethylhexyl) Phthalate	**15**		10	0.34	1	06/21/11	06/27/11	KWG1105613	
Di-n-octyl Phthalate	**0.54**	J	10	0.38	1	06/21/11	06/27/11	KWG1105613	
Benzo(b)fluoranthene	ND	U	10	0.27	1	06/21/11	06/27/11	KWG1105613	
Benzo(k)fluoranthene	ND	U	10	0.32	1	06/21/11	06/27/11	KWG1105613	
Benzo(a)pyrene	ND	U	10	0.37	1	06/21/11	06/27/11	KWG1105613	
Indeno(1,2,3-cd)pyrene	ND	U	10	0.45	1	06/21/11	06/27/11	KWG1105613	
Dibenz(a,h)anthracene	ND	U	10	0.41	1	06/21/11	06/27/11	KWG1105613	
Benzo(g,h,i)perylene	ND	U	10	0.41	1	06/21/11	06/27/11	KWG1105613	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	70	34-112	06/27/11	Acceptable
Phenol-d6	72	34-116	06/27/11	Acceptable
Nitrobenzene-d5	92	43-120	06/27/11	Acceptable
2-Fluorobiphenyl	86	45-115	06/27/11	Acceptable
2,4,6-Tribromophenol	106	34-134	06/27/11	Acceptable
Terphenyl-d14	70	13-152	06/27/11	Acceptable

Comments:

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11ORG002	**Units:**	ug/L
Lab Code:	K1105442-002	**Basis:**	NA

† Analyte Comments

1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105442
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1105613-4

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 625

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	24	1.7	1	06/21/11	06/27/11	KWG1105613	
Bis(2-chloroethyl) Ether	ND	U	9.6	0.37	1	06/21/11	06/27/11	KWG1105613	
Phenol	ND	U	9.6	0.45	1	06/21/11	06/27/11	KWG1105613	
2-Chlorophenol	ND	U	9.6	0.42	1	06/21/11	06/27/11	KWG1105613	
Bis(2-chloroisopropyl) Ether	ND	U	9.6	0.36	1	06/21/11	06/27/11	KWG1105613	
Hexachloroethane	ND	U	9.6	0.26	1	06/21/11	06/27/11	KWG1105613	
N-Nitrosodi-n-propylamine	ND	U	9.6	0.51	1	06/21/11	06/27/11	KWG1105613	
4-Methylphenol	ND	U	9.6	1.2	1	06/21/11	06/27/11	KWG1105613	
Nitrobenzene	ND	U	9.6	0.36	1	06/21/11	06/27/11	KWG1105613	
Isophorone	ND	U	9.6	0.35	1	06/21/11	06/27/11	KWG1105613	
2-Nitrophenol	ND	U	9.6	0.35	1	06/21/11	06/27/11	KWG1105613	
2,4-Dimethylphenol	ND	U	9.6	1.1	1	06/21/11	06/27/11	KWG1105613	
Bis(2-chloroethoxy)methane	ND	U	9.6	0.31	1	06/21/11	06/27/11	KWG1105613	
2,4-Dichlorophenol	ND	U	9.6	0.29	1	06/21/11	06/27/11	KWG1105613	
1,2,4-Trichlorobenzene	ND	U	9.6	0.32	1	06/21/11	06/27/11	KWG1105613	
Naphthalene	ND	U	9.6	0.31	1	06/21/11	06/27/11	KWG1105613	
Hexachlorobutadiene	ND	U	9.6	0.22	1	06/21/11	06/27/11	KWG1105613	
4-Chloro-3-methylphenol	ND	U	9.6	0.48	1	06/21/11	06/27/11	KWG1105613	
Hexachlorocyclopentadiene	ND	U	9.6	0.58	1	06/21/11	06/27/11	KWG1105613	
2,4,6-Trichlorophenol	ND	U	9.6	0.19	1	06/21/11	06/27/11	KWG1105613	
2-Chloronaphthalene	ND	U	9.6	0.43	1	06/21/11	06/27/11	KWG1105613	
Acenaphthylene	ND	U	9.6	0.29	1	06/21/11	06/27/11	KWG1105613	
Dimethyl Phthalate	ND	U	9.6	0.71	1	06/21/11	06/27/11	KWG1105613	
2,6-Dinitrotoluene	ND	U	9.6	0.27	1	06/21/11	06/27/11	KWG1105613	
Acenaphthene	ND	U	9.6	0.27	1	06/21/11	06/27/11	KWG1105613	
2,4-Dinitrophenol	ND	U	24	1.0	1	06/21/11	06/27/11	KWG1105613	
4-Nitrophenol	ND	U	24	2.3	1	06/21/11	06/27/11	KWG1105613	
2,4-Dinitrotoluene	ND	U	9.6	0.26	1	06/21/11	06/27/11	KWG1105613	
Fluorene	ND	U	9.6	0.23	1	06/21/11	06/27/11	KWG1105613	
4-Chlorophenyl Phenyl Ether	ND	U	9.6	0.26	1	06/21/11	06/27/11	KWG1105613	
Diethyl Phthalate	ND	U	9.6	0.33	1	06/21/11	06/27/11	KWG1105613	
2-Methyl-4,6-dinitrophenol	ND	U	24	2.3	1	06/21/11	06/27/11	KWG1105613	
N-Nitrosodiphenylamine	ND	U	9.6	0.34	1	06/21/11	06/27/11	KWG1105613	

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105442
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1105613-4

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 625

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Diphenylhydrazine†	ND	U	9.6	0.23	1	06/21/11	06/27/11	KWG1105613	
4-Bromophenyl Phenyl Ether	ND	U	9.6	0.35	1	06/21/11	06/27/11	KWG1105613	
Hexachlorobenzene	ND	U	9.6	0.27	1	06/21/11	06/27/11	KWG1105613	
Pentachlorophenol	ND	U	24	0.38	1	06/21/11	06/27/11	KWG1105613	
Phenanthrene	ND	U	9.6	0.24	1	06/21/11	06/27/11	KWG1105613	
Anthracene	ND	U	9.6	0.33	1	06/21/11	06/27/11	KWG1105613	
Di-n-butyl Phthalate	ND	U	9.6	0.46	1	06/21/11	06/27/11	KWG1105613	
Fluoranthene	ND	U	9.6	0.45	1	06/21/11	06/27/11	KWG1105613	
Benzidine	ND	U	48	29	1	06/21/11	06/27/11	KWG1105613	
Pyrene	ND	U	9.6	0.47	1	06/21/11	06/27/11	KWG1105613	
Butyl Benzyl Phthalate	ND	U	9.6	0.55	1	06/21/11	06/27/11	KWG1105613	
3,3'-Dichlorobenzidine	ND	U	24	0.48	1	06/21/11	06/27/11	KWG1105613	
Benz(a)anthracene	ND	U	9.6	0.25	1	06/21/11	06/27/11	KWG1105613	
Chrysene	ND	U	9.6	0.40	1	06/21/11	06/27/11	KWG1105613	
Bis(2-ethylhexyl) Phthalate	ND	U	9.6	0.34	1	06/21/11	06/27/11	KWG1105613	
Di-n-octyl Phthalate	ND	U	9.6	0.38	1	06/21/11	06/27/11	KWG1105613	
Benzo(b)fluoranthene	ND	U	9.6	0.27	1	06/21/11	06/27/11	KWG1105613	
Benzo(k)fluoranthene	ND	U	9.6	0.32	1	06/21/11	06/27/11	KWG1105613	
Benzo(a)pyrene	ND	U	9.6	0.37	1	06/21/11	06/27/11	KWG1105613	
Indeno(1,2,3-cd)pyrene	ND	U	9.6	0.45	1	06/21/11	06/27/11	KWG1105613	
Dibenz(a,h)anthracene	ND	U	9.6	0.41	1	06/21/11	06/27/11	KWG1105613	
Benzo(g,h,i)perylene	ND	U	9.6	0.41	1	06/21/11	06/27/11	KWG1105613	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	69	34-112	06/27/11	Acceptable
Phenol-d6	69	34-116	06/27/11	Acceptable
Nitrobenzene-d5	88	43-120	06/27/11	Acceptable
2-Fluorobiphenyl	84	45-115	06/27/11	Acceptable
2,4,6-Tribromophenol	75	34-134	06/27/11	Acceptable
Terphenyl-d14	91	13-152	06/27/11	Acceptable

Comments:

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1105613-4	**Basis:**	NA

† Analyte Comments

1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105442

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

Extraction Method: EPA 3520C
Analysis Method: 625

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
MOA11ORG001	K1105442-001	55	66	88	72	96	54
MOA11ORG002	K1105442-002	70	72	92	86	106	70
Method Blank	KWG1105613-4	69	69	88	84	75	91
MOA11ORG002MS	KWG1105613-1	63	68	90	82	91	71
MOA11ORG002DMS	KWG1105613-2	62	68	88	83	99	76
Lab Control Sample	KWG1105613-3	69	67	77	78	86	96

Surrogate Recovery Control Limits (%)

Sur1 =	2-Fluorophenol	34-112	Sur5 =	2,4,6-Tribromophenol	34-134
Sur2 =	Phenol-d6	34-116	Sur6 =	Terphenyl-d14	13-152
Sur3 =	Nitrobenzene-d5	43-120			
Sur4 =	2-Fluorobiphenyl	45-115			

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/21/2011
Sample Matrix:	Water	**Date Analyzed:**	06/27/2011

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

Sample Name:	MOA11ORG002	**Units:**	ug/L
Lab Code:	K1105442-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625	**Extraction Lot:**	KWG1105613

Analyte Name	Sample Result	MOA11ORG002MS KWG1105613-1 Matrix Spike			MOA11ORG002DMS KWG1105613-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Phenol	28	98.9	96.2	74	92.5	96.2	67	53-101	7	30
2-Chlorophenol	0.85	79.2	96.2	81	73.4	96.2	75	59-101	8	30
N-Nitrosodi-n-propylamine	ND	100	96.2	104	92.6	96.2	96	59-105	8	30
1,2,4-Trichlorobenzene	ND	82.0	96.2	85	76.6	96.2	80	53-101	7	30
4-Chloro-3-methylphenol	ND	92.8	96.2	97	86.3	96.2	90	60-112	7	30
Acenaphthene	ND	77.9	96.2	81	72.6	96.2	75	60-109	7	30
4-Nitrophenol	ND	130	96.2	135 *	116	96.2	120	51-125	12	30
2,4-Dinitrotoluene	ND	98.9	96.2	103	89.5	96.2	93	56-127	10	30
Pentachlorophenol	ND	112	96.2	116	114	96.2	119 *	52-117	2	30
Pyrene	ND	51.3	96.2	53 *	44.8	96.2	47 *	57-115	14	30

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105442
Date Extracted: 06/21/2011
Date Analyzed: 06/27/2011

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

Extraction Method: EPA 3520C
Analysis Method: 625

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1105613

Analyte Name	Lab Control Sample KWG1105613-3 Lab Control Spike Result	Expected	%Rec	%Rec Limits
N-Nitrosodimethylamine	84.1	100	84	47-110
Bis(2-chloroethyl) Ether	72.8	100	73	55-102
Phenol	68.9	100	69	53-101
2-Chlorophenol	70.4	100	70	59-101
Bis(2-chloroisopropyl) Ether	78.6	100	79	51-105
Hexachloroethane	67.2	100	67	50-98
N-Nitrosodi-n-propylamine	82.0	100	82	59-105
4-Methylphenol	74.5	100	75	52-108
Nitrobenzene	77.3	100	77	58-105
Isophorone	76.9	100	77	57-108
2-Nitrophenol	82.5	100	82	61-105
2,4-Dimethylphenol	71.5	100	71	29-105
Bis(2-chloroethoxy)methane	81.8	100	82	56-106
2,4-Dichlorophenol	81.5	100	82	59-106
1,2,4-Trichlorobenzene	69.8	100	70	53-101
Naphthalene	74.2	100	74	55-102
Hexachlorobutadiene	68.4	100	68	52-101
4-Chloro-3-methylphenol	86.2	100	86	60-112
Hexachlorocyclopentadiene	26.8	100	27	10-63
2,4,6-Trichlorophenol	86.4	100	86	65-112
2-Chloronaphthalene	71.0	100	71	57-106
Acenaphthylene	77.7	100	78	57-112
Dimethyl Phthalate	83.2	100	83	62-122
2,6-Dinitrotoluene	90.1	100	90	63-122
Acenaphthene	74.3	100	74	60-109
2,4-Dinitrophenol	72.8	100	73	32-123
4-Nitrophenol	88.9	100	89	51-125
2,4-Dinitrotoluene	86.4	100	86	56-127
Fluorene	73.0	100	73	56-115
4-Chlorophenyl Phenyl Ether	70.0	100	70	57-116
Diethyl Phthalate	85.0	100	85	54-135
2-Methyl-4,6-dinitrophenol	79.3	100	79	49-128
N-Nitrosodiphenylamine	83.4	100	83	48-122
1,2-Diphenylhydrazine	75.0	100	75	54-117
4-Bromophenyl Phenyl Ether	85.7	100	86	64-116

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/21/2011
Sample Matrix:	Water	**Date Analyzed:**	06/27/2011

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

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	625	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105613

	Lab Control Sample KWG1105613-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Hexachlorobenzene	82.8	100	83	61-116
Pentachlorophenol	92.0	100	92	52-117
Phenanthrene	85.4	100	85	64-113
Anthracene	85.1	100	85	62-114
Di-n-butyl Phthalate	83.2	100	83	63-125
Fluoranthene	76.6	100	77	60-120
Benzidine	149	200	74	10-202
Pyrene	81.2	100	81	57-115
Butyl Benzyl Phthalate	90.9	100	91	65-115
3,3'-Dichlorobenzidine	87.6	100	88	42-120
Benz(a)anthracene	89.9	100	90	66-113
Chrysene	86.8	100	87	64-113
Bis(2-ethylhexyl) Phthalate	92.7	100	93	61-120
Di-n-octyl Phthalate	91.9	100	92	64-128
Benzo(b)fluoranthene	92.1	100	92	64-115
Benzo(k)fluoranthene	83.5	100	83	62-119
Benzo(a)pyrene	87.5	100	87	57-119
Indeno(1,2,3-cd)pyrene	90.2	100	90	65-116
Dibenz(a,h)anthracene	89.3	100	89	64-119
Benzo(g,h,i)perylene	88.4	100	88	65-115

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

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

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans

Columbia Analytical Services™ 19408 Park Row, Suite 320, Houston, TX 77084 | 713.266.1599 | www.caslab.com

July 14, 2011 Service Request No: K1105442

Howard Holmes
Columbia Analytical Services Inc
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Results for: Kinnetic Laboratories, Incorporated.

Dear Howard:

Enclosed are the results of the sample(s) submitted to our laboratory on June 22, 2011. For your reference, these analyses have been assigned our service request number : **K1105442**.

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.
All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) 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. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct number is 281-994-2954.

Respectfully submitted,

Columbia Analytical Services, Inc.

Darren Biles
Project Manager

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com.

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC

Client:	Kinnetic Laboratories, Inc.	**Service Request No.:**	K1105442
Project:	Asplund WWTF/506.01	**Date Received:**	6/22/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 6/22/11.

The samples were received at 3°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Detection Limits

Detection limits are calculated for each congener in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01

Service Request: K1105442

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1105442-001	MOA11ORG001	6/14/11	05:50
K1105442-002	MOA11ORG002	6/14/11	06:00

Laboratory Certifications
2011-2012

STATE/PROGRAM	AGENCY	CERT#	EXP DATE	CERTIFIED?
DoD ELAP	A2LA	2897.01	11/30/11	Yes
ISO 17025	A2LA	2897.01	11/30/11	Yes
Arizona	AZ-DHS	AZ0725	05/27/12	Yes
arkansas	ADEQ	10-035-0	06/16/11	Yes
California	CA-ELAP	2452	02/28/13	Yes
Florida/NELAP	FL-DOHS	E87611	06/30/12	Yes
Hawaii	HI-DOH	N/A	06/30/12	Yes
Illinois/NELAP	IL-EPA	002611	10/06/11	Yes
Louisiana/NELAP	LELAP	03048	06/30/12	Yes
Louisiana/NELAP	LDHH	LA100032	12/31/11	Yes
Maine	ME-DOHS	2010041	06/05/12	Yes
Michigan	MIDEQ	9971	06/30/11	Yes
Minnesota	MDH	048-999-427	12/31/11	Yes
Nevada	NDEP	TX014112010A	07/31/10	Yes (Extension)
New Jersey	NJDEP	TX008	06/30/12	Yes
New Mexico	NMED-DWB	N/A	06/30/11	Yes
New York/NELAP	NY-DOH	11707	04/1/12	Yes
Oklahoma	OKDEQ	2010-022	08/31/11	Yes
Oregon/NELAP	ORELAP	TX200002-006	03/24/12	Yes
Pennsylvania/NELAP	PLAP	002	06/30/12	Yes
Tennessee	TNDEC	04016	06/30/12	Yes
Texas/NELAP	TCEQ	T104704216-10-1	06/30/12	Yes
UTAH/NELAP	UTELCP	COLU2	06/30/12	Yes
Soil Import Permit	USDA	P330-09-00067	03/27/12	Yes
Washington/NELAP	WA-Ecology	C819-10	11/14/11	Yes
West Virginia	WVDEP	347	06/30/12	Yes

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
MRL	Method Reporting Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent Recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
RRT	Relative Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-Noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected.

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected.'

- **S** Peak is saturated; data not reportable.

- **P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.

- **Q** Lock-mass interference by chlorodiphenyl ether compounds.

COLUMBIA ANALYTICAL SERVICES, INC. – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1105442 DB-5 DB-225 SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 07/07/11	Analyst:	Samples: 001,002

Second Level - Data Review – to be filled by person doing peer review

Date: 07/12/11	Analyst:	Samples: 001,002

PEER REVIEW PAGE.DOC

Columbia Analytical Services INC

Analytical Results

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	6/14/11 0550
Sample Matrix:	Water	**Date Received:**	6/17/11
Sample Name:	MOA11ORG001	**Units:**	pg/L
Lab Code:	K1105442-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/5/11 1127
Prep Method:	Method	**Date Extracted:**	6/28/11
Sample Amount:	1060mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P114710	**Blank File Name:**	P114705
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P114704

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.721	9.43			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	538.689	54		40-135	0.79	1.007
37Cl-2,3,7,8-TCDD	800	447.099	56		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	6/14/11 0600
Sample Matrix:	Water	**Date Received:**	6/17/11
Sample Name:	MOA11ORG002	**Units:**	pg/L
Lab Code:	K1105442-002	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/5/11 1215
Prep Method:	Method	**Date Extracted:**	6/28/11
Sample Amount:	1060mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P114711	**Blank File Name:**	P114705
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P114704

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.766	9.43			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	620.476	62		40-135	0.80	1.007
37Cl-2,3,7,8-TCDD	800	515.914	64		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	pg/L
Lab Code:	EQ1100303-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/5/11 0730
Prep Method:	Method	**Date Extracted:**	6/28/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P114705	**Blank File Name:**	P114705
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P114704

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.790	10.0			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	542.802	54		40-135	0.78	1.007
37Cl-2,3,7,8-TCDD	800	450.345	56		40-135	NA	1.008

Columbia Analytical Services INC

Accuracy and Precision

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105442
Date Analyzed: 7/ 5/11

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method

Units: pg/L
Basis: NA

Extraction Lot: 136273

	Lab Control Sample EQ1100303-02			Duplicate Lab Control Sample EQ1100303-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,3,7,8-TCDD	191	200	96	185	200	92	79 - 116	4	15

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100303-02	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/5/11 1438
Prep Method:	Method	**Date Extracted:**	6/28/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P114714	**Blank File Name:**	P114705
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P114704

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**191**		0.545	10.0	0.77	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	563.391	56		40-135	0.81	1.008
37Cl-2,3,7,8-TCDD	800	463.888	58		40-135	NA	1.009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105442
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100303-03	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/5/11 1525
Prep Method:	Method	**Date Extracted:**	6/28/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P114715	**Blank File Name:**	P114705
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P114704

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**185**		1.18	10.0	0.79	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	546.120	55		40-135	0.78	1.008
37Cl-2,3,7,8-TCDD	800	457.224	57		40-135	NA	1.009

Columbia Analytical Services INC

Chain of Custody

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Howard Holmes

Project Name: Asplund WWTP
Project Number: 506.01
Project Manager: Gary Lawley
Company: Kinnetic Laboratories, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290
K1105442-001	MOA11ORG001	1	Water	6/14/11	0550	6/17/11	HOUSTON	II
K1105442-002	MOA11ORG002	2	Water	6/14/11	0600	6/17/11	HOUSTON	II

55

Test Comments

PCDD PCDF - 8290 K1105442-001 2,3,7,8 TCDD

Folder Comments:

~~002 = MS/MSD for 625 Extra Volume Received~~

Special Instructions/Comments

Please provide the electronic (PDF and EDD) report to the following e-mail address:
kelso_data@caslab.com

2 seals 2 ec
Blue ice / Bubble

Turnaround Requirements

____ **RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS
1 2 3 4 5

X **STANDARD**

Requested FAX Date: _____

Requested Report Date: 07/04/11

Report Requirements

____ I. Results Only
X II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data

PQL/MDL/J Y
EDD

Invoice Information

PO# K1105442

Bill to

Relinquished By: 6/21/11 1200 Received By: 6-22-11 1011 Airbill Number: 1297365901 6586 6180

Columbia Analytical Services

Cooler Receipt Form

Project Chemist: DB

Client/Project: CAS Kelso; Kinnetic Laboratories

Service Request: K1105442

Date/Time Received: 6/22/11 10:11:00

Date/Time Logged in: 6/22/11 12:13:00

Technician: TL

Technician: TL

1. Method of delivery: ○ US Mail ○ Fed Ex ● UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ● Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ● Yes ○ No ○ N/A

Were they intact? ● Yes ○ No ○ N/A

Were they signed and dated? ● Yes ○ No ○ N/A

If yes, how many and where? 2 FRONT

4. Method of delivery: ○ Inserts ○ Baggies ☑ Bubble Wrap ☑ Gel Packs ○ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ● No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
1Z9736590165566182		Jun 22, 2011	1011	TL	2/3	☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ● Yes ○ No ○ N/A

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ● Yes ○ No ○ N/A

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ● Yes ○ No ○ N/A

9. Were appropriate bottles/containers and volumes received for the requested tests? ● Yes ○ No ○ N/A

10. Did sample labels and tags agree with custody documents? ● Yes ○ No ○ N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Notes, Discrepancies, & Resolutions:

Print Form

Reset Form

Columbia Analytical Services

Sample Acceptance Policy

This policy outlines the criteria samples must meet to be accepted by CAS/ Houston.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample
- ✓ The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, CAS/Houston will complete a COC, which must be approved by the client, in writing, prior to proceeding with the analysis.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C.
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder.

INTENDED

TO BE

BLANK

Preparation Information Benchsheet

Prep Run#: 136273
Team: Semivoa GCMS/AKODUR

Prep WorkFlow: OrgExtDioxAq-30
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/28/11 09:04 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1100656-019	DP05-GW-0611	.01	8290/PCDD PCDF		Water	920mL	clear colorless liquid
2	E1100656-020	W13-GW-0611	.01	8290/PCDD PCDF		Water	960mL	clear colorless liquid
3	E1100657-001	IR9-EB061611	.01	8290/PCDD PCDF		Water	1080mL	clear colorless liquid
4	E1100658-001	IR9-EB062011	.01	8290/PCDD PCDF		Water	1080mL	clear colorless liquid
5	E1100665-001	SRTTP Influent	.01	8290/PCDD PCDF		Wastewater	960mL	cloudy yellow liquid
6	EQ1100303-01	MB		8290/PCDD PCDF		Liquid	1000mL	
7	EQ1100303-02	LCS		8290/PCDD PCDF		Liquid	1000mL	
8	EQ1100303-03	DLCS		8290/PCDD PCDF		Liquid	1000mL	
9	K1105442-001	MOA11ORG001	.01	8290/PCDD PCDF		Water	1060mL	cloudy gray liquid
10	K1105442-002	MOA11ORG002	.01	8290/PCDD PCDF		Water	1060mL	cloudy yellow liquid

Spiking Solutions

Name: 8290 Matrix Working Standard | Inventory ID 30707 | Logbook Ref: D12-24-4A (30707) | Expires On: 06/06/2012

EQ1100303-02	100.00µL	EQ1100303-03	100.00µL

Name: 8290 Internal Working Standard | Inventory ID 31471 | Logbook Ref: D12-31-2A (31471) | Expires On: 06/24/2012

E1100656-019	100.00µL	E1100656-020	100.00µL	E1100657-001	100.00µL	E1100658-001	100.00µL	E1100665-001	100.00µL	EQ1100303-01	100.00µL
EQ1100303-02	100.00µL	EQ1100303-03	100.00µL	K1105442-001	100.00µL	K1105442-002	100.00µL				

Name: 8290/1613B Cleanup Working Standard | Inventory ID 31489 | Logbook Ref: D12-32-1A/B | Expires On: 06/24/2012

E1100656-019	100.00µL	E1100656-020	100.00µL	E1100657-001	100.00µL	E1100658-001	100.00µL	E1100665-001	100.00µL	EQ1100303-01	100.00µL
EQ1100303-02	100.00µL	EQ1100303-03	100.00µL	K1105442-001	100.00µL	K1105442-002	100.00µL				

Preparation Materials

Carbon, High Purity	C2-56-4 (29768)	Ethyl Acetate 99.9% Minimum EtOAc	29100 (29100)	Glass Wool	C2-47-6 (24744)
Sulfuric Acid Reagent Grade H2SO4	29341 (29341)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	29098 (29098)	Sodium Chloride Reagent Grade NaCl	C2-41-7 (19652)
Sodium Hydroxide Reagent Grade NaOH	C2-53-5 (27837)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	C2-55-5 (29761)	Tridecane (n-Tridecane)	C2-57-3 (30536)
Hexane (n-Hexane) 98.5% Minimum	C2-56-7 (30671)	Nonane (n-Nonane) 99%	C2-26-001 (13942)	Silica Gel Reagent Grade	C2-52-5 (27100)
Toluene 99.9% Minimum	C2-57-1 (30534)				

Preparation Information Benchsheet

Prep Run#: 136273
Team: Semivoa GCMS/AKODUR

Prep WorkFlow: OrgExtDioxAq-30
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/28/11 09:04 AM

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	6/28/11 09:04	Started:	6/29/11 11:00	Started:	6/30/11 09:45	Started:	7/1/11 09:30
Finished:	6/29/11 07:53	Finished:	6/29/11 11:10	Finished:	6/30/11 12:30	Finished:	7/1/11 11:59
By:	AKODUR	By:	AKODUR	By:	AKODUR	By:	AKODUR

60

Comments: _____

Reviewed By: ak Date: 7/2/11

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105444

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the sample submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105444.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105444

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax
Required Completion Date: 30 days.	P.O. #: AK11-1002 / KLI Proj. #:506.01

ANALYSIS TYPE: EPA 8290/PCDD PCDF. Detection limits as per method. Please report in dry weight

MATRIX: Sludge | **Preservative:** None, 6°C | **Type of Container:** 250-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11DXN003	Sludge	1	6/15/11 0610		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	hand	[signature]	6/15 1015
Mary Gallington	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

SAMPLED BY (PRINT/SIGNATURE): _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 42

Client / Project: Kinnetic Service Request *K11* 5444

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	280			X

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

Columbia Analytical Services™ 19408 Park Row, Suite 320, Houston, TX 77084 | 713.266.1599 | www.caslab.com

July 07, 2011 Service Request No: K1105444

Howard Holmes,

Columbia Analytical Services Inc
1317 South 13th Avenue,
Kelso, WA 98626.

Laboratory Results for: Kinnetic Laboratories, Incorporated.

Dear Howard:

Enclosed are the results of the sample(s) submitted to our laboratory on June 22th, 2011. For Your reference, these analyses have been assigned our service request number: **K1105444**.

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.
All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) 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. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct number is 281-994-2954.

Respectfully submitted,

Columbia Analytical Services, Inc.

Darren Biles
Project Manager

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com.

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC

Client:	Kinnetic Laboratories, Inc.	**Service Request No.:**	K1105444
Project:	Asplund WWTF/506.01	**Date Received:**	6/22/11
Sample Matrix:	Sludge		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One sludge sample was received for analysis at Columbia Analytical Services on 6/22/11.

The sample was received at 2°C in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Please note the reporting forms are currently referencing the date CAS- Kelso received the samples (6/17/11) and not the date CAS-Houston received the samples (6/22/11).

Data Validation Notes and Discussion

MS/DMS

EQ1100306: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

Detection Limits

Detection limits are calculated for each congener in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Approved by Darren Biles for XL **Date** 7/7/11

Xiangqiu Liang, Laboratory Director

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01

Service Request: K1105444

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1105444-001	MOA11DXN003	6/15/11	06:10

Laboratory Certifications
2011-2012

STATE/PROGRAM	AGENCY	CERT#	EXP DATE	CERTIFIED?
DoD ELAP	A2LA	2897.01	11/30/11	Yes
ISO 17025	A2LA	2897.01	11/30/11	Yes
Arizona	AZ-DHS	AZ0725	05/27/12	Yes
arkansas	ADEQ	10-035-0	06/16/11	Yes
California	CA-ELAP	2452	02/28/13	Yes
Florida/NELAP	FL-DOHS	E87611	06/30/12	Yes
Hawaii	HI-DOH	N/A	06/30/12	Yes
Illinois/NELAP	IL-EPA	002611	10/06/11	Yes
Louisiana/NELAP	LELAP	03048	06/30/12	Yes
Louisiana/NELAP	LDHH	LA100032	12/31/11	Yes
Maine	ME-DOHS	2010041	06/05/12	Yes
Michigan	MIDEQ	9971	06/30/11	Yes
Minnesota	MDH	048-999-427	12/31/11	Yes
Nevada	NDEP	TX014112010A	07/31/10	Yes (Extension)
New Jersey	NJDEP	TX008	06/30/12	Yes
New Mexico	NMED-DWB	N/A	06/30/11	Yes
New York/NELAP	NY-DOH	11707	04/1/12	Yes
Oklahoma	OKDEQ	2010-022	08/31/11	Yes
Oregon/NELAP	ORELAP	TX200002-006	03/24/12	Yes
Pennsylvania/NELAP	PLAP	002	06/30/12	Yes
Tennessee	TNDEC	04016	06/30/12	Yes
Texas/NELAP	TCEQ	T104704216-10-1	06/30/12	Yes
UTAH/NELAP	UTELCP	COLU2	06/30/12	Yes
Soil Import Permit	USDA	P330-09-00067	03/27/12	Yes
Washington/NELAP	WA-Ecology	C819-10	11/14/11	Yes
West Virginia	WVDEP	347	06/30/12	Yes

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
MRL	Method Reporting Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent Recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
RRT	Relative Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-Noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected.

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected.'

- **S** Peak is saturated; data not reportable.

- **P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.

- **Q** Lock-mass interference by chlorodiphenyl ether compounds.

COLUMBIA ANALYTICAL SERVICES, INC. – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1105444 (DB-5) DB-225 SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
07/05/11	LL	-001

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
07/06/11	[illegible]	001

PEER REVIEW PAGE.DOC

Columbia Analytical Services INC

Analytical Results

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105444
Project:	Asplund WWTF/506.01	**Date Collected:**	6/15/11 0610
Sample Matrix:	Sludge, Solid	**Date Received:**	6/17/11
Sample Name:	MOA11DXN003	**Units:**	ng/Kg
Lab Code:	K1105444-001	**Basis:**	Dry
		Percent Solids:	27.7

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/1/11 1925
Prep Method:	Method	**Date Extracted:**	6/29/11
Sample Amount:	14.386g	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P114698	**Blank File Name:**	P114692
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P114691

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.304	2.51			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	577.799	58		40-135	0.79	1.007
37Cl-2,3,7,8-TCDD	800	447.041	56		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105444
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, Solid	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1100306-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/1/11 1433
Prep Method:	Method	**Date Extracted:**	6/29/11
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P114692	**Blank File Name:**	P114692
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P114691

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.115	1.00			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	592.471	59		40-135	0.78	1.007
37Cl-2,3,7,8-TCDD	800	458.709	57		40-135	NA	1.008

Columbia Analytical Services INC

Accuracy and Precision

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, Solid

Service Request: K1105444
Date Analyzed: 7/ 1/11

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method

Units: ng/Kg
Basis: Dry

Extraction Lot: 136428

	Lab Control Sample EQ1100306-02			Duplicate Lab Control Sample EQ1100306-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,3,7,8-TCDD	19.2	20.0	96	18.6	20.0	93	75 - 117	3	15

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105444
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, Solid	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1100306-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/1/11 2013
Prep Method:	Method	**Date Extracted:**	6/29/11
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P114699	**Blank File Name:**	P114692
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P114691

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**19.2**		0.124	1.00	0.79	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	558.768	56		40-135	0.81	1.008
37Cl-2,3,7,8-TCDD	800	435.651	54		40-135	NA	1.009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105444
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, Solid	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1100306-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/1/11 2100
Prep Method:	Method	**Date Extracted:**	6/29/11
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P114700	**Blank File Name:**	P114692
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P114691

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**18.6**		0.0984	1.00	0.81	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	604.299	60		40-135	0.79	1.007
37Cl-2,3,7,8-TCDD	800	465.517	58		40-135	NA	1.009

Columbia Analytical Services INC

Chain of Custody

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Howard Holmes

Project Name: Asplund WWTP
Project Number: 506.01
Project Manager: Gary Lawley
Company: Kinnetic Laboratories, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290	Total Solids 8290
K1105444-001	MOA11DXN003	1	Sludge, Solid	6/15/11	0610	6/17/11	HOUSTON	II	II

23

Test Comments

PCDD PCDF - 8290 K1105444-001 2,3,7,8 TCDD

12

Special Instructions/Comments

Please provide the electronic (PDF and EDD) report to the following e-mail address:
kelso_data@caslab.com

2 seals 2°C
Blue ice/Bubble

Turnaround Requirements

____ **RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS

1 2 3 4 5

X **STANDARD**

Requested FAX Date: _____

Requested Report Date: 07/04/11

Report Requirements

____ I. Results Only

X II. Results + QC Summaries

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

PQL/MDL/J Y

EDD

Invoice Information

PO# K1105444

Bill to

Relinquished By: 6/21/11 1200 Received By: 6-22-11 1011 Airbill Number: 1Z9736590165566188

Pag

Columbia Analytical Services

Cooler Receipt Form

Project Chemist: DB

Client/Project: CAS Kelso; Kinnetic Laboratories

Service Request: K1105444

Date/Time Received: 6/22/11 10:11:00

Date/Time Logged in: 6/22/11 12:13:00

Technician: TL

Technician: TL

1. Method of delivery: ○ US Mail ○ Fed Ex ◉ UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ◉ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ◉ Yes ○ No ○ N/A

Were they intact? ◉ Yes ○ No ○ N/A

Were they signed and dated? ◉ Yes ○ No ○ N/A

If yes, how many and where? 2 FRONT

4. Method of delivery: ○ Inserts ○ Baggies ☑ Bubble Wrap ☑ Gel Packs ○ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ◉ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
1Z9736590165566182		Jun 22, 2011	1011	TL	2/3	☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ◉ Yes ○ No ○ N/A

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ◉ Yes ○ No ○ N/A

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ◉ Yes ○ No ○ N/A

9. Were appropriate bottles/containers and volumes received for the requested tests? ◉ Yes ○ No ○ N/A

10. Did sample labels and tags agree with custody documents? ◉ Yes ○ No ○ N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Notes, Discrepancies, & Resolutions:

Print Form

Reset Form

Columbia Analytical Services

Sample Acceptance Policy

This policy outlines the criteria samples must meet to be accepted by CAS/ Houston.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample
- ✓ The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, CAS/Houston will complete a COC, which must be approved by the client, in writing, prior to proceeding with the analysis.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C.
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder.

Service Request Summary

Folder #: **K1105444**
Client Name: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project Number: 506.01

Report To: Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501
Phone Number: 907-276-6178
Cell Number:
Fax Number:
E-mail: glawley@kinneticlabs.com

Project Chemist: Darren Biles
Originating Lab: KELSO
Logged By: BTOBIN
Date Received: 6/17/11
Internal Due Date: 7/4/11
QAP: LAB QAP
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: N
Report to MDL?: Y
P.O. Number: AK11-1002
EDD: BASIC_WQC

1 - 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: E-WIC02-Box 27

NPDES

CAS Samp No	Client Samp No.	Matrix	Collected		SVM 8290/ PCDD PCDF	SVM CAS SOP/ Total Solids
K1105444-001	MOA11DXN003	Sludge,	6/15/11	0610	II	II

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	PCDD PCDF/8290	1	2,3,7,8 TCDD

Preparation Information Benchsheet

Prep Run#: 136428
Team: Semivoa GCMS/AKODUR

Prep WorkFlow: OrgExtDioxS(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/29/11 12:10 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1100670-001	11068005-1	.01	8290/PCDD PCDF		Paper	5.034g	brown cardboard squares
2	E1100670-002	11068005-2	.01	8290/PCDD PCDF		Paper	5.089g	brown and white cardboard squares
3	E1100670-003	11068005-3	.01	8290/PCDD PCDF		Paper	5.074g	brown and white cardboard squares
4	E1100671-001	11068006-1	.01	8290/PCDD PCDF		Paper	5.071g	brown and white cardboard squares
5	EQ1100306-01	MB		8290/PCDD PCDF		Solid	10.000g	
6	EQ1100306-02	LCS		8290/PCDD PCDF		Solid	10.000g	
7	EQ1100306-03	DLCS		8290/PCDD PCDF		Solid	10.000g	
8	J1102711-001	Clean Wood Ash	.02	8290/PCDD PCDF		Solid	10.068g	black wet clumpy soil
9	K1105434-002	B	.02	8290/PCDD PCDF		Ash	8.888g	black ash
10	K1105444-001	MOA11DXN003	.01	8290/PCDD PCDF		Sludge, Solid	14.386g	black sludge
11	K1105500-011	Composite	.03	8290/PCDD PCDF		Paperboard	5.092g	gray strips of cardboard
12	K1105770-001	2125A-102710ST	.02	8290/PCDD PCDF		Sediment	10.109g	black mud

Spiking Solutions

27

Name: 8290 Matrix Working Standard | Inventory ID 30707 | Logbook Ref: D12-24-4A (30707) | Expires On: 06/06/2012

EQ1100306-02	100.00µL	EQ1100306-03	100.00µL

Name: 8290 Internal Working Standard | Inventory ID 31471 | Logbook Ref: D12-31-2A (31471) | Expires On: 06/24/2012

E1100670-001	100.00µL	E1100670-002	100.00µL	E1100670-003	100.00µL	E1100671-001	100.00µL	EQ1100306-01	100.00µL	EQ1100306-02	100.00µL
EQ1100306-03	100.00µL	J1102711-001	100.00µL	K1105434-002	100.00µL	K1105444-001	100.00µL	K1105500-011	100.00µL	K1105770-001	100.00µL

Name: 8290/1613B Cleanup Working Standard | Inventory ID 31489 | Logbook Ref: D12-32-1A/B | Expires On: 06/24/2012

E1100670-001	100.00µL	E1100670-002	100.00µL	E1100670-003	100.00µL	E1100671-001	100.00µL	EQ1100306-01	100.00µL	EQ1100306-02	100.00µL
EQ1100306-03	100.00µL	J1102711-001	100.00µL	K1105434-002	100.00µL	K1105444-001	100.00µL	K1105500-011	100.00µL	K1105770-001	100.00µL

Preparation Materials

Carbon, High Purity	C2-56-4 (29768)	Ethyl Acetate 99.9% Minimum EtOAc	29100 (29100)	Extraction Thimbles 43 x123 mm	(1577)
Glass Wool	C2-47-6 (24744)	Sulfuric Acid Reagent Grade H2SO4	29341 (29341)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	29098 (29098)
Sodium Chloride Reagent Grade NaCl	C2-41-7 (19652)	Sodium Hydroxide Reagent Grade NaOH	C2-53-5 (27837)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	C2-55-5 (29761)
Tridecane (n-Tridecane)	C2-57-3 (30536)	Hexane (n-Hexane) 98.5% Minimum	C2-56-7 (30671)	Nonane (n-Nonane) 99%	C2-26-001 (13942)
Silica Gel Reagent Grade	C2-52-5 (27100)	Toluene 99.9% Minimum	C2-57-1 (30534)		

Preparation Information Benchsheet

Prep Run#: 136428
Team: Semivoa GCMS/AKODUR

Prep WorkFlow: OrgExtDioxS(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/29/11 12:10 PM

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	6/29/11 12:10	Started:	6/30/11 14:17	Started:	6/30/11 16:39	Started:	7/1/11 09:56
Finished:	6/30/11 08:42	Finished:	6/30/11 14:53	Finished:	6/30/11 18:48	Finished:	7/1/11 12:11
By:	AKODUR	By:	AKODUR	By:	AKODUR	By:	AKODUR

28

Comments: _____

Reviewed By: ak Date: 7/2/11

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

COLUMBIA ANALYTICAL SERVICES, INC.

Total Solids Report

Sample ID	Tare (g)	Tare + Wet Wt.(g)	Tare + Dry Wt.(g)	% Total Solids
E1100670-001	13.061	14.506	14.392	92.1
E1100670-002	13.100	14.680	14.564	92.7
E1100670-003	13.019	14.731	14.604	92.6
E1100671-001	13.084	16.124	15.896	92.5
K1105444-001	13.044	18.926	14.671	27.7

Batch No.: EQ1100306

Comments:

Analyst:	CD	Date/Time:	7/7/11	11:55 AM

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 4, 2011 Analytical Report for Service Request No: K1105447

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the sample submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105447.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes

Howard Holmes
Project Chemist

HH/lg

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1105447
Project:	Asplund WWTF	**Date Received:**	6/17/11
Sample Matrix:	Sludge		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

One sample was received for analysis at Columbia Analytical Services on 6/17/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

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

Total Metals

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

Organochlorine Pesticides by EPA Method 8081

Elevated Detection Limits:
The reporting limit is elevated for some analytes in sample MOA11SLG001. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the reporting limit. The results are flagged to indicate the matrix interference.

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

PCB Aroclors by EPA Method 8082

Matrix Spike Recovery Exceptions:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Elevated Detection Limits:
The detection limit was elevated for all analytes in sample MOA11SLG001. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference.

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

Approved by Howard Holm **Date** 8-2-11

Organophosphorus Pesticides by EPA Method 8141

Surrogate Exceptions:
The control criteria were exceeded for Tributyl Phosphate in LCS KWG1106310-1 and DLCS KWG1106310-2. The associated matrix spike recoveries of target compounds were in control, indicating the analysis was in control. The surrogate outlier was flagged accordingly. No further corrective action was appropriate.

The control criteria were exceeded for all surrogates in sample MOA11SLG001 due to suspected matrix interference. The sample extract was extremely viscous and dark in color. No further corrective action was appropriate.

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

Semivolatile Organic Compounds by EPA Method 8270

Second Source Exceptions:
The upper control criterion was exceeded for Benzidine in Initial Calibration Verification (ICV). The field samples analyzed in this sequence did not contain the analyte in question. Since the apparent problem indicated a potential high bias, the data quality was not affected. No further corrective action was required.

Surrogate Exceptions:
The control criteria were exceeded for Terphenyl-d14 in sample MOA11SLG001 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.

Elevated Detection Limits:
The detection limit was elevated for Fluoranthene and Butyl Benzyl Phthalate in sample MOA11SLG001. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference.

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

Approved by Howard Holmes **Date** 8-2-11

Chain of Custody

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: 6020A/Metals T; 6020A/Sb Ag T; 7471B/Hg; 8081B/Pest OC; 8082/PCB; 8141A/PEST_OP; 8270C/SVO; 9012A/CN Tot; TS-MET/Total Solids. Please report in dry weight. Metals to include Ag, As, Be, Cd, Cr, Cu, Mo, Ni, Pb, Sb, Se, Tl, Zn, Hg.

MATRIX: Sludge | **Preservative:** Chilled to 6°C | **Type of Container:** 250-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11SLG001	Sludge	1	6/15/11 0610		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	hand	[signature]	6/15 1015
Mary Bellingham	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 112

Client / Project: Kinnetic Service Request *K11* 5447

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	289			X

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. 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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Sludge, solid

Service Request: K1105447

Total Solids

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

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
MOA11SLG001	K1105447-001	06/15/2011	06/17/2011	06/20/2011	29.2	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Sludge, solid	**Date Received:**	06/17/2011
		Date Analyzed:	06/20/2011

Duplicate Sample Summary

Total Solids

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

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
MOA11SLG001	K1105447-001	29.2	28.8	29.0	1	

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	6/15/11
Sample Matrix:	Sludge, Solid	**Date Received:**	6/17/11
Prep Method:	Method	**Units:**	mg/Kg
Analysis Method:	9012A	**Basis:**	Dry

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11SLG001	K1105447-001	**0.57**	J	0.67	0.21	1	6/28/11	6/29/11 15:00	
Method Blank	K1105447-MB	ND	U	0.20	0.06	1	6/28/11	6/29/11 15:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	6/15/11
Sample Matrix:	Sludge, Solid	**Date Received:**	6/17/11
		Date Analyzed:	6/29/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	MOA11SLG001	**Units:**	mg/Kg
Lab Code:	K1105447-001	**Basis:**	Dry

Analyte Name	Method	MRL	MDL	Sample Result	MOA11SLG001DUP Duplicate Sample K1105447-001DUP Result	Average	RPD	RPD Limit
Cyanide, Total	9012A	0.67	0.20	0.57 J	0.60 J	0.588	5	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, Solid

Service Request: K1105447
Date Collected: 6/15/11
Date Received: 6/17/11
Date Analyzed: 6/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: MOA11SLG001
Lab Code: K1105447-001

Units: mg/Kg
Basis: Dry

Analytical Method: 9012A
Prep Method: Method

		MOA11SLG001MS Matrix Spike K1105447-001MS			MOA11SLG001DMS Duplicate Matrix Spike K1105447-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	0.57	2.88	6.33	36	2.53	6.40	31	10 - 165	15	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, Solid

Service Request: K1105447
Date Analyzed: 6/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

		Lab Control Sample K1105447-LCS			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Cyanide, Total	9012A	28.5	29.1	98	78 - 110

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

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

Metals

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project No.: 506.01

Service Request: K1105447

Sample Name:	Lab Code:
MOA11SLG001	K1105447-001
Method Blank	K1105447-MB
Batch QC1D	K1105586-004D
Batch QC1S	K1105586-004S
Batch QC2D	K1105756-004D
Batch QC2S	K1105756-004S

Comments:

Approved By: _____ **Date:** 7/7/11

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105447
Project No.:	506.01	**Date Collected:**	06/15/11
Project Name:	Asplund WWTF	**Date Received:**	06/17/11
Matrix:	SLUDGE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: MOA11SLG001 **Lab Code:** K1105447-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.056	0.022	5.0	06/22/11	06/23/11	1.470		N
Arsenic	6020A	0.55	0.07	5.0	06/22/11	06/30/11	4.17		
Beryllium	6020A	0.022	0.003	5.0	06/22/11	06/30/11	0.069		
Cadmium	6020A	0.022	0.003	5.0	06/22/11	06/30/11	1.630		
Chromium	6020A	0.22	0.03	5.0	06/22/11	06/30/11	11.7		
Copper	6020A	0.11	0.06	5.0	06/22/11	06/30/11	186		
Lead	6020A	0.055	0.010	5.0	06/22/11	06/30/11	21.9		
Mercury	7471B	0.035	0.003	2.0	06/29/11	06/30/11	0.507		
Molybdenum	6020A	0.06	0.02	5.0	06/22/11	06/30/11	5.34		
Nickel	6020A	0.22	0.03	5.0	06/22/11	06/30/11	9.95		
Selenium	6020A	1.1	0.2	5.0	06/22/11	06/30/11	2.2		
Silver	6020A	0.022	0.003	5.0	06/22/11	06/23/11	4.190		
Thallium	6020A	0.022	0.002	5.0	06/22/11	07/01/11	0.033		
Zinc	6020A	0.5	0.2	5.0	06/22/11	06/30/11	514		

% Solids: 29.2

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorpora
Service Request: K1105447
Project No.: 506.01
Date Collected:
Project Name: Asplund WWTF
Date Received:
Matrix: SEDIMENT
Units: mg/Kg
Basis: DRY

Sample Name: Method Blank
Lab Code: K1105447-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.020	5.0	06/22/11	06/23/11	0.020	U	N
Arsenic	6020A	0.50	0.06	5.0	06/22/11	06/30/11	0.06	U	
Beryllium	6020A	0.020	0.003	5.0	06/22/11	06/30/11	0.003	U	
Cadmium	6020A	0.020	0.003	5.0	06/22/11	06/30/11	0.006	J	
Chromium	6020A	0.20	0.03	5.0	06/22/11	06/30/11	0.05	J	
Copper	6020A	0.10	0.05	5.0	06/22/11	06/30/11	0.14		
Lead	6020A	0.050	0.009	5.0	06/22/11	06/30/11	0.043	J	
Mercury	7471B	0.020	0.002	1.0	06/29/11	06/30/11	0.002	U	
Molybdenum	6020A	0.05	0.02	5.0	06/22/11	06/30/11	0.02	U	
Nickel	6020A	0.20	0.03	5.0	06/22/11	06/30/11	0.04	J	
Selenium	6020A	1.0	0.2	5.0	06/22/11	06/30/11	0.2	U	
Silver	6020A	0.020	0.003	5.0	06/22/11	06/23/11	0.003	U	
Thallium	6020A	0.020	0.002	5.0	06/22/11	07/01/11	0.003	J	
Zinc	6020A	0.5	0.2	5.0	06/22/11	06/30/11	0.3	J	

% Solids: 100.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105447

Project No.: 506.01 **Units:** MG/KG

Project Name: Asplund WWTF **Basis:** DRY

Matrix: SEDIMENT **% Solids:** 69.2

Sample Name: Batch QC1S **Lab Code:** K1105586-004S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	75 - 125	50.6		0.062		107.84	46.9	N	6020A
Arsenic	78 - 121	106		3.18		103.96	98.9		6020A
Beryllium	75 - 125	10.6		0.281		10.40	99.2		6020A
Cadmium	75 - 125	10.7		0.102		10.40	101.9		6020A
Chromium	75 - 125	48.0		7.02		41.59	98.5		6020A
Copper	75 - 125	55.1		5.41		51.98	95.6		6020A
Lead	75 - 125	112		6.840		103.96	101.2		6020A
Molybdenum	75 - 125	94.1		0.20		103.96	90.3		6020A
Nickel	75 - 125	110		10.7		103.96	95.5		6020A
Selenium	75 - 125	105		0.3	J	103.96	100.7		6020A
Silver	75 - 125	9.730		0.051		10.78	89.8		6020A
Thallium	75 - 125	99.3		0.129		103.96	95.4		6020A
Zinc	75 - 125	138		32.4		103.96	101.6		6020A

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

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105447

Project No.: 506.01 **Units:** MG/KG

Project Name: Asplund WWTF **Basis:** DRY

Matrix: SEDIMENT **% Solids:** 65.4

Sample Name: Batch QC2S **Lab Code:** K1105756-004S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	80 - 120	0.479		0.029		0.45	100.0		7471B

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

Metals

- 6 -

DUPLICATES

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105447
Project No.:	506.01	**Units:**	MG/KG
Project Name:	Asplund WWTF	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	69.2

Sample Name: Batch QC1D **Lab Code:** K1105586-004D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.062		0.064		3.2		6020A
Arsenic	20	3.18		3.02		5.2		6020A
Beryllium	20	0.281		0.285		1.4		6020A
Cadmium		0.102		0.097		5.0		6020A
Chromium	20	7.02		6.98		0.6		6020A
Copper	20	5.41		4.99		8.1		6020A
Lead	20	6.840		6.900		0.9		6020A
Molybdenum		0.20		0.17		16.2		6020A
Nickel	20	10.7		10.9		1.9		6020A
Selenium		0.3	J	0.3	J	0.0		6020A
Silver		0.051		0.035		37.2		6020A
Thallium	20	0.129		0.115		11.5		6020A
Zinc	20	32.4		33.7		3.9		6020A

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

Metals

- 6 -

DUPLICATES

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105447
Project No.:	506.01	**Units:**	MG/KG
Project Name:	Asplund WWTF	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	65.4

Sample Name: Batch QC2D **Lab Code:** K1105756-004D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.029		0.028		3.5		7471B

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

Metals

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105447

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: **Solid LCS Source:** ERA D065540

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C Limits		%R
Antimony				105	97.1	50	150	92.5
Arsenic				88.3	93.5	78	122	105.9
Beryllium				58.2	59.8	83	117	102.7
Cadmium				91	95.5	81	119	104.9
Chromium				144	141	80	119	97.9
Copper				237	238	83	116	100.4
Lead				104	109	79	121	104.8
Mercury				6.8	6.480	72	122	95.3
Molybdenum				59.8	52.1	75	125	87.1
Nickel				200	200	81	118	100.0
Selenium				192	205	80	120	106.8
Silver				76.4	68.00	66	134	89.0
Thallium				247	248	79	120	100.4
Zinc				292	285	73	121	97.6

Organochlorine Pesticides

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Sludge, solid	**Date Received:**	06/17/2011

Organochlorine Pesticides

Sample Name:	MOA11SLG001	**Units:**	ug/Kg
Lab Code:	K1105447-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	8.4	0.76	1	06/23/11	07/01/11	KWG1105885	
Heptachlor	ND	Ui	8.4	8.4	1	06/23/11	07/01/11	KWG1105885	
Aldrin	ND	U	8.4	0.58	1	06/23/11	07/01/11	KWG1105885	
Heptachlor Epoxide	ND	Ui	8.4	8.4	1	06/23/11	07/01/11	KWG1105885	
gamma-Chlordane†	ND	Ui	28	28	1	06/23/11	07/01/11	KWG1105885	
Endosulfan I	ND	U	8.4	2.9	1	06/23/11	07/01/11	KWG1105885	
alpha-Chlordane	ND	Ui	14	14	1	06/23/11	07/01/11	KWG1105885	
Dieldrin	ND	U	8.4	0.81	1	06/23/11	07/01/11	KWG1105885	
4,4'-DDE	ND	U	8.4	2.7	1	06/23/11	07/01/11	KWG1105885	
Endrin	ND	Ui	8.4	2.5	1	06/23/11	07/01/11	KWG1105885	
Endosulfan II	ND	Ui	40	40	1	06/23/11	07/01/11	KWG1105885	
4,4'-DDD	ND	U	8.4	1.7	1	06/23/11	07/01/11	KWG1105885	
Endrin Aldehyde	ND	U	8.4	2.4	1	06/23/11	07/01/11	KWG1105885	
Endosulfan Sulfate	ND	U	8.4	0.96	1	06/23/11	07/01/11	KWG1105885	
4,4'-DDT	ND	Ui	180	180	1	06/23/11	07/01/11	KWG1105885	
Endrin Ketone	ND	U	8.4	0.93	1	06/23/11	07/01/11	KWG1105885	
Methoxychlor	ND	Ui	9.9	9.9	1	06/23/11	07/01/11	KWG1105885	
Toxaphene	ND	Ui	770	770	1	06/23/11	07/01/11	KWG1105885	
Chlordane	ND	Ui	1800	1800	1	06/23/11	07/01/11	KWG1105885	
Mirex	ND	U	8.4	1.2	1	06/23/11	07/01/11	KWG1105885	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	61	21-112	07/01/11	Acceptable
Decachlorobiphenyl	123	15-130	07/01/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Organochlorine Pesticides

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1105885-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	2.5	0.45	1	06/23/11	07/01/11	KWG1105885	
Heptachlor	ND	U	2.5	0.83	1	06/23/11	07/01/11	KWG1105885	
Aldrin	ND	U	2.5	0.34	1	06/23/11	07/01/11	KWG1105885	
Heptachlor Epoxide	ND	U	2.5	0.39	1	06/23/11	07/01/11	KWG1105885	
gamma-Chlordane†	ND	U	2.5	0.60	1	06/23/11	07/01/11	KWG1105885	
Endosulfan I	ND	U	2.5	1.7	1	06/23/11	07/01/11	KWG1105885	
alpha-Chlordane	ND	U	2.5	1.2	1	06/23/11	07/01/11	KWG1105885	
Dieldrin	ND	U	2.5	0.48	1	06/23/11	07/01/11	KWG1105885	
4,4'-DDE	ND	U	2.5	1.6	1	06/23/11	07/01/11	KWG1105885	
Endrin	ND	U	2.5	0.45	1	06/23/11	07/01/11	KWG1105885	
Endosulfan II	ND	U	2.5	0.86	1	06/23/11	07/01/11	KWG1105885	
4,4'-DDD	ND	U	2.5	1.0	1	06/23/11	07/01/11	KWG1105885	
Endrin Aldehyde	ND	U	2.5	1.4	1	06/23/11	07/01/11	KWG1105885	
Endosulfan Sulfate	ND	U	2.5	0.57	1	06/23/11	07/01/11	KWG1105885	
4,4'-DDT	ND	U	2.5	0.85	1	06/23/11	07/01/11	KWG1105885	
Endrin Ketone	ND	U	2.5	0.55	1	06/23/11	07/01/11	KWG1105885	
Methoxychlor	ND	U	2.5	0.61	1	06/23/11	07/01/11	KWG1105885	
Toxaphene	ND	U	130	37	1	06/23/11	07/01/11	KWG1105885	
Chlordane	ND	U	50	22	1	06/23/11	07/01/11	KWG1105885	
Mirex	ND	U	2.5	0.68	1	06/23/11	07/01/11	KWG1105885	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	72	21-112	07/01/11	Acceptable
Decachlorobiphenyl	70	15-130	07/01/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105447

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3541
Analysis Method: 8081B

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
MOA11SLG001	K1105447-001	61	123
Method Blank	KWG1105885-5	72	70
Lab Control Sample	KWG1105885-1	66	68
Duplicate Lab Control Sample	KWG1105885-2	70	70

Surrogate Recovery Control Limits (%)

Sur1 =	Tetrachloro-m-xylene	21-112
Sur2 =	Decachlorobiphenyl	15-130

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/23/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	07/01/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8081B	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1105885

	Lab Control Sample KWG1105885-1 Lab Control Spike			Duplicate Lab Control Sample KWG1105885-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
gamma-BHC (Lindane)	40.0	50.0	80	42.8	50.0	86	40-142	7	40
Heptachlor	40.6	50.0	81	43.5	50.0	87	39-135	7	40
Aldrin	37.2	50.0	74	39.9	50.0	80	37-134	7	40
Heptachlor Epoxide	39.6	50.0	79	42.7	50.0	85	45-118	7	40
gamma-Chlordane	37.7	50.0	75	40.8	50.0	82	41-135	8	40
Endosulfan I	33.5	50.0	67	36.1	50.0	72	35-121	7	40
alpha-Chlordane	36.7	50.0	73	39.5	50.0	79	41-134	7	40
Dieldrin	37.8	50.0	76	40.4	50.0	81	46-136	7	40
4,4'-DDE	38.4	50.0	77	41.4	50.0	83	46-141	8	40
Endrin	40.1	50.0	80	43.5	50.0	87	40-152	8	40
Endosulfan II	34.8	50.0	70	37.2	50.0	74	39-128	7	40
4,4'-DDD	40.0	50.0	80	42.7	50.0	85	46-146	7	40
Endrin Aldehyde	37.5	50.0	75	38.8	50.0	78	32-132	3	40
Endosulfan Sulfate	37.1	50.0	74	39.6	50.0	79	43-138	7	40
4,4'-DDT	40.5	50.0	81	44.4	50.0	89	46-151	9	40
Endrin Ketone	39.7	50.0	79	42.4	50.0	85	47-135	6	40
Methoxychlor	41.3	50.0	83	41.6	50.0	83	42-147	1	40
Mirex	32.2	50.0	64	33.1	50.0	66	38-123	3	40

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

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

Polychlorinated Biphenyls

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Sludge, solid	**Date Received:**	06/17/2011

Polychlorinated Biphenyls (PCBs)

Sample Name:	MOA11SLG001	**Units:**	mg/Kg
Lab Code:	K1105447-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.19	0.19	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1221	ND	Ui	0.34	0.28	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1232	ND	Ui	0.22	0.22	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1242	ND	Ui	0.17	0.12	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1248	ND	Ui	0.17	0.15	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1254	ND	Ui	0.38	0.38	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1260	ND	Ui	0.17	0.059	1	06/23/11	06/28/11	KWG1105886	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	104	35-133	06/28/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1105886-3	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.050	0.019	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1221	ND	U	0.099	0.019	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1232	ND	U	0.050	0.019	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1242	ND	U	0.050	0.019	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1248	ND	U	0.050	0.019	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1254	ND	U	0.050	0.019	1	06/23/11	06/28/11	KWG1105886	
Aroclor 1260	ND	U	0.050	0.019	1	06/23/11	06/28/11	KWG1105886	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	106	35-133	06/28/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105447

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
MOA11SLG001	K1105447-001	104
Method Blank	KWG1105886-3	106
Lab Control Sample	KWG1105886-1	103
Duplicate Lab Control Sample	KWG1105886-2	103

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 35-133

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/23/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	06/28/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3541	**Units:**	mg/Kg
Analysis Method:	8082A	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1105886

	Lab Control Sample KWG1105886-1 Lab Control Spike			Duplicate Lab Control Sample KWG1105886-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	0.528	0.500	106	0.543	0.500	109	48-121	3	40
Aroclor 1260	0.560	0.500	112	0.571	0.500	114	53-129	2	40

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

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

Organophosphorus Pesticides

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Sludge, solid	**Date Received:**	06/17/2011

Organophosphorus Pesticides

Sample Name:	MOA11SLG001	**Units:**	mg/Kg
Lab Code:	K1105447-001	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8141A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	0.35	0.042	1	06/23/11	07/14/11	KWG1106310	
Methyl Parathion	ND	U	0.17	0.0098	1	06/23/11	07/14/11	KWG1106310	
Malathion	ND	U	0.17	0.0061	1	06/23/11	07/14/11	KWG1106310	
Ethyl Parathion	ND	U	0.17	0.0068	1	06/23/11	07/14/11	KWG1106310	
Azinphos-methyl (Guthion)	ND	U	0.17	0.013	1	06/23/11	07/14/11	KWG1106310	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	0	38-158	07/14/11	Outside Control Limits
Triphenyl Phosphate	0	35-163	07/14/11	Outside Control Limits

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Organophosphorus Pesticides

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1106310-3	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8141A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	0.050	0.012	1	06/23/11	07/14/11	KWG1106310	
Methyl Parathion	ND	U	0.025	0.0029	1	06/23/11	07/14/11	KWG1106310	
Malathion	ND	U	0.025	0.0018	1	06/23/11	07/14/11	KWG1106310	
Ethyl Parathion	ND	U	0.025	0.0020	1	06/23/11	07/14/11	KWG1106310	
Azinphos-methyl (Guthion)	ND	U	0.025	0.0036	1	06/23/11	07/14/11	KWG1106310	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	76	38-158	07/14/11	Acceptable
Triphenyl Phosphate	79	35-163	07/14/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105447

Surrogate Recovery Summary
Organophosphorus Pesticides

Extraction Method: EPA 3540C
Analysis Method: 8141A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1		Sur2	
MOA11SLG001	K1105447-001	0	*	0	*
Method Blank	KWG1106310-3	76		79	
Lab Control Sample	KWG1106310-1	196	*	87	
Duplicate Lab Control Sample	KWG1106310-2	180	*	83	

Surrogate Recovery Control Limits (%)

Sur1 =	Tributyl Phosphate	38-158
Sur2 =	Triphenyl Phosphate	35-163

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

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

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105447
Date Extracted: 06/23/2011
Date Analyzed: 07/14/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Organophosphorus Pesticides

Extraction Method: EPA 3540C
Analysis Method: 8141A

Units: mg/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1106310

	Lab Control Sample KWG1106310-1 Lab Control Spike			Duplicate Lab Control Sample KWG1106310-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Demeton-O,S	0.147	0.267	55	0.124	0.267	46	10-127	17	40
Methyl Parathion	0.228	0.267	85	0.202	0.267	76	43-142	12	40
Malathion	0.205	0.267	77	0.188	0.267	70	41-123	9	40
Ethyl Parathion	0.222	0.267	83	0.205	0.267	77	45-127	8	40
Azinphos-methyl (Guthion)	0.262	0.267	98	0.227	0.267	85	33-156	14	40

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

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

Semi-Volatile Organic Compounds

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Sludge, solid	**Date Received:**	06/17/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11SLG001	**Units:**	mg/Kg
Lab Code:	K1105447-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	41	0.52	1	06/23/11	07/01/11	KWG1105751	
Bis(2-chloroethyl) Ether	ND	U	6.8	0.24	1	06/23/11	07/01/11	KWG1105751	
Phenol	**3.1**	J	6.8	0.40	1	06/23/11	07/01/11	KWG1105751	
2-Chlorophenol	ND	U	6.8	0.21	1	06/23/11	07/01/11	KWG1105751	
Bis(2-chloroisopropyl) Ether	ND	U	6.8	0.29	1	06/23/11	07/01/11	KWG1105751	
Hexachloroethane	ND	U	6.8	0.45	1	06/23/11	07/01/11	KWG1105751	
N-Nitrosodi-n-propylamine	ND	U	6.8	0.40	1	06/23/11	07/01/11	KWG1105751	
4-Methylphenol†	**94**		6.8	0.35	1	06/23/11	07/01/11	KWG1105751	
Nitrobenzene	ND	U	6.8	0.54	1	06/23/11	07/01/11	KWG1105751	
Isophorone	ND	U	6.8	0.29	1	06/23/11	07/01/11	KWG1105751	
2-Nitrophenol	ND	U	6.8	0.29	1	06/23/11	07/01/11	KWG1105751	
2,4-Dimethylphenol	ND	U	6.8	0.31	1	06/23/11	07/01/11	KWG1105751	
Bis(2-chloroethoxy)methane	ND	U	6.9	0.23	1	06/23/11	07/01/11	KWG1105751	
2,4-Dichlorophenol	ND	U	6.8	0.34	1	06/23/11	07/01/11	KWG1105751	
1,2,4-Trichlorobenzene	ND	U	6.8	0.23	1	06/23/11	07/01/11	KWG1105751	
Naphthalene	ND	U	6.8	0.30	1	06/23/11	07/01/11	KWG1105751	
Hexachlorobutadiene	ND	U	6.8	0.29	1	06/23/11	07/01/11	KWG1105751	
4-Chloro-3-methylphenol	ND	U	6.8	0.34	1	06/23/11	07/01/11	KWG1105751	
Hexachlorocyclopentadiene	ND	U	6.8	0.26	1	06/23/11	07/01/11	KWG1105751	
2,4,6-Trichlorophenol	ND	U	6.8	0.30	1	06/23/11	07/01/11	KWG1105751	
2-Chloronaphthalene	ND	U	6.8	0.21	1	06/23/11	07/01/11	KWG1105751	
Acenaphthylene	ND	U	6.8	0.33	1	06/23/11	07/01/11	KWG1105751	
Dimethyl Phthalate	ND	U	6.8	0.34	1	06/23/11	07/01/11	KWG1105751	
2,6-Dinitrotoluene	ND	U	6.8	0.32	1	06/23/11	07/01/11	KWG1105751	
Acenaphthene	ND	U	6.8	0.28	1	06/23/11	07/01/11	KWG1105751	
2,4-Dinitrophenol	ND	U	41	2.3	1	06/23/11	07/01/11	KWG1105751	
4-Nitrophenol	ND	U	41	3.0	1	06/23/11	07/01/11	KWG1105751	
2,4-Dinitrotoluene	ND	U	6.8	0.31	1	06/23/11	07/01/11	KWG1105751	
Fluorene	**0.31**	J	6.8	0.27	1	06/23/11	07/01/11	KWG1105751	
4-Chlorophenyl Phenyl Ether	ND	U	6.8	0.33	1	06/23/11	07/01/11	KWG1105751	
Diethyl Phthalate	ND	U	6.8	0.29	1	06/23/11	07/01/11	KWG1105751	
2-Methyl-4,6-dinitrophenol	ND	U	41	3.0	1	06/23/11	07/01/11	KWG1105751	
N-Nitrosodiphenylamine	ND	U	6.9	0.37	1	06/23/11	07/01/11	KWG1105751	
1,2-Diphenylhydrazine†	ND	U	6.8	0.30	1	06/23/11	07/01/11	KWG1105751	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Sludge, solid	**Date Received:**	06/17/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11SLG001	**Units:**	mg/Kg
Lab Code:	K1105447-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
4-Bromophenyl Phenyl Ether	ND	U	6.8	0.25	1	06/23/11	07/01/11	KWG1105751	
Hexachlorobenzene	ND	U	6.9	0.31	1	06/23/11	07/01/11	KWG1105751	
Pentachlorophenol	ND	U	41	2.6	1	06/23/11	07/01/11	KWG1105751	
Phenanthrene	**1.9**	J	6.8	0.21	1	06/23/11	07/01/11	KWG1105751	
Anthracene	ND	U	6.8	0.29	1	06/23/11	07/01/11	KWG1105751	
Di-n-butyl Phthalate	**2.1**	J	6.8	0.25	1	06/23/11	07/01/11	KWG1105751	
Fluoranthene	ND	Ui	6.8	1.5	1	06/23/11	07/01/11	KWG1105751	
Benzidine	ND	U	41	8.6	1	06/23/11	07/01/11	KWG1105751	
Pyrene	**0.57**	J	6.8	0.29	1	06/23/11	07/01/11	KWG1105751	
Butyl Benzyl Phthalate	ND	Ui	6.8	5.2	1	06/23/11	07/01/11	KWG1105751	
3,3'-Dichlorobenzidine	ND	U	41	0.56	1	06/23/11	07/01/11	KWG1105751	
Benz(a)anthracene	**0.57**	J	6.8	0.26	1	06/23/11	07/01/11	KWG1105751	
Chrysene	**0.40**	J	6.8	0.25	1	06/23/11	07/01/11	KWG1105751	
Bis(2-ethylhexyl) Phthalate	**23**		6.8	0.39	1	06/23/11	07/01/11	KWG1105751	
Di-n-octyl Phthalate	ND	U	6.8	0.50	1	06/23/11	07/01/11	KWG1105751	
Benzo(b)fluoranthene	**0.38**	J	6.8	0.36	1	06/23/11	07/01/11	KWG1105751	
Benzo(k)fluoranthene	ND	U	6.8	0.40	1	06/23/11	07/01/11	KWG1105751	
Benzo(a)pyrene	ND	U	6.8	0.41	1	06/23/11	07/01/11	KWG1105751	
Indeno(1,2,3-cd)pyrene	ND	U	6.8	0.80	1	06/23/11	07/01/11	KWG1105751	
Dibenz(a,h)anthracene	ND	U	6.8	0.57	1	06/23/11	07/01/11	KWG1105751	
Benzo(g,h,i)perylene	ND	U	6.8	0.42	1	06/23/11	07/01/11	KWG1105751	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	66	20-83	07/01/11	Acceptable
Phenol-d6	79	23-90	07/01/11	Acceptable
Nitrobenzene-d5	97	29-100	07/01/11	Acceptable
2-Fluorobiphenyl	102	32-104	07/01/11	Acceptable
2,4,6-Tribromophenol	117	20-123	07/01/11	Acceptable
Terphenyl-d14	9	37-133	07/01/11	Outside Control Limits

Comments:

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	06/15/2011
Sample Matrix:	Sludge, solid	**Date Received:**	06/17/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11SLG001	**Units:**	mg/Kg
Lab Code:	K1105447-001	**Basis:**	Dry

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.
1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Misc. solid	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1105751-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	1.5	0.026	1	06/23/11	07/01/11	KWG1105751	
Bis(2-chloroethyl) Ether	ND	U	0.25	0.012	1	06/23/11	07/01/11	KWG1105751	
Phenol	ND	U	0.25	0.020	1	06/23/11	07/01/11	KWG1105751	
2-Chlorophenol	ND	U	0.25	0.0099	1	06/23/11	07/01/11	KWG1105751	
Bis(2-chloroisopropyl) Ether	ND	U	0.25	0.015	1	06/23/11	07/01/11	KWG1105751	
Hexachloroethane	ND	U	0.25	0.022	1	06/23/11	07/01/11	KWG1105751	
N-Nitrosodi-n-propylamine	ND	U	0.25	0.020	1	06/23/11	07/01/11	KWG1105751	
4-Methylphenol†	ND	U	0.25	0.017	1	06/23/11	07/01/11	KWG1105751	
Nitrobenzene	ND	U	0.25	0.027	1	06/23/11	07/01/11	KWG1105751	
Isophorone	ND	U	0.25	0.014	1	06/23/11	07/01/11	KWG1105751	
2-Nitrophenol	ND	U	0.25	0.014	1	06/23/11	07/01/11	KWG1105751	
2,4-Dimethylphenol	ND	U	0.25	0.016	1	06/23/11	07/01/11	KWG1105751	
Bis(2-chloroethoxy)methane	ND	U	0.25	0.011	1	06/23/11	07/01/11	KWG1105751	
2,4-Dichlorophenol	ND	U	0.25	0.017	1	06/23/11	07/01/11	KWG1105751	
1,2,4-Trichlorobenzene	ND	U	0.25	0.011	1	06/23/11	07/01/11	KWG1105751	
Naphthalene	ND	U	0.25	0.015	1	06/23/11	07/01/11	KWG1105751	
Hexachlorobutadiene	ND	U	0.25	0.015	1	06/23/11	07/01/11	KWG1105751	
4-Chloro-3-methylphenol	ND	U	0.25	0.017	1	06/23/11	07/01/11	KWG1105751	
Hexachlorocyclopentadiene	ND	U	0.25	0.013	1	06/23/11	07/01/11	KWG1105751	
2,4,6-Trichlorophenol	ND	U	0.25	0.015	1	06/23/11	07/01/11	KWG1105751	
2-Chloronaphthalene	ND	U	0.25	0.010	1	06/23/11	07/01/11	KWG1105751	
Acenaphthylene	ND	U	0.25	0.016	1	06/23/11	07/01/11	KWG1105751	
Dimethyl Phthalate	ND	U	0.25	0.017	1	06/23/11	07/01/11	KWG1105751	
2,6-Dinitrotoluene	ND	U	0.25	0.016	1	06/23/11	07/01/11	KWG1105751	
Acenaphthene	ND	U	0.25	0.014	1	06/23/11	07/01/11	KWG1105751	
2,4-Dinitrophenol	ND	U	1.5	0.12	1	06/23/11	07/01/11	KWG1105751	
4-Nitrophenol	ND	U	1.5	0.15	1	06/23/11	07/01/11	KWG1105751	
2,4-Dinitrotoluene	ND	U	0.25	0.015	1	06/23/11	07/01/11	KWG1105751	
Fluorene	ND	U	0.25	0.013	1	06/23/11	07/01/11	KWG1105751	
4-Chlorophenyl Phenyl Ether	ND	U	0.25	0.016	1	06/23/11	07/01/11	KWG1105751	
Diethyl Phthalate	ND	U	0.25	0.015	1	06/23/11	07/01/11	KWG1105751	
2-Methyl-4,6-dinitrophenol	ND	U	1.5	0.15	1	06/23/11	07/01/11	KWG1105751	
N-Nitrosodiphenylamine	ND	U	0.25	0.018	1	06/23/11	07/01/11	KWG1105751	
1,2-Diphenylhydrazine†	ND	U	0.25	0.015	1	06/23/11	07/01/11	KWG1105751	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Misc. solid	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1105751-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
4-Bromophenyl Phenyl Ether	ND	U	0.25	0.013	1	06/23/11	07/01/11	KWG1105751	
Hexachlorobenzene	ND	U	0.25	0.015	1	06/23/11	07/01/11	KWG1105751	
Pentachlorophenol	ND	U	1.5	0.13	1	06/23/11	07/01/11	KWG1105751	
Phenanthrene	ND	U	0.25	0.010	1	06/23/11	07/01/11	KWG1105751	
Anthracene	ND	U	0.25	0.014	1	06/23/11	07/01/11	KWG1105751	
Di-n-butyl Phthalate	ND	U	0.25	0.013	1	06/23/11	07/01/11	KWG1105751	
Fluoranthene	ND	U	0.25	0.012	1	06/23/11	07/01/11	KWG1105751	
Benzidine	ND	U	1.5	0.42	1	06/23/11	07/01/11	KWG1105751	
Pyrene	ND	U	0.25	0.014	1	06/23/11	07/01/11	KWG1105751	
Butyl Benzyl Phthalate	ND	U	0.25	0.017	1	06/23/11	07/01/11	KWG1105751	
3,3'-Dichlorobenzidine	ND	U	1.5	0.027	1	06/23/11	07/01/11	KWG1105751	
Benz(a)anthracene	ND	U	0.25	0.013	1	06/23/11	07/01/11	KWG1105751	
Chrysene	ND	U	0.25	0.012	1	06/23/11	07/01/11	KWG1105751	
Bis(2-ethylhexyl) Phthalate	ND	U	0.25	0.019	1	06/23/11	07/01/11	KWG1105751	
Di-n-octyl Phthalate	ND	U	0.25	0.024	1	06/23/11	07/01/11	KWG1105751	
Benzo(b)fluoranthene	ND	U	0.25	0.018	1	06/23/11	07/01/11	KWG1105751	
Benzo(k)fluoranthene	ND	U	0.25	0.020	1	06/23/11	07/01/11	KWG1105751	
Benzo(a)pyrene	ND	U	0.25	0.020	1	06/23/11	07/01/11	KWG1105751	
Indeno(1,2,3-cd)pyrene	ND	U	0.25	0.039	1	06/23/11	07/01/11	KWG1105751	
Dibenz(a,h)anthracene	ND	U	0.25	0.028	1	06/23/11	07/01/11	KWG1105751	
Benzo(g,h,i)perylene	ND	U	0.25	0.021	1	06/23/11	07/01/11	KWG1105751	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	47	20-83	07/01/11	Acceptable
Phenol-d6	50	23-90	07/01/11	Acceptable
Nitrobenzene-d5	59	29-100	07/01/11	Acceptable
2-Fluorobiphenyl	64	32-104	07/01/11	Acceptable
2,4,6-Tribromophenol	54	20-123	07/01/11	Acceptable
Terphenyl-d14	69	37-133	07/01/11	Acceptable

Comments:

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Misc. solid	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1105751-5	**Basis:**	Dry

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.
1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1105447

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

Extraction Method: EPA 3541
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6	
MOA11SLG001	K1105447-001	66	79	97	102	117	9	*
Method Blank	KWG1105751-5	47	50	59	64	54	69	
Lab Control Sample	KWG1105751-3	59	60	65	73	74	84	
Duplicate Lab Control Sample	KWG1105751-4	58	58	64	72	71	79	

Surrogate Recovery Control Limits (%)

Sur1 = 2-Fluorophenol	20-83	Sur5 = 2,4,6-Tribromophenol	20-123
Sur2 = Phenol-d6	23-90	Sur6 = Terphenyl-d14	37-133
Sur3 = Nitrobenzene-d5	29-100		
Sur4 = 2-Fluorobiphenyl	32-104		

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/23/2011
Sample Matrix:	Misc. solid	**Date Analyzed:**	07/01/2011

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

Extraction Method:	EPA 3541	**Units:**	mg/Kg
Analysis Method:	8270C	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1105751

	Lab Control Sample KWG1105751-3 Lab Control Spike			Duplicate Lab Control Sample KWG1105751-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
N-Nitrosodimethylamine	2.39	3.33	72	2.26	3.33	68	34-93	6	40
Bis(2-chloroethyl) Ether	2.27	3.33	68	2.11	3.33	63	42-88	7	40
Phenol	2.28	3.33	68	2.08	3.33	62	40-87	9	40
2-Chlorophenol	2.19	3.33	66	2.01	3.33	60	42-86	8	40
Bis(2-chloroisopropyl) Ether	2.33	3.33	70	2.11	3.33	63	39-94	10	40
Hexachloroethane	2.16	3.33	65	2.09	3.33	63	40-87	3	40
N-Nitrosodi-n-propylamine	2.47	3.33	74	2.24	3.33	67	41-96	10	40
4-Methylphenol	2.26	3.33	68	2.11	3.33	63	38-94	7	40
Nitrobenzene	2.37	3.33	71	2.17	3.33	65	44-92	8	40
Isophorone	2.26	3.33	68	2.15	3.33	64	42-93	5	40
2-Nitrophenol	2.60	3.33	78	2.45	3.33	74	44-95	6	40
2,4-Dimethylphenol	1.97	3.33	59	1.90	3.33	57	16-89	4	40
Bis(2-chloroethoxy)methane	2.42	3.33	73	2.28	3.33	68	45-93	6	40
2,4-Dichlorophenol	2.38	3.33	71	2.28	3.33	68	43-94	5	40
1,2,4-Trichlorobenzene	2.39	3.33	72	2.26	3.33	68	42-91	5	40
Naphthalene	2.40	3.33	72	2.24	3.33	67	44-92	7	40
Hexachlorobutadiene	2.28	3.33	68	2.23	3.33	67	42-91	2	40
4-Chloro-3-methylphenol	2.63	3.33	79	2.43	3.33	73	44-101	8	40
Hexachlorocyclopentadiene	1.73	3.33	52	1.78	3.33	53	10-68	3	40
2,4,6-Trichlorophenol	2.54	3.33	76	2.48	3.33	74	46-101	2	40
2-Chloronaphthalene	2.44	3.33	73	2.37	3.33	71	44-95	3	40
Acenaphthylene	2.70	3.33	81	2.48	3.33	74	46-99	9	40
Dimethyl Phthalate	2.67	3.33	80	2.44	3.33	73	48-113	9	40
2,6-Dinitrotoluene	2.82	3.33	85	2.61	3.33	78	49-114	8	40
Acenaphthene	2.73	3.33	82	2.52	3.33	76	49-97	8	40
2,4-Dinitrophenol	2.42	3.33	73	2.23	3.33	67	28-116	8	40
4-Nitrophenol	2.85	3.33	86	2.42	3.33	73	41-121	16	40
2,4-Dinitrotoluene	2.88	3.33	86	2.54	3.33	76	48-119	12	40
Fluorene	2.56	3.33	77	2.30	3.33	69	46-103	11	40
4-Chlorophenyl Phenyl Ether	2.61	3.33	78	2.35	3.33	70	46-105	11	40
Diethyl Phthalate	2.79	3.33	84	2.48	3.33	74	45-121	12	40
2-Methyl-4,6-dinitrophenol	2.69	3.33	81	2.30	3.33	69	41-119	16	40
N-Nitrosodiphenylamine	2.56	3.33	77	2.30	3.33	69	44-113	11	40
1,2-Diphenylhydrazine	2.74	3.33	82	2.46	3.33	74	45-111	11	40
4-Bromophenyl Phenyl Ether	2.80	3.33	84	2.63	3.33	79	49-110	6	40
Hexachlorobenzene	2.51	3.33	75	2.48	3.33	74	50-109	1	40

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105447
Project:	Asplund WWTF/506.01	**Date Extracted:**	06/23/2011
Sample Matrix:	Misc. solid	**Date Analyzed:**	07/01/2011

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

Extraction Method:	EPA 3541	**Units:**	mg/Kg
Analysis Method:	8270C	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1105751

	Lab Control Sample KWG1105751-3 Lab Control Spike			Duplicate Lab Control Sample KWG1105751-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Pentachlorophenol	2.64	3.33	79	2.54	3.33	76	39-112	4	40
Phenanthrene	2.97	3.33	89	2.77	3.33	83	52-108	7	40
Anthracene	2.87	3.33	86	2.71	3.33	81	50-108	6	40
Di-n-butyl Phthalate	3.06	3.33	92	2.84	3.33	85	50-124	8	40
Fluoranthene	2.78	3.33	83	2.55	3.33	76	48-116	9	40
Benzidine	0.979	6.67	15	0.915	6.67	14	10-81	7	40
Pyrene	2.67	3.33	80	2.48	3.33	74	45-116	8	40
Butyl Benzyl Phthalate	2.95	3.33	88	2.77	3.33	83	51-114	6	40
3,3'-Dichlorobenzidine	2.81	3.33	84	2.61	3.33	78	38-116	8	40
Benz(a)anthracene	2.82	3.33	85	2.61	3.33	78	54-109	8	40
Chrysene	2.77	3.33	83	2.56	3.33	77	53-109	8	40
Bis(2-ethylhexyl) Phthalate	2.93	3.33	88	2.75	3.33	83	51-115	6	40
Di-n-octyl Phthalate	3.16	3.33	95	3.00	3.33	90	51-121	5	40
Benzo(b)fluoranthene	2.77	3.33	83	2.65	3.33	80	53-110	4	40
Benzo(k)fluoranthene	2.72	3.33	82	2.58	3.33	77	52-112	6	40
Benzo(a)pyrene	2.74	3.33	82	2.68	3.33	80	51-114	2	40
Indeno(1,2,3-cd)pyrene	2.87	3.33	86	2.69	3.33	81	53-112	6	40
Dibenz(a,h)anthracene	2.84	3.33	85	2.75	3.33	83	53-114	3	40
Benzo(g,h,i)perylene	2.73	3.33	82	2.61	3.33	78	50-110	4	40

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105465

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105465.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105465

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: : (By EPA 200.8/245.1) Ag, As, Be, Cd, Cr, Cu, Mo, Ni, Pb, Sb, Se, Tl, Zn, Hg

MATRIX: Water	**Preservative:** 6°C, HNO3	**Type of Container:** 250ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11MET001	Influent	1	6/14/11 0550		For total metals
MOA11MET002	Influent	1	↓ 0550		Prefiltered for dissolved metals
MOA11MET003	Effluent	1	6/14/11 0600		For total metals
MOA11MET004	Effluent	1	↓ 0600		Prefiltered for dissolved metals

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	hand	[signature]	6/15 1015
[signature]	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request *K11* 5465

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	280			X

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

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project No.: 506.01

Service Request: K1105465

Sample Name:	Lab Code:
Batch QC1D	**K1105463-002DDISS**
Batch QC1S	**K1105463-002SDISS**
Batch QC2D	**K1105463-003D**
Batch QC2S	**K1105463-003S**
MOA11MET001	**K1105465-001**
MOA11MET002	**K1105465-002DISS**
MOA11MET003	**K1105465-003**
MOA11MET004	**K1105465-004DISS**
Method Blank	**K1105465-MB**

Comments:

Approved By: SC **Date:** 7/7/11

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105465
Project No.:	506.01	**Date Collected:**	06/14/11
Project Name:	Asplund WWTF	**Date Received:**	06/17/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET001 **Lab Code:** K1105465-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	1.0	06/24/11	06/28/11	0.72		
Arsenic	200.8	1.00	0.14	1.0	06/24/11	06/28/11	2.80		
Beryllium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.019	J	
Cadmium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.375		
Chromium	200.8	0.40	0.08	1.0	06/24/11	06/28/11	3.32		
Copper	200.8	0.20	0.04	1.0	06/24/11	06/28/11	64.9		
Lead	200.8	0.040	0.010	1.0	06/24/11	06/28/11	4.300		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.15	J	
Molybdenum	200.8	0.100	0.016	1.0	06/24/11	06/28/11	4.04		
Nickel	200.8	0.40	0.06	1.0	06/24/11	06/28/11	6.22		
Selenium	200.8	2.0	0.6	1.0	06/24/11	06/28/11	1.2	J	
Silver	200.8	0.040	0.008	1.0	06/24/11	06/28/11	0.902		
Thallium	200.8	0.040	0.004	1.0	06/24/11	06/28/11	0.004	U	
Zinc	200.8	1.00	0.40	1.0	06/24/11	06/28/11	183		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105465
Project No.:	506.01	**Date Collected:**	06/14/11
Project Name:	Asplund WWTF	**Date Received:**	06/17/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET002 **Lab Code:** K1105465-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.58		
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	1.50		
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.036		
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.73		
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	9.67		
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.336		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	3.29		
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	3.75		
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	0.7	J	
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.139		
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.002	U	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	18.4		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105465
Project No.:	506.01	**Date Collected:**	06/14/11
Project Name:	Asplund WWTF	**Date Received:**	06/17/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET003 **Lab Code:** K1105465-003

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	1.0	06/24/11	06/28/11	0.50		
Arsenic	200.8	1.00	0.14	1.0	06/24/11	06/28/11	2.72		
Beryllium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.006	U	
Cadmium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.253		
Chromium	200.8	0.40	0.08	1.0	06/24/11	06/28/11	1.68		
Copper	200.8	0.20	0.04	1.0	06/24/11	06/28/11	35.4		
Lead	200.8	0.040	0.010	1.0	06/24/11	06/28/11	2.470		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.06	J	
Molybdenum	200.8	0.100	0.016	1.0	06/24/11	06/28/11	3.38		
Nickel	200.8	0.40	0.06	1.0	06/24/11	06/28/11	4.53		
Selenium	200.8	2.0	0.6	1.0	06/24/11	06/28/11	1.5	J	
Silver	200.8	0.040	0.008	1.0	06/24/11	06/28/11	0.711		
Thallium	200.8	0.040	0.004	1.0	06/24/11	06/28/11	0.004	U	
Zinc	200.8	1.00	0.40	1.0	06/24/11	06/28/11	80.2		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105465
Project No.:	506.01	**Date Collected:**	06/14/11
Project Name:	Asplund WWTF	**Date Received:**	06/17/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET004 **Lab Code:** K1105465-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.60		
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	2.29		
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.119		
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.73		
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	21.8		
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.430		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	3.05		
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	3.98		
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	1.6		
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.106		
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.002	U	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	40.1		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105465
Project No.:	506.01	**Date Collected:**	
Project Name:	Asplund WWTF	**Date Received:**	
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: Method Blank **Lab Code:** K1105465-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.02	U	
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	0.07	U	
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.009	J	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.010	J	
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.12	J	
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	0.02	U	
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.013	J	
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	0.014	J	
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	0.03	U	
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	0.3	U	
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.004	U	
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.003	J	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	0.20	U	

% Solids: 0.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105465

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC1S **Lab Code:** K1105463-002SDISS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	20.0		0.52		20.00	97.4		200.8
Arsenic	70 - 130	21.4		1.48		20.00	99.6		200.8
Beryllium	70 - 130	19.3		0.003	U	20.00	96.5		200.8
Cadmium	70 - 130	19.3		0.051		20.00	96.2		200.8
Chromium	70 - 130	19.8		0.74		20.00	95.3		200.8
Copper	70 - 130	29.8		11.6		20.00	91.0		200.8
Lead	70 - 130	20.5		0.375		20.00	100.6		200.8
Molybdenum	70 - 130	23.1		2.58		20.00	102.6		200.8
Nickel	70 - 130	21.4		3.20		20.00	91.0		200.8
Selenium	70 - 130	19.8		0.7	J	20.00	95.5		200.8
Silver	70 - 130	19.3		0.201		20.00	95.5		200.8
Thallium	70 - 130	20.4		0.009	J	20.00	102.0		200.8
Zinc	70 - 130	36.1		19.2		20.00	84.5		200.8

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

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105465

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC2S **Lab Code:** K1105463-003S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.11		0.13	J	1.00	98.0		245.1

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

Metals

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105465

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC1D **Lab Code:** K1105463-002DDISS

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony	20	0.52		0.54		3.8		200.8
Arsenic		1.48		1.48		0.0		200.8
Beryllium		0.003	U	0.003	U			200.8
Cadmium		0.051		0.051		0.0		200.8
Chromium		0.74		0.72		2.7		200.8
Copper	20	11.6		11.1		4.4		200.8
Lead	20	0.375		0.367		2.2		200.8
Molybdenum	20	2.58		2.53		2.0		200.8
Nickel	20	3.20		3.05		4.8		200.8
Selenium		0.7	J	0.8	J	13.3		200.8
Silver	20	0.201		0.190		5.6		200.8
Thallium		0.009	J	0.005	J	57.1		200.8
Zinc	20	19.2		19.1		0.5		200.8

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

Metals

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105465

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC2D **Lab Code:** K1105463-003D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.13	J	0.14	J	7.4		245.1

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

Metals

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105465

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Antimony	20	19.8	99.0					
Arsenic	20	19.6	98.0					
Beryllium	20	20.3	101.5					
Cadmium	20	19.8	99.0					
Chromium	20	20.7	103.5					
Copper	20	19.8	99.0					
Lead	20	22.1	110.5					
Mercury	5	4.99	99.8					
Molybdenum	20	18.7	93.5					
Nickel	20	19.9	99.5					
Selenium	20	19.2	96.0					
Silver	20	18.3	91.5					
Thallium	20	22.0	110.0					
Zinc	20	20.1	100.5					

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105463

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105463.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K11054463

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax
Required Completion Date: 30 days.	P.O. #: AK11-1002 / KLI Proj. #:506.01

ANALYSIS TYPE: : (By EPA 200.8/245.1) Ag, As, Be, Cd, Cr, Cu, Mo, Ni, Pb, Sb, Se, Tl, Zn, Hg

MATRIX: Water | **Preservative:** 6°C, HNO3 | **Type of Container:** 250ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11MET005	Influent	1	~~6/14/11 0550~~	6/15/11 0550	For total metals
MOA11MET006	Influent	1	~~0550~~	6/15/11 0550	Prefiltered for dissolved metals
MOA11MET007	Effluent	1	~~0600~~	6/15/11 0600	For total metals
MOA11MET008	Effluent	1	~~0600~~	6/15/11 0600	Prefiltered for dissolved metals
			DAY 2		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/16/11 1033	hand	[signature]	6/16 1033
Gary Billingham	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

SAMPLED BY (NAME/SIGNATURE):

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request *K11* 5463

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.4	280			X

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

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project No.: 506.01

Service Request: K1105463

Sample Name:	Lab Code:
MOA11MET005	K1105463-001
MOA11MET006D	K1105463-002DDISS
MOA11MET006	K1105463-002DISS
MOA11MET006S	K1105463-002SDISS
MOA11MET007	K1105463-003
MOA11MET007D	K1105463-003D
MOA11MET007S	K1105463-003S
MOA11MET008	K1105463-004DISS
Method Blank	K1105463-MB

Comments:

Approved By: SC **Date:** 7/7/14

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105463
Project No.:	506.01	**Date Collected:**	06/15/11
Project Name:	Asplund WWTF	**Date Received:**	06/17/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET005 **Lab Code:** K1105463-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	1.0	06/24/11	06/28/11	0.75		
Arsenic	200.8	1.00	0.14	1.0	06/24/11	06/28/11	2.82		
Beryllium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.034	J	
Cadmium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.437		
Chromium	200.8	0.40	0.08	1.0	06/24/11	06/28/11	3.30		
Copper	200.8	0.20	0.04	1.0	06/24/11	06/28/11	80.6		
Lead	200.8	0.040	0.010	1.0	06/24/11	06/28/11	4.650		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.77		
Molybdenum	200.8	0.100	0.016	1.0	06/24/11	06/28/11	3.11		
Nickel	200.8	0.40	0.06	1.0	06/24/11	06/28/11	5.60		
Selenium	200.8	2.0	0.6	1.0	06/24/11	06/28/11	1.2	J	
Silver	200.8	0.040	0.008	1.0	06/24/11	06/28/11	1.480		
Thallium	200.8	0.040	0.004	1.0	06/24/11	06/28/11	0.028	J	
Zinc	200.8	1.00	0.40	1.0	06/24/11	06/28/11	203		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105463
Project No.:	506.01	**Date Collected:**	06/15/11
Project Name:	Asplund WWTF	**Date Received:**	06/17/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET006 **Lab Code:** K1105463-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.52		
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	1.48		
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.051		
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.74		
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	11.6		
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.375		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	2.58		
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	3.20		
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	0.7	J	
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.201		
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.009	J	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	19.2		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105463
Project No.:	506.01	**Date Collected:**	06/15/11
Project Name:	Asplund WWTF	**Date Received:**	06/17/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET007 **Lab Code:** K1105463-003

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	1.0	06/24/11	06/28/11	0.53		
Arsenic	200.8	1.00	0.14	1.0	06/24/11	06/28/11	2.46		
Beryllium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.010	J	
Cadmium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.290		
Chromium	200.8	0.40	0.08	1.0	06/24/11	06/28/11	1.69		
Copper	200.8	0.20	0.04	1.0	06/24/11	06/28/11	35.4		
Lead	200.8	0.040	0.010	1.0	06/24/11	06/28/11	2.000		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.13	J	
Molybdenum	200.8	0.100	0.016	1.0	06/24/11	06/28/11	3.40		
Nickel	200.8	0.40	0.06	1.0	06/24/11	06/28/11	3.98		
Selenium	200.8	2.0	0.6	1.0	06/24/11	06/28/11	1.3	J	
Silver	200.8	0.040	0.008	1.0	06/24/11	06/28/11	0.909		
Thallium	200.8	0.040	0.004	1.0	06/24/11	06/28/11	0.010	J	
Zinc	200.8	1.00	0.40	1.0	06/24/11	06/28/11	88.2		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105463
Project No.:	506.01	**Date Collected:**	06/15/11
Project Name:	Asplund WWTF	**Date Received:**	06/17/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET008 **Lab Code:** K1105463-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	1.0	06/24/11	06/28/11	0.63		
Arsenic	200.8	1.00	0.14	1.0	06/24/11	06/28/11	2.33		
Beryllium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.006	U	
Cadmium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.149		
Chromium	200.8	0.40	0.08	1.0	06/24/11	06/28/11	0.73		
Copper	200.8	0.20	0.04	1.0	06/24/11	06/28/11	23.9		
Lead	200.8	0.040	0.010	1.0	06/24/11	06/28/11	0.359		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.100	0.016	1.0	06/24/11	06/28/11	3.13		
Nickel	200.8	0.40	0.06	1.0	06/24/11	06/28/11	3.50		
Selenium	200.8	2.0	0.6	1.0	06/24/11	06/28/11	1.3	J	
Silver	200.8	0.040	0.008	1.0	06/24/11	06/28/11	0.134		
Thallium	200.8	0.040	0.004	1.0	06/24/11	06/28/11	0.004	U	
Zinc	200.8	1.00	0.40	1.0	06/24/11	06/28/11	44.4		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorpora
Service Request: K1105463
Project No.: 506.01
Date Collected:
Project Name: Asplund WWTF
Date Received:
Matrix: WATER
Units: ug/L
Basis: NA

Sample Name: Method Blank
Lab Code: K1105463-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.02	U	
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	0.07	U	
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.009	J	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.010	J	
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.12	J	
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	0.02	U	
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.013	J	
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	0.014	J	
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	0.03	U	
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	0.3	U	
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.004	U	
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.003	J	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	0.20	U	

% Solids: 0.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora
Service Request: K1105463
Project No.: 506.01
Units: UG/L
Project Name: Asplund WWTF
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: MOA11MET006S
Lab Code: K1105463-002SDISS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	20.0		0.52		20.00	97.4		200.8
Arsenic	70 - 130	21.4		1.48		20.00	99.6		200.8
Beryllium	70 - 130	19.3		0.003	U	20.00	96.5		200.8
Cadmium	70 - 130	19.3		0.051		20.00	96.2		200.8
Chromium	70 - 130	19.8		0.74		20.00	95.3		200.8
Copper	70 - 130	29.8		11.6		20.00	91.0		200.8
Lead	70 - 130	20.5		0.375		20.00	100.6		200.8
Molybdenum	70 - 130	23.1		2.58		20.00	102.6		200.8
Nickel	70 - 130	21.4		3.20		20.00	91.0		200.8
Selenium	70 - 130	19.8		0.7	J	20.00	95.5		200.8
Silver	70 - 130	19.3		0.201		20.00	95.5		200.8
Thallium	70 - 130	20.4		0.009	J	20.00	102.0		200.8
Zinc	70 - 130	36.1		19.2		20.00	84.5		200.8

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

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105463

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: MOA11MET007S **Lab Code:** K1105463-003S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.11		0.13	J	1.00	98.0		245.1

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

Metals

- 6 -

DUPLICATES

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105463
Project No.:	506.01	**Units:**	UG/L
Project Name:	Asplund WWTF	**Basis:**	NA
Matrix:	WATER	**% Solids:**	0.0

Sample Name: MOA11MET006D **Lab Code:** K1105463-002DDISS

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony	20	0.52		0.54		3.8		200.8
Arsenic		1.48		1.48		0.0		200.8
Beryllium		0.003	U	0.003	U			200.8
Cadmium		0.051		0.051		0.0		200.8
Chromium		0.74		0.72		2.7		200.8
Copper	20	11.6		11.1		4.4		200.8
Lead	20	0.375		0.367		2.2		200.8
Molybdenum	20	2.58		2.53		2.0		200.8
Nickel	20	3.20		3.05		4.8		200.8
Selenium		0.7	J	0.8	J	13.3		200.8
Silver	20	0.201		0.190		5.6		200.8
Thallium		0.009	J	0.005	J	57.1		200.8
Zinc	20	19.2		19.1		0.5		200.8

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

Metals

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105463

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: MOA11MET007D **Lab Code:** K1105463-003D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.13	J	0.14	J	7.4		245.1

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

Metals

-7-

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105463

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Antimony	20	19.8	99.0					
Arsenic	20	19.6	98.0					
Beryllium	20	20.3	101.5					
Cadmium	20	19.8	99.0					
Chromium	20	20.7	103.5					
Copper	20	19.8	99.0					
Lead	20	22.1	110.5					
Mercury	5	4.99	99.8					
Molybdenum	20	18.7	93.5					
Nickel	20	19.9	99.5					
Selenium	20	19.2	96.0					
Silver	20	18.3	91.5					
Thallium	20	22.0	110.0					
Zinc	20	20.1	100.5					

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105523

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 18, 2011. For your reference, these analyses have been assigned our service request number K1105523.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105523

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: : (By EPA 200.8/245.1) Ag, As, Be, Cd, Cr, Cu, Mo, Ni, Pb, Sb, Se, Tl, Zn, Hg

MATRIX: Water	**Preservative:** 6°C, HNO3	**Type of Container:** 250ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11MET009	Influent	1	~~6/14/11 0550~~	6/16/11 0600	For total metals
MOA11MET010	Influent	1	~~0550~~	6/16/11 0600	Prefiltered for dissolved metals
MOA11MET011	Effluent	1	~~0600~~	6/16/11 0600	For total metals
MOA11MET012	Effluent	1	~~0600~~	6/16/11 0600	Prefiltered for dissolved metals
			DAYS		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/16/11 1045	~~[signature]~~ HAND	[signature]	6/17/11 1045
[signature]	6/17/11 1110	FEDEX	[signature] CAS	6/18/11 0930

SAMPLED BY: NAME PRINTED BY:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request K11 5523

Received: 6/18/11 Opened: 6/18/11 By: AJ Unloaded: 6/20/11 By: RST

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.5		257			X

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

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project No.: 506.01

Service Request: K1105523

Sample Name:	Lab Code:
Batch QC1D	**K1105463-003D**
Batch QC1S	**K1105463-003S**
MOA11MET009	**K1105523-001**
MOA11MET010D	**K1105523-002DDISS**
MOA11MET010	**K1105523-002DISS**
MOA11MET010S	**K1105523-002SDISS**
MOA11MET011	**K1105523-003**
MOA11MET012	**K1105523-004DISS**
Method Blank	**K1105523-MB**

Comments:

Approved By: JC **Date:** 7/7/11

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105523
Project No.:	506.01	**Date Collected:**	06/16/11
Project Name:	Asplund WWTF	**Date Received:**	06/18/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET009 **Lab Code:** K1105523-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	1.0	06/24/11	06/28/11	0.70		
Arsenic	200.8	1.00	0.14	1.0	06/24/11	06/28/11	2.33		
Beryllium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.010	J	
Cadmium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.320		
Chromium	200.8	0.40	0.08	1.0	06/24/11	06/28/11	2.89		
Copper	200.8	0.20	0.04	1.0	06/24/11	06/28/11	57.7		
Lead	200.8	0.040	0.010	1.0	06/24/11	06/28/11	3.280		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.55		
Molybdenum	200.8	0.100	0.016	1.0	06/24/11	06/28/11	3.82		
Nickel	200.8	0.40	0.06	1.0	06/24/11	06/28/11	5.57		
Selenium	200.8	2.0	0.6	1.0	06/24/11	06/28/11	0.8	J	
Silver	200.8	0.040	0.008	1.0	06/24/11	06/28/11	0.542		
Thallium	200.8	0.040	0.004	1.0	06/24/11	06/28/11	0.004	U	
Zinc	200.8	1.00	0.40	1.0	06/24/11	06/28/11	142		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105523
Project No.:	506.01	**Date Collected:**	06/16/11
Project Name:	Asplund WWTF	**Date Received:**	06/18/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET010 **Lab Code:** K1105523-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.57		
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	1.53		
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.031		
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.87		
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	9.62		
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.348		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	3.10		
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	3.66		
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	0.7	J	
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.106		
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.002	U	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	21.2		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105523
Project No.:	506.01	**Date Collected:**	06/16/11
Project Name:	Asplund WWTF	**Date Received:**	06/18/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET011 **Lab Code:** K1105523-003

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	1.0	06/24/11	06/28/11	0.62		
Arsenic	200.8	1.00	0.14	1.0	06/24/11	06/28/11	2.57		
Beryllium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.014	J	
Cadmium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.179		
Chromium	200.8	0.40	0.08	1.0	06/24/11	06/28/11	1.69		
Copper	200.8	0.20	0.04	1.0	06/24/11	06/28/11	36.3		
Lead	200.8	0.040	0.010	1.0	06/24/11	06/28/11	1.690		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.09	J	
Molybdenum	200.8	0.100	0.016	1.0	06/24/11	06/28/11	3.57		
Nickel	200.8	0.40	0.06	1.0	06/24/11	06/28/11	4.21		
Selenium	200.8	2.0	0.6	1.0	06/24/11	06/28/11	1.5	J	
Silver	200.8	0.040	0.008	1.0	06/24/11	06/28/11	0.533		
Thallium	200.8	0.040	0.004	1.0	06/24/11	06/28/11	0.006	J	
Zinc	200.8	1.00	0.40	1.0	06/24/11	06/28/11	79.8		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105523
Project No.:	506.01	**Date Collected:**	06/16/11
Project Name:	Asplund WWTF	**Date Received:**	06/18/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET012 **Lab Code:** K1105523-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.66		
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	2.26		
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.079		
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.74		
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	20.3		
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.338		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	3.14		
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	3.52		
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	1.4		
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.092		
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.002	U	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	39.7		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorpora
Service Request: K1105523
Project No.: 506.01
Date Collected:
Project Name: Asplund WWTF
Date Received:
Matrix: WATER
Units: ug/L
Basis: NA

Sample Name: Method Blank
Lab Code: K1105523-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.02	U	
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	0.07	U	
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.009	J	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.010	J	
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.12	J	
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	0.02	U	
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.013	J	
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	0.014	J	
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	0.03	U	
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	0.3	U	
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.004	U	
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.003	J	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	0.20	U	

% Solids: 0.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC1S **Lab Code:** K1105463-003S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.11		0.13	J	1.00	98.0		245.1

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

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: MOA11MET010S **Lab Code:** K1105523-002SDISS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	20.3		0.57		20.00	98.6		200.8
Arsenic	70 - 130	21.9		1.53		20.00	101.8		200.8
Beryllium	70 - 130	19.8		0.003	U	20.00	99.0		200.8
Cadmium	70 - 130	19.5		0.031		20.00	97.3		200.8
Chromium	70 - 130	19.7		0.87		20.00	94.2		200.8
Copper	70 - 130	27.5		9.62		20.00	89.4		200.8
Lead	70 - 130	18.5		0.348		20.00	90.8		200.8
Molybdenum	70 - 130	23.8		3.10		20.00	103.5		200.8
Nickel	70 - 130	21.7		3.66		20.00	90.2		200.8
Selenium	70 - 130	20.5		0.7	J	20.00	99.0		200.8
Silver	70 - 130	19.0		0.106		20.00	94.5		200.8
Thallium	70 - 130	18.5		0.002	U	20.00	92.5		200.8
Zinc	70 - 130	38.5		21.2		20.00	86.5		200.8

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

Metals

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC1D **Lab Code:** K1105463-003D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.13	J	0.14	J	7.4		245.1

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

Metals

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: MOA11MET010D **Lab Code:** K1105523-002DDISS

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony	20	0.57		0.61		6.8		200.8
Arsenic		1.53		1.55		1.3		200.8
Beryllium		0.003	U	0.003	U			200.8
Cadmium		0.031		0.048		43.0		200.8
Chromium		0.87		0.89		2.3		200.8
Copper	20	9.62		9.79		1.8		200.8
Lead	20	0.348		0.388		10.9		200.8
Molybdenum	20	3.10		3.16		1.9		200.8
Nickel	20	3.66		3.70		1.1		200.8
Selenium		0.7	J	0.7	J	0.0		200.8
Silver		0.106		0.099		6.8		200.8
Thallium		0.002	U	0.002	U			200.8
Zinc	20	21.2		21.8		2.8		200.8

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

Metals

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Antimony	20	19.8	99.0					
Arsenic	20	19.6	98.0					
Beryllium	20	20.3	101.5					
Cadmium	20	19.8	99.0					
Chromium	20	20.7	103.5					
Copper	20	19.8	99.0					
Lead	20	22.1	110.5					
Mercury	5	4.99	99.8					
Molybdenum	20	18.7	93.5					
Nickel	20	19.9	99.5					
Selenium	20	19.2	96.0					
Silver	20	18.3	91.5					
Thallium	20	22.0	110.0					
Zinc	20	20.1	100.5					

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011

Analytical Report for Service Request No: K1105462

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105462.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105462

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: Total Cyanide (SM 4500-CN E Mod)

MATRIX: Water	**Preservative:** NaOH, Effluent sample contains ascorbic acid, 6°C	**Type of Container:** 250 ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11TCN009	Influent	1	6/14/11 0550		
MOA11TCN010	Effluent	1	6/14/11 0600		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	hand	[signature]	6/15 1015
Gary Gillingham	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request *K11* 5462

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	289			X

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105462
Project:	Asplund WWTF/506.01	**Date Collected:**	6/14/11
Sample Matrix:	Water	**Date Received:**	6/17/11
Prep Method:	SM 4500-CN-C	**Units:**	mg/L
Analysis Method:	SM 4500-CN- E	**Basis:**	NA

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11TCN009	K1105462-001	ND	U	0.010	0.003	1	6/21/11	6/21/11 11:30	
MOA11TCN010	K1105462-002	**0.004**	J	0.010	0.003	1	6/21/11	6/21/11 11:30	
Method Blank	K1105462-MB	ND	U	0.010	0.003	1	6/21/11	6/21/11 11:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105462
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105404-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105404-001DUP1 Result	Average	RPD	RPD Limit
Cyanide, Total	SM 4500-CN-E	0.010	0.003	ND U	ND U	NC	NC	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105462
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105439-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105439-001DUP2 Result	Average	RPD	RPD Limit
Cyanide, Total	SM 4500-CN-E	0.010	0.003	ND U	ND U	NC	NC	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105462
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105404-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-CN- E
Prep Method: SM 4500-CN-C

		Batch QCMS **Matrix Spike** K1105404-001MS1			Batch QCDMS **Duplicate Matrix Spike** K1105404-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.101	0.100	101	0.0983	0.100	98	23 - 148	3	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105462
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105439-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-CN- E
Prep Method: SM 4500-CN-C

		Batch QCMS Matrix Spike K1105439-001MS2			Batch QCDMS Duplicate Matrix Spike K1105439-001DMS2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.0782	0.100	78	0.0748	0.100	75	23 - 148	4	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105462
Date Analyzed: 6/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1105462-LCS			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Cyanide, Total	SM 4500-CN-E	0.660	0.73	90	84 - 115

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011

Analytical Report for Service Request No: K1105460

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105460.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105460

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: Total Cyanide (SM 4500-CN E Mod)

MATRIX: Water	**Preservative:** NaOH, Effluent sample contains ascorbic acid, 6°C	**Type of Container:** 250 ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11TCN011	Influent	1	6/15/11 0550		
MOA11TCN012	Effluent	1	~~6/16/11~~ 0600		
			6/15/11 PMS		
		DAY 2			

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/16/11 1033	hand	[signature]	6/16 1033
Gary Gillingham	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

COMPLETED BY (NAME/SIGNATURE): _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC #2

Client / Project: Kinnetic Service Request *K11* 5460

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	280			X

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105460
Project:	Asplund WWTF/506.01	**Date Collected:**	6/15/11
Sample Matrix:	Water	**Date Received:**	6/17/11
Prep Method:	SM 4500-CN-C	**Units:**	mg/L
Analysis Method:	SM 4500-CN- E	**Basis:**	NA

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11TCN011	K1105460-001	ND	U	0.010	0.003	1	6/21/11	6/21/11 11:30	
MOA11TCN012	K1105460-002	ND	U	0.010	0.003	1	6/21/11	6/21/11 11:30	
Method Blank	K1105460-MB	ND	U	0.010	0.003	1	6/21/11	6/21/11 11:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105460
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105404-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105404-001DUP1 Result	Average	RPD	RPD Limit
Cyanide, Total	SM 4500-CN-E	0.010	0.003	ND U	ND U	NC	NC	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105460
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105439-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105439-001DUP2 Result	Average	RPD	RPD Limit
Cyanide, Total	SM 4500-CN-E	0.010	0.003	ND U	ND U	NC	NC	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105460
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105404-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-CN- E
Prep Method: SM 4500-CN-C

		Batch QCMS **Matrix Spike** K1105404-001MS1			Batch QCDMS **Duplicate Matrix Spike** K1105404-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.101	0.100	101	0.0983	0.100	98	23 - 148	3	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105460
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105439-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-CN- E
Prep Method: SM 4500-CN-C

		Batch QCMS **Matrix Spike** K1105439-001MS2			Batch QCDMS **Duplicate Matrix Spike** K1105439-001DMS2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.0782	0.100	78	0.0748	0.100	75	23 - 148	4	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105460
Date Analyzed: 6/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1105460-LCS Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	SM 4500-CN-E	0.660	0.73	90	84 - 115

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011

Analytical Report for Service Request No: K1105524

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 18, 2011. For your reference, these analyses have been assigned our service request number K1105524.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/ln

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105524

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: Total Cyanide (SM 4500-CN E Mod)

MATRIX: Water	**Preservative:** NaOH, Effluent sample contains ascorbic acid, 6°C	**Type of Container:** 250 ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11TCN013	Influent	1	6/16/11 0600		
MOA11TCN014	Effluent	1	6/16/11 0600		
			DAYS		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[illegible]	6/17/11 1045	HAND	[illegible]	6/17/11 1045
[illegible]	6/17/11 1110	FEDEX	[illegible] CAS	6/18/11 0930

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 117

Client / Project: Kinnetic Service Request *K11* 5524

Received: 6/18/11 Opened: 6/18/11 By: AJ Unloaded: 6/20/11 By: RST

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.5		257			X

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105524
Project:	Asplund WWTF/506.01	**Date Collected:**	6/16/11
Sample Matrix:	Water	**Date Received:**	6/18/11
Prep Method:	SM 4500-CN-C	**Units:**	mg/L
Analysis Method:	SM 4500-CN- E	**Basis:**	NA

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11TCN013	K1105524-001	ND	U	0.010	0.003	1	6/21/11	6/21/11 11:30	
MOA11TCN014	K1105524-002	ND	U	0.010	0.003	1	6/21/11	6/21/11 11:30	
Method Blank	K1105524-MB	ND	U	0.010	0.003	1	6/21/11	6/21/11 11:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105524
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	6/21/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1105404-001	**Basis:**	NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105404-001DUP1 Result	Average	RPD	RPD Limit
Cyanide, Total	SM 4500-CN-E	0.010	0.003	ND U	ND U	NC	NC	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105524
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	6/21/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1105439-001	**Basis:**	NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1105439-001DUP2 Result	Average	RPD	RPD Limit
Cyanide, Total	SM 4500-CN-E	0.010	0.003	ND U	ND U	NC	NC	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105524
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105404-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-CN- E
Prep Method: SM 4500-CN-C

		Batch QCMS **Matrix Spike** K1105404-001MS1			Batch QCDMS **Duplicate Matrix Spike** K1105404-001DMS1					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.101	0.100	101	0.0983	0.100	98	23 - 148	3	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105524
Date Collected: NA
Date Received: NA
Date Analyzed: 6/21/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1105439-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-CN- E
Prep Method: SM 4500-CN-C

		Batch QCMS **Matrix Spike** K1105439-001MS2			Batch QCDMS **Duplicate Matrix Spike** K1105439-001DMS2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.0782	0.100	78	0.0748	0.100	75	23 - 148	4	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1105524
Date Analyzed: 6/21/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1105524-LCS Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	SM 4500-CN-E	0.660	0.73	90	84 - 115

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

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

APPENDIX A

Toxic Pollutant and Pesticide Monitoring, June Sampling

A2 Asbestos

Solar Environmental Services, &
International Asbestos Testing Labs

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Solar Environmental Services
7401 Meadow St.
Anchorage AK 99507

Report Date: 7/12/2011
Report No.: 245183
Project: Kinnetic-MOA
Project No.:

TEM WATER SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location	Total Asbestos Concentration	Asbestos Concentration Fibers > 10 Microns	Asbestos Types
4349269	MOA11ASB001	Sampled-6-14-11 05:50 Analyzed-7-12-11 Influent	<5.29 Million Fibers/Liter	<5.29 Million Fibers/Liter	None Detected
4349270	MOA11ASB002	Sampled-6-14-11 06:00 Analyzed-7-12-11 Effluent	<4.63 Million Fibers/Liter	<4.63 Million Fibers/Liter	None Detected

Note: Sample turbidity >1.0 NTU. Therefore MDL >> 0.1 MFL. Does not meet drinking water requirements.

NJ DEP 03863 NYS-DOH No. 11021 PA 68-03378

Methodology: EPA Method For Determining Asbestos In Drinking Water (EPA 600/4-83-043) and EPA Method 100.1 and 100.2
NYSDOH Method For Waterborne Asbestos (ELAP 198.2)

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client. Samples are not blank corrected.
This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government

Minimum detection limit dependant upon turbidity of sample and volume filtered. National Primary Drinking Water Regulations under EPA's Safe Drinking Water Act dictates maximum contaminant levels for asbestos at 7.0 million fibers per liter. EPA and NYS-DOH regulations require segregation of overall fiber concentration, total asbestos concentration and asbestos concentration of fibers > 10 microns in length.

Analysis Performed By: C. Liska

Approved By:

Date: 7/12/2011

Frank E. Ehrenfeld, III
Laboratory Director

IATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

Transmission Electron Microscopy - Sample Data

Client: Solar Environmental Services
7401 Meadow St.
Anchorage AK 99507

Report Date: 7/12/2011
Project: Kinnetic-MOA
Project No.:

IATL No.: 4349269
Client Sample No.: MOA11ASB001

Description/ Location: Sampled-6-14-11 05:50
Analyzed-7-12-11
Influent

Volume Filtered:	2.0 Milliliters
Filter Type:	MCE
Filter Size:	962 mm²
Pore Size:	0.45 µm
ANALYSIS RESULTS:	
Grid Openings:	7
Opening Area:	0.013 mm²
Area Analyzed:	0.091 mm²
Detection Limit:	5.290 Million Fibers/Liter
Sensitivity:	11.0 Fibers/mm²
ASBESTOS FIBERS:	
> 0.5 Microns:	None Detected
Concentration:	<5.29 Million Fibers/Liter
> 10 Microns:	None Detected
Concentration:	<5.29 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
NON-ASBESTOS FIBERS:	None Detected
Concentration:	<5.29 Million Fibers/Liter
Types Identified:	
Type 2:	
Type 3:	
Type 4:	
Micrograph Number:	
X-Ray Spectrum Number:	

Methodology: EPA Method For Determining Asbestos In Drinking Water (EPA 600/4-83-043) and EPA Method 100.1 and 100.2. NYSDOH Method For Waterborne Asbestos (ELAP 198.2)

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government.

Analysis Performed By: C. Liska

Date: 7/12/2011

IATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

Transmission Electron Microscopy - Sample Data

Client: Solar Environmental Services
7401 Meadow St.
Anchorage AK 99507

Report Date: 7/12/2011
Project: Kinnetic-MOA
Project No.:

IATL No.: 4349270
Client Sample No.: MOA11ASB002

Description/ Location: Sampled-6-14-11 06:00
Analyzed-7-12-11
Effluent

Volume Filtered:	2.0 Milliliters
Filter Type:	MCE
Filter Size:	962 mm²
Pore Size:	0.45 µm
ANALYSIS RESULTS:	
Grid Openings:	8
Opening Area:	0.013 mm²
Area Analyzed:	0.104 mm²
Detection Limit:	4.630 Million Fibers/Liter
Sensitivity:	9.6 Fibers/mm²
ASBESTOS FIBERS:	
> 0.5 Microns:	None Detected
Concentration:	<4.63 Million Fibers/Liter
> 10 Microns:	None Detected
Concentration:	<4.63 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
NON-ASBESTOS FIBERS:	None Detected
Concentration:	<4.63 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
Type 4:	
Micrograph Number:	
X-Ray Spectrum Number:	

Methodology: EPA Method For Determining Asbestos In Drinking Water (EPA 600/4-83-043) and EPA Method 100.1 and 100.2.
NYSDOH Method For Waterborne Asbestos (ELAP 198.2)

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government.

Analysis Performed By: C. Liska

Date: 7/12/2011

Solar Environmental Services, Inc.

7401 Meadow Street
Anchorage, AK 99507
Home Page: www.solar-environmental.com

Phone: (907) 349-7705
Fax: (907) 349-7944
E-mail: sesenvir@alaska.net

CERTIFICATE OF ANALYSIS

CLIENT:	Kinnetic Laboratories, Inc.	**CLIENT ORDER #:**	194019
ATTN:	Gary Lawley 1102 West 7th Avenue Anchorage, Alaska 99501	**PROJECT NAME:**	506.01
		PROJECT #:	AK11-1103
		REPORT #:	134
		REPORT DATE:	July 27, 2011
		COLLECTED BY:	Client
		DATE SAMPLED:	June 15, 2011
		DATE RECEIVED:	June 15, 2011
		DATE ANALYZED:	July 27, 2011
		ANALYZED BY:	Grace T.
PAGE:	1of 1		

ASBESTOS QUALITATIVE DUST ANALYSIS SUMMARY

POLARIZED LIGHT MICROSCOPY (PLM) WITH DISPERSION STAINING

Lab.#	Client#	Location/ Description (color)	Asbestos Present	Notes
1082	MOA11ASB003	Sludge (Gray)	None Detected	

End of Report

Test report relates only to the items tested and must not be used by client to claim product endorsement by NVLAP or any Agency of the U.S. Government. Test Report must not be reproduced except in full without the approval of SES and subject to SES general terms and conditions. Small fibers may be missed by PLM Method due to resolution limitations of the optical microscope. Therefore, None Detected results cannot be guaranteed. Electron Microscopy is recommended for confirmation. This is not covered by NVLAP.

REVIEWED AND APPROVED BY: Gracita O. Torrijos, Chemist – I.H.

Date: July, 27, 2011

FORM# SES 1031-REVISED 08/07/96

EPA Lead •AIHA •AAR• PAT Certified

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**
Solar Environmental Services 7401 Meadow Street Anchorage, AK 99507 Attn: Grace Torrijos (907) 349-7705	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days	P.O. #: AK11-1103	KLI Proj. #:506.01

ANALYSIS TYPE: ASBESTOS TEM. Method detection limit to be determined.

MATRIX: Water	**Preservative:** Chilled to 6°C	**Type of Container:** 1-L HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11ASB001	Influent	1	6/14/11 0530		
MOA11ASB002	Effluent	1	6/14/11 0600		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	hand	[signature]	6/15 1015
[signature]	6/16/11 1400	FEDX	[signature]	6/16/11 [illegible]

SAMPLED BY (NAME/SIGNATURE): _____

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**
Solar Environmental Services 7401 Meadow Street Anchorage, AK 99507 Attn: Grace Torrijos (907) 349-7705	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax 134

Required Completion Date: 30 days	P.O. #: AK11-1103	KLI Proj. #: 506.01

ANALYSIS TYPE: ASBESTOS PLM. Method detection limit to be determined.

MATRIX: Sludge	**Preservative:** Chilled to 6°C	**Type of Container:** : 250-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
1082 MOA11ASB003	Sludge	1	6/15/11 0610		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
	6/15/11 1015	hand		6/15 1015
	6/16/11 1400	FED X		6/15/11 3:57pm

APPENDIX A

Toxic Pollutant and Pesticide Monitoring, June Sampling

A3 Enterococci

Anchorage Water & Wastewater Utility

ANCHORAGE WATER AND WASTEWATER UTILITY

WATER QUALITY SECTION

Analytical Report

Sample ID	Date collected	Sample name	Parameter	Result	Unit	Method	Analyst
AA85358	6/14/11	0911	Enterococci - Chromogenic	52.5	CFU/100 mL	SM9221 Q-tray	PWS
AA85359	6/14/11	0911	Enterococci - Chromogenic	42	CFU/100 mL	SM9221 Q-tray	PWS

Reported by: _____ Date: 12/05/2011

Paul W. Smith, Water Quality Analyst

APPENDIX B

Toxic Pollutant and Pesticide Monitoring, August Sampling

B1 Oil & Grease, Cyanide, Metals, Priority Pollutants, Dioxin, Pesticides, and Hydrocarbons

Columbia Analytical Services

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 | 360.577.7222 | 360.636.1068 (fax) | www.caslab.com

August 16, 2011 Analytical Report for Service Request No: K1107018

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107018.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107018
Project:	Asplund WWTF	**Date Received:**	8/2/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Eight water samples were received for analysis at Columbia Analytical Services on 8/2/11. As instructed, the discreet samples were composited at the laboratory to create one composite sample MOA11VOP020-027 Composite. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Volatile Organic Compounds by EPA Method 624

Elevated Detection Limits:
The client specified Method Reporting Limit (MRL) of 0.50ug/L for m,p-Xylenes could not be achieved. The MRL was raised to the lowest level of the calibration at 1.0ug/L.

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

Approved by Howard Holmes **Date** 8-17-11

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:** K1107018
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax
Required Completion Date: 30 days.	P.O. #: AK11-1002 / KLI Proj. #:506.01

ANALYSIS TYPE: EPA 624. Detection limits as per method.

MATRIX: Water	**Preservative:** HCl,6°C	**Type of Container:** 40-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOP020	INF CMP #1	3	7/31/11 0900		
MOA11VOP021	INF CMP #2	3	1200		
MOA11VOP022	INF CMP #3	3	1500		
MOA11VOP023	INF CMP #4	3	1800		
MOA11VOP024	INF CMP #5	3	2105		
MOA11VOP025	INF CMP #6	3	8/1/11 0005		
MOA11VOP026	INF CMP #7	3	0305		
MOA11VOP027	INF CMP #8	3	0605		

SAMPLES LISTED ON THIS COC SHOULD BE COMPOSITED IN AN EIGHT-PART COMPOSITE IN A VAPOR-TYPE SYRINGE PRIOR TO ANALYSIS.

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

K1107018

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	8/1/11 1100	hand	[signature]	8/1/11 1100
[signature]	8/1/11 1130	FedEx	[signature]	8/2/11 1000

SAMPLED BY (NAME/SIGNATURE):

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 42

Client / Project: Kinnetic Labs Service Request *K11* 7018

Received: 8/2/11 Opened: 8/2/11 By: SH Unloaded: 8/2/11 By: SH

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.2		276		7973 6538 7030	

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. 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
Inf Comp #1	3 VOA		X							
Eff Comp #2	3 VOA		X							
Eff Comp #4	1 VOA		X							

Notes, Discrepancies, & Resolutions: _____

Page 1 *of* _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107018
Date Collected: 07/31/2011
Date Received: 08/02/2011

Volatile Organic Compounds

Sample Name: MOA11VOP020-027 Composite
Lab Code: K1107018-009

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	08/09/11	08/09/11	KWG1107620	
Chloromethane	**0.060**	J	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Vinyl Chloride	ND	U	0.50	0.053	1	08/09/11	08/09/11	KWG1107620	
Bromomethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Chloroethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Trichlorofluoromethane	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Acrolein†	ND	U	50	2.1	1	08/09/11	08/09/11	KWG1107620	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethene	ND	U	0.50	0.37	1	08/09/11	08/09/11	KWG1107620	
Acetone	**81**		20	4.3	1	08/09/11	08/09/11	KWG1107620	
Carbon Disulfide	**0.29**	J	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Methylene Chloride	**1.2**	J	2.0	0.093	1	08/09/11	08/09/11	KWG1107620	
Acrylonitrile†	ND	U	10	0.28	1	08/09/11	08/09/11	KWG1107620	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethane	ND	U	0.50	0.041	1	08/09/11	08/09/11	KWG1107620	
Vinyl Acetate	ND	U	10	0.21	1	08/09/11	08/09/11	KWG1107620	
cis-1,2-Dichloroethene	**0.080**	J	0.50	0.042	1	08/09/11	08/09/11	KWG1107620	
2-Butanone (MEK)	**5.6**	J	20	3.4	1	08/09/11	08/09/11	KWG1107620	
Chloroform	**2.2**		0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Carbon Tetrachloride	ND	U	0.50	0.26	1	08/09/11	08/09/11	KWG1107620	
Benzene	**0.080**	J	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
Trichloroethene (TCE)	**0.050**	J	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloropropane	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Bromodichloromethane	**0.060**	J	0.50	0.047	1	08/09/11	08/09/11	KWG1107620	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	08/09/11	08/09/11	KWG1107620	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	08/09/11	08/09/11	KWG1107620	
Toluene	**4.7**		0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	08/09/11	08/09/11	KWG1107620	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	08/09/11	08/09/11	KWG1107620	
Tetrachloroethene (PCE)	**0.30**	J	0.50	0.043	1	08/09/11	08/09/11	KWG1107620	
2-Hexanone	ND	U	20	1.8	1	08/09/11	08/09/11	KWG1107620	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107018
Project:	506.01	**Date Collected:**	07/31/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP020-027 Composite	**Units:**	ug/L
Lab Code:	K1107018-009	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dibromochloromethane	ND	U	0.50	0.081	1	08/09/11	08/09/11	KWG1107620	
Chlorobenzene	ND	U	0.50	0.031	1	08/09/11	08/09/11	KWG1107620	
Ethylbenzene	**0.32**	J	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
m,p-Xylenes	**0.47**	J	1.0	0.14	1	08/09/11	08/09/11	KWG1107620	
o-Xylene	**0.18**	J	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Styrene	**0.17**	J	0.50	0.025	1	08/09/11	08/09/11	KWG1107620	
Bromoform	ND	U	0.50	0.11	1	08/09/11	08/09/11	KWG1107620	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	08/09/11	08/09/11	KWG1107620	
1,4-Dichlorobenzene	**0.97**		0.50	0.073	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	109	61-121	08/09/11	Acceptable
Toluene-d8	100	72-122	08/09/11	Acceptable
4-Bromofluorobenzene	93	70-120	08/09/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107018
Project:	506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1107620-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	08/09/11	08/09/11	KWG1107620	
Chloromethane	**0.050**	J	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Vinyl Chloride	ND	U	0.50	0.053	1	08/09/11	08/09/11	KWG1107620	
Bromomethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Chloroethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Trichlorofluoromethane	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Acrolein†	ND	U	50	2.1	1	08/09/11	08/09/11	KWG1107620	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethene	ND	U	0.50	0.37	1	08/09/11	08/09/11	KWG1107620	
Acetone	ND	U	20	4.3	1	08/09/11	08/09/11	KWG1107620	
Carbon Disulfide	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Methylene Chloride	ND	U	2.0	0.093	1	08/09/11	08/09/11	KWG1107620	
Acrylonitrile†	ND	U	10	0.28	1	08/09/11	08/09/11	KWG1107620	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethane	ND	U	0.50	0.041	1	08/09/11	08/09/11	KWG1107620	
Vinyl Acetate	ND	U	10	0.21	1	08/09/11	08/09/11	KWG1107620	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	08/09/11	08/09/11	KWG1107620	
2-Butanone (MEK)	ND	U	20	3.4	1	08/09/11	08/09/11	KWG1107620	
Chloroform	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Carbon Tetrachloride	ND	U	0.50	0.26	1	08/09/11	08/09/11	KWG1107620	
Benzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloropropane	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Bromodichloromethane	ND	U	0.50	0.047	1	08/09/11	08/09/11	KWG1107620	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	08/09/11	08/09/11	KWG1107620	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	08/09/11	08/09/11	KWG1107620	
Toluene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	08/09/11	08/09/11	KWG1107620	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	08/09/11	08/09/11	KWG1107620	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	08/09/11	08/09/11	KWG1107620	
2-Hexanone	ND	U	20	1.8	1	08/09/11	08/09/11	KWG1107620	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107018
Project:	506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1107620-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dibromochloromethane	ND	U	0.50	0.081	1	08/09/11	08/09/11	KWG1107620	
Chlorobenzene	ND	U	0.50	0.031	1	08/09/11	08/09/11	KWG1107620	
Ethylbenzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
m,p-Xylenes	ND	U	1.0	0.14	1	08/09/11	08/09/11	KWG1107620	
o-Xylene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Styrene	ND	U	0.50	0.025	1	08/09/11	08/09/11	KWG1107620	
Bromoform	ND	U	0.50	0.11	1	08/09/11	08/09/11	KWG1107620	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	08/09/11	08/09/11	KWG1107620	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	109	61-121	08/09/11	Acceptable
Toluene-d8	101	72-122	08/09/11	Acceptable
4-Bromofluorobenzene	90	70-120	08/09/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107018

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MOA11VOP020-027 Composite	K1107018-009	109	100	93
Batch QC	K1107021-009	107	98	94
Method Blank	KWG1107620-4	109	101	90
Batch QCMS	KWG1107620-1	106	110	104
Batch QCDMS	KWG1107620-2	106	110	104
Lab Control Sample	KWG1107620-3	104	110	108

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	61-121
Sur2 =	Toluene-d8	72-122
Sur3 =	4-Bromofluorobenzene	70-120

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107018
Project:	506.01	**Date Extracted:**	08/09/2011
Sample Matrix:	Water	**Date Analyzed:**	08/09/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1107021-009	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624	**Extraction Lot:**	KWG1107620

		Batch QCMS KWG1107620-1 Matrix Spike			Batch QCDMS KWG1107620-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
1,1-Dichloroethene	ND	9.69	10.0	97	8.93	10.0	89	64-151	8	30
Benzene	0.14	10.8	10.0	106	10.1	10.0	99	61-145	7	30
Trichloroethene (TCE)	0.060	10.1	10.0	101	9.21	10.0	92	23-193	10	30
Toluene	8.8	19.0	10.0	102	17.7	10.0	88	69-137	7	30
Chlorobenzene	0.040	10.6	10.0	105	9.68	10.0	96	76-128	9	30
1,2-Dichlorobenzene	ND	9.55	10.0	96	9.32	10.0	93	71-135	2	30

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: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107018
Date Extracted: 08/09/2011
Date Analyzed: 08/09/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1107620

Analyte Name	Lab Control Sample KWG1107620-3 Lab Control Spike Result	Expected	%Rec	%Rec Limits
Dichlorodifluoromethane	11.2	10.0	112	37-147
Chloromethane	9.97	10.0	100	66-139
Vinyl Chloride	11.0	10.0	110	71-136
Bromomethane	9.80	10.0	98	61-154
Chloroethane	8.84	10.0	88	69-130
Trichlorofluoromethane	9.82	10.0	98	65-127
Acrolein	141	100	141	27-200
Trichlorotrifluoroethane	9.64	10.0	96	72-134
1,1-Dichloroethene	9.35	10.0	94	79-147
Acetone	195	200	97	79-146
Carbon Disulfide	8.58	20.0	43	41-174
Methylene Chloride	10.3	10.0	103	67-144
Acrylonitrile	21.5	20.0	108	82-138
trans-1,2-Dichloroethene	10.7	10.0	107	78-140
1,1-Dichloroethane	10.4	10.0	104	79-135
Vinyl Acetate	19.6	20.0	98	60-157
cis-1,2-Dichloroethene	10.3	10.0	103	80-134
2-Butanone (MEK)	223	200	111	82-140
Chloroform	10.2	10.0	102	81-136
1,1,1-Trichloroethane (TCA)	9.65	10.0	97	77-139
Carbon Tetrachloride	10.2	10.0	102	69-144
Benzene	10.6	10.0	106	81-140
1,2-Dichloroethane (EDC)	9.64	10.0	96	74-140
Trichloroethene (TCE)	10.1	10.0	101	81-133
1,2-Dichloropropane	9.85	10.0	99	80-134
Bromodichloromethane	9.80	10.0	98	80-136
2-Chloroethyl Vinyl Ether	8.12	10.0	81	61-141
cis-1,3-Dichloropropene	9.08	10.0	91	77-137
4-Methyl-2-pentanone (MIBK)	207	200	104	81-127
Toluene	10.7	10.0	107	80-139
trans-1,3-Dichloropropene	8.16	10.0	82	73-122
1,1,2-Trichloroethane	10.2	10.0	102	87-129
Tetrachloroethene (PCE)	11.7	10.0	117	82-129
2-Hexanone	203	200	102	80-123
Dibromochloromethane	10.1	10.0	101	82-128
Chlorobenzene	10.7	10.0	107	87-126

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

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

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107018
Date Extracted: 08/09/2011
Date Analyzed: 08/09/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1107620

Analyte Name	Lab Control Sample KWG1107620-3 Lab Control Spike Result	Expected	%Rec	%Rec Limits
Ethylbenzene	10.4	10.0	104	86-128
m,p-Xylenes	21.6	20.0	108	85-129
o-Xylene	10.0	10.0	100	89-125
Styrene	10.1	10.0	101	84-129
Bromoform	9.84	10.0	98	61-144
1,1,2,2-Tetrachloroethane	8.86	10.0	89	78-144
1,3-Dichlorobenzene	9.88	10.0	99	78-142
1,4-Dichlorobenzene	9.84	10.0	98	77-144
1,2-Dichlorobenzene	9.77	10.0	98	77-143

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 17, 2011 Analytical Report for Service Request No: K1107021

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107021.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107021
Project:	Asplund WWTF	**Date Received:**	8/2/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Eight water samples were received for analysis at Columbia Analytical Services on 8/2/11. As instructed, the discreet samples were composited at the laboratory to create one composite sample MOA11VOP028-035 Composite. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Volatile Organic Compounds by EPA Method 624

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

Approved by Howard Holmes **Date** 8-17-11

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 624. Detection limits as per method. Please perform MS/SD on the composited sample.

MATRIX: Water	**Preservative:** HCl, 6°C Effluent samples contain L- Ascorbic Acid	**Type of Container:** 40-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOP028	EFF CMP #1	3	7/31 0900		
MOA11VOP029	EFF CMP #2	3	1205		
MOA11VOP030	EFF CMP #3	3	1500		
MOA11VOP031	EFF CMP #4	3	1810		
MOA11VOP032	EFF CMP #5	3	2100		
MOA11VOP033	EFF CMP #6	3	8/1/11 .0005		
MOA11VOP034	EFF CMP #7	3	0300		
MOA11VOP035	EFF CMP #8	3	0600		

SAMPLES LISTED ON THIS COC SHOULD BE COMPOSITED IN AN EIGHT-PART COMPOSITE IN A VAPOR-TYPE SYRINGE PRIOR TO ANALYSIS.

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[illegible]	8/1/11 1100	hand	[illegible]	8/1/11 1100
[illegible]	8/1/11 1300	FedEx	[illegible]	8/2/11 1000

SAMPLED BY (NAME/SIGNATURE):

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 11 8

Client / Project: Kinnetic Labs Service Request K11 7021

Received: 8/2/11 Opened: 8/2/11 By: SJG Unloaded: 8/2/11 By: SJG

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.2		276		7973 6538 7030	

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. 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
Inf Comp #1	3 VOA		X							
Eff Comp #2	3 VOA		X							
Eff Comp #4	1 VOA		X							

Notes, Discrepancies, & Resolutions: _____

Page 1 of _____

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107021
Date Collected: 07/31/2011
Date Received: 08/02/2011

Volatile Organic Compounds

Sample Name: MOA11VOP028-035 Composite
Lab Code: K1107021-009

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	08/09/11	08/09/11	KWG1107620	
Chloromethane	**0.69**		0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Vinyl Chloride	ND	U	0.50	0.053	1	08/09/11	08/09/11	KWG1107620	
Bromomethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Chloroethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Trichlorofluoromethane	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Acrolein†	ND	U	50	2.1	1	08/09/11	08/09/11	KWG1107620	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethene	ND	U	0.50	0.37	1	08/09/11	08/09/11	KWG1107620	
Acetone	**110**		20	4.3	1	08/09/11	08/09/11	KWG1107620	
Carbon Disulfide	**0.48**	J	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Methylene Chloride	**1.1**	J	2.0	0.093	1	08/09/11	08/09/11	KWG1107620	
Acrylonitrile†	ND	U	10	0.28	1	08/09/11	08/09/11	KWG1107620	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethane	ND	U	0.50	0.041	1	08/09/11	08/09/11	KWG1107620	
Vinyl Acetate	ND	U	10	0.21	1	08/09/11	08/09/11	KWG1107620	
cis-1,2-Dichloroethene	**0.060**	J	0.50	0.042	1	08/09/11	08/09/11	KWG1107620	
2-Butanone (MEK)	**9.9**	J	20	3.4	1	08/09/11	08/09/11	KWG1107620	
Chloroform	**3.5**		0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Carbon Tetrachloride	ND	U	0.50	0.26	1	08/09/11	08/09/11	KWG1107620	
Benzene	**0.14**	J	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
Trichloroethene (TCE)	**0.060**	J	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloropropane	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Bromodichloromethane	**0.27**	J	0.50	0.047	1	08/09/11	08/09/11	KWG1107620	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	08/09/11	08/09/11	KWG1107620	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	08/09/11	08/09/11	KWG1107620	
Toluene	**8.8**		0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	08/09/11	08/09/11	KWG1107620	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	08/09/11	08/09/11	KWG1107620	
Tetrachloroethene (PCE)	**0.21**	J	0.50	0.043	1	08/09/11	08/09/11	KWG1107620	
2-Hexanone	ND	U	20	1.8	1	08/09/11	08/09/11	KWG1107620	

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107021
Date Collected: 07/31/2011
Date Received: 08/02/2011

Volatile Organic Compounds

Sample Name: MOA11VOP028-035 Composite
Lab Code: K1107021-009

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dibromochloromethane	ND	U	0.50	0.081	1	08/09/11	08/09/11	KWG1107620	
Chlorobenzene	**0.040**	J	0.50	0.031	1	08/09/11	08/09/11	KWG1107620	
Ethylbenzene	**0.46**	J	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
m,p-Xylenes	**1.0**		1.0	0.14	1	08/09/11	08/09/11	KWG1107620	
o-Xylene	**0.47**	J	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Styrene	**0.14**	J	0.50	0.025	1	08/09/11	08/09/11	KWG1107620	
Bromoform	ND	U	0.50	0.11	1	08/09/11	08/09/11	KWG1107620	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	08/09/11	08/09/11	KWG1107620	
1,4-Dichlorobenzene	**0.87**		0.50	0.073	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	107	61-121	08/09/11	Acceptable
Toluene-d8	98	72-122	08/09/11	Acceptable
4-Bromofluorobenzene	94	70-120	08/09/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107021
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1107620-4

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	08/09/11	08/09/11	KWG1107620	
Chloromethane	**0.050**	J	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Vinyl Chloride	ND	U	0.50	0.053	1	08/09/11	08/09/11	KWG1107620	
Bromomethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Chloroethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Trichlorofluoromethane	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Acrolein†	ND	U	50	2.1	1	08/09/11	08/09/11	KWG1107620	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethene	ND	U	0.50	0.37	1	08/09/11	08/09/11	KWG1107620	
Acetone	ND	U	20	4.3	1	08/09/11	08/09/11	KWG1107620	
Carbon Disulfide	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Methylene Chloride	ND	U	2.0	0.093	1	08/09/11	08/09/11	KWG1107620	
Acrylonitrile†	ND	U	10	0.28	1	08/09/11	08/09/11	KWG1107620	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethane	ND	U	0.50	0.041	1	08/09/11	08/09/11	KWG1107620	
Vinyl Acetate	ND	U	10	0.21	1	08/09/11	08/09/11	KWG1107620	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	08/09/11	08/09/11	KWG1107620	
2-Butanone (MEK)	ND	U	20	3.4	1	08/09/11	08/09/11	KWG1107620	
Chloroform	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Carbon Tetrachloride	ND	U	0.50	0.26	1	08/09/11	08/09/11	KWG1107620	
Benzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloropropane	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Bromodichloromethane	ND	U	0.50	0.047	1	08/09/11	08/09/11	KWG1107620	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	08/09/11	08/09/11	KWG1107620	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	08/09/11	08/09/11	KWG1107620	
Toluene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	08/09/11	08/09/11	KWG1107620	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	08/09/11	08/09/11	KWG1107620	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	08/09/11	08/09/11	KWG1107620	
2-Hexanone	ND	U	20	1.8	1	08/09/11	08/09/11	KWG1107620	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107021
Project:	506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1107620-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dibromochloromethane	ND	U	0.50	0.081	1	08/09/11	08/09/11	KWG1107620	
Chlorobenzene	ND	U	0.50	0.031	1	08/09/11	08/09/11	KWG1107620	
Ethylbenzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
m,p-Xylenes	ND	U	1.0	0.14	1	08/09/11	08/09/11	KWG1107620	
o-Xylene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Styrene	ND	U	0.50	0.025	1	08/09/11	08/09/11	KWG1107620	
Bromoform	ND	U	0.50	0.11	1	08/09/11	08/09/11	KWG1107620	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	08/09/11	08/09/11	KWG1107620	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	109	61-121	08/09/11	Acceptable
Toluene-d8	101	72-122	08/09/11	Acceptable
4-Bromofluorobenzene	90	70-120	08/09/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107021

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MOA11VOP028-035 Composite	K1107021-009	107	98	94
Method Blank	KWG1107620-4	109	101	90
MOA11VOP028-035 CompositeM	KWG1107620-1	106	110	104
MOA11VOP028-035 CompositeD	KWG1107620-2	106	110	104
Lab Control Sample	KWG1107620-3	104	110	108

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	61-121
Sur2 =	Toluene-d8	72-122
Sur3 =	4-Bromofluorobenzene	70-120

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

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107021
Date Extracted: 08/09/2011
Date Analyzed: 08/09/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name: MOA11VOP028-035 Composite
Lab Code: K1107021-009

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low
Extraction Lot: KWG1107620

		MOA11VOP028-035 CompositeMS KWG1107620-1 Matrix Spike			MOA11VOP028-035 CompositeDMS KWG1107620-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
1,1-Dichloroethene	ND	9.69	10.0	97	8.93	10.0	89	64-151	8	30
Benzene	0.14	10.8	10.0	106	10.1	10.0	99	61-145	7	30
Trichloroethene (TCE)	0.060	10.1	10.0	101	9.21	10.0	92	23-193	10	30
Toluene	8.8	19.0	10.0	102	17.7	10.0	88	69-137	7	30
Chlorobenzene	0.040	10.6	10.0	105	9.68	10.0	96	76-128	9	30
1,2-Dichlorobenzene	ND	9.55	10.0	96	9.32	10.0	93	71-135	2	30

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: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107021
Date Extracted: 08/09/2011
Date Analyzed: 08/09/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1107620

Analyte Name	Lab Control Sample KWG1107620-3 Lab Control Spike Result	Expected	%Rec	%Rec Limits
Dichlorodifluoromethane	11.2	10.0	112	37-147
Chloromethane	9.97	10.0	100	66-139
Vinyl Chloride	11.0	10.0	110	71-136
Bromomethane	9.80	10.0	98	61-154
Chloroethane	8.84	10.0	88	69-130
Trichlorofluoromethane	9.82	10.0	98	65-127
Acrolein	141	100	141	27-200
Trichlorotrifluoroethane	9.64	10.0	96	72-134
1,1-Dichloroethene	9.35	10.0	94	79-147
Acetone	195	200	97	79-146
Carbon Disulfide	8.58	20.0	43	41-174
Methylene Chloride	10.3	10.0	103	67-144
Acrylonitrile	21.5	20.0	108	82-138
trans-1,2-Dichloroethene	10.7	10.0	107	78-140
1,1-Dichloroethane	10.4	10.0	104	79-135
Vinyl Acetate	19.6	20.0	98	60-157
cis-1,2-Dichloroethene	10.3	10.0	103	80-134
2-Butanone (MEK)	223	200	111	82-140
Chloroform	10.2	10.0	102	81-136
1,1,1-Trichloroethane (TCA)	9.65	10.0	97	77-139
Carbon Tetrachloride	10.2	10.0	102	69-144
Benzene	10.6	10.0	106	81-140
1,2-Dichloroethane (EDC)	9.64	10.0	96	74-140
Trichloroethene (TCE)	10.1	10.0	101	81-133
1,2-Dichloropropane	9.85	10.0	99	80-134
Bromodichloromethane	9.80	10.0	98	80-136
2-Chloroethyl Vinyl Ether	8.12	10.0	81	61-141
cis-1,3-Dichloropropene	9.08	10.0	91	77-137
4-Methyl-2-pentanone (MIBK)	207	200	104	81-127
Toluene	10.7	10.0	107	80-139
trans-1,3-Dichloropropene	8.16	10.0	82	73-122
1,1,2-Trichloroethane	10.2	10.0	102	87-129
Tetrachloroethene (PCE)	11.7	10.0	117	82-129
2-Hexanone	203	200	102	80-123
Dibromochloromethane	10.1	10.0	101	82-128
Chlorobenzene	10.7	10.0	107	87-126

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

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

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107021
Date Extracted: 08/09/2011
Date Analyzed: 08/09/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1107620

	Lab Control Sample KWG1107620-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Ethylbenzene	10.4	10.0	104	86-128
m,p-Xylenes	21.6	20.0	108	85-129
o-Xylene	10.0	10.0	100	89-125
Styrene	10.1	10.0	101	84-129
Bromoform	9.84	10.0	98	61-144
1,1,2,2-Tetrachloroethane	8.86	10.0	89	78-144
1,3-Dichlorobenzene	9.88	10.0	99	78-142
1,4-Dichlorobenzene	9.84	10.0	98	77-144
1,2-Dichlorobenzene	9.77	10.0	98	77-143

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

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

Columbia Analytical Services INC
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 17, 2011 Analytical Report for Service Request No: K1107030

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the sample submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107030.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107030
Project:	Asplund WWTF	**Date Received:**	8/2/11
Sample Matrix:	Sludge		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

One sludge sample was received for analysis at Columbia Analytical Services on 8/2/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Volatile Organic Compounds by EPA Method 8260

Calibration Verification Exceptions:
The following analytes were flagged as outside the upper control criterion for Continuing Calibration Verification (CCV) J:\MS24\0808F007.D: Toluene-d8. The following analytes were flagged as outside the lower control criterion for Continuing Calibration Verification (CCV) J:\MS24\0808F007.D: Dichlorodifluoromethane. In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The CAS SOP allows for 40% difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

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

Approved by Howard Holmes **Date** 8-17-11

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 8260. **Report using EPA 624 analyte list.** Detection limits as per method. Please report in dry weight..

MATRIX: Water	**Preservative:** None, 6° C	**Type of Container:** 250-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOP038	Sludge	1	8/1/11 0600		Leave no head space.

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[illegible]	8/1/11 11:00	hand	[illegible]	8/1/11 1100
[illegible]	8/1/11 1130	FedEx	[illegible]	8/2/11 1000

SAMPLED BY (NAME/SIGNATURE): _____

K1107030

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request *K11* 7030

Received: 8/2/11 Opened: 8/2/11 By: [illegible] Unloaded: 8/2/11 By: [illegible]

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.6		244		797 3 6538 7144	

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

Page 1 of _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Sludge, solid

Service Request: K1107030

Total Solids

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

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
MOA11VOP038	K1107030-001	08/01/2011	08/02/2011	08/08/2011	31.9	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107030
Project:	506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Sludge, solid	**Date Received:**	08/02/2011
		Date Analyzed:	08/08/2011

Duplicate Sample Summary

Total Solids

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

Sample Name	Lab Code	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
MOA11VOP038	K1107030-001	31.9	32.4	32.2	2	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107030
Project:	506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Sludge, solid	**Date Received:**	08/02/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP038	**Units:**	ug/Kg
Lab Code:	K1107030-001	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	16	0.37	1	08/08/11	08/08/11	KWG1107587	
Chloromethane	ND	U	16	0.56	1	08/08/11	08/08/11	KWG1107587	
Vinyl Chloride	ND	U	16	0.56	1	08/08/11	08/08/11	KWG1107587	
Bromomethane	ND	U	16	0.62	1	08/08/11	08/08/11	KWG1107587	
Chloroethane	ND	U	16	2.3	1	08/08/11	08/08/11	KWG1107587	
Trichlorofluoromethane	ND	U	16	0.27	1	08/08/11	08/08/11	KWG1107587	
Acrolein	ND	U	310	5.3	1	08/08/11	08/08/11	KWG1107587	
Trichlorotrifluoroethane	ND	U	16	0.74	1	08/08/11	08/08/11	KWG1107587	
1,1-Dichloroethene	ND	U	16	0.77	1	08/08/11	08/08/11	KWG1107587	
Carbon Disulfide	**26**		16	0.29	1	08/08/11	08/08/11	KWG1107587	
Methylene Chloride	**19**	J	31	0.50	1	08/08/11	08/08/11	KWG1107587	
Acrylonitrile	ND	U	62	1.4	1	08/08/11	08/08/11	KWG1107587	
trans-1,2-Dichloroethene	ND	U	16	0.37	1	08/08/11	08/08/11	KWG1107587	
1,1-Dichloroethane	ND	U	16	0.37	1	08/08/11	08/08/11	KWG1107587	
Vinyl Acetate	ND	U	62	0.96	1	08/08/11	08/08/11	KWG1107587	
cis-1,2-Dichloroethene	ND	U	16	0.37	1	08/08/11	08/08/11	KWG1107587	
Chloroform	**2.0**	J	16	0.34	1	08/08/11	08/08/11	KWG1107587	
1,1,1-Trichloroethane (TCA)	ND	U	16	0.34	1	08/08/11	08/08/11	KWG1107587	
Carbon Tetrachloride	ND	U	16	0.29	1	08/08/11	08/08/11	KWG1107587	
Benzene	**2.8**	J	16	0.17	1	08/08/11	08/08/11	KWG1107587	
1,2-Dichloroethane (EDC)	ND	U	16	0.22	1	08/08/11	08/08/11	KWG1107587	
Trichloroethene (TCE)	ND	U	16	0.47	1	08/08/11	08/08/11	KWG1107587	
1,2-Dichloropropane	ND	U	16	0.41	1	08/08/11	08/08/11	KWG1107587	
Bromodichloromethane	ND	U	16	0.50	1	08/08/11	08/08/11	KWG1107587	
2-Chloroethyl Vinyl Ether	ND	U	31	1.4	1	08/08/11	08/08/11	KWG1107587	
cis-1,3-Dichloropropene	ND	U	16	0.41	1	08/08/11	08/08/11	KWG1107587	
4-Methyl-2-pentanone (MIBK)	ND	U	62	5.6	1	08/08/11	08/08/11	KWG1107587	
Toluene	**440**		16	0.47	1	08/08/11	08/08/11	KWG1107587	
trans-1,3-Dichloropropene	ND	U	16	0.34	1	08/08/11	08/08/11	KWG1107587	
1,1,2-Trichloroethane	ND	U	16	0.47	1	08/08/11	08/08/11	KWG1107587	
Tetrachloroethene (PCE)	**12**	J	16	0.50	1	08/08/11	08/08/11	KWG1107587	
2-Hexanone	ND	Ui	300	300	1	08/08/11	08/08/11	KWG1107587	
Dibromochloromethane	ND	U	16	0.56	1	08/08/11	08/08/11	KWG1107587	
Chlorobenzene	ND	U	16	0.21	1	08/08/11	08/08/11	KWG1107587	
Ethylbenzene	**15**	J	16	0.29	1	08/08/11	08/08/11	KWG1107587	
m,p-Xylenes	**43**		16	0.31	1	08/08/11	08/08/11	KWG1107587	

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Sludge, solid

Service Request: K1107030
Date Collected: 08/01/2011
Date Received: 08/02/2011

Volatile Organic Compounds

Sample Name: MOA11VOP038
Lab Code: K1107030-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 5030A
Analysis Method: 8260C

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
o-Xylene	**16**	J	16	0.25	1	08/08/11	08/08/11	KWG1107587	
Styrene	ND	Ui	16	2.6	1	08/08/11	08/08/11	KWG1107587	
Bromoform	ND	U	16	0.44	1	08/08/11	08/08/11	KWG1107587	
1,1,2,2-Tetrachloroethane	ND	U	16	0.41	1	08/08/11	08/08/11	KWG1107587	
1,3-Dichlorobenzene	ND	U	16	0.29	1	08/08/11	08/08/11	KWG1107587	
1,4-Dichlorobenzene	**16**		16	0.27	1	08/08/11	08/08/11	KWG1107587	
1,2-Dichlorobenzene	**0.71**	J	16	0.24	1	08/08/11	08/08/11	KWG1107587	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	112	83-128	08/08/11	Acceptable
Toluene-d8	112	83-135	08/08/11	Acceptable
4-Bromofluorobenzene	105	77-124	08/08/11	Acceptable

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Sludge, solid

Service Request: K1107030
Date Collected: 08/01/2011
Date Received: 08/02/2011

Volatile Organic Compounds

Sample Name: MOA11VOP038
Lab Code: K1107030-001

Units: mg/Kg
Basis: Dry

Extraction Method: EPA 5030A/5030B
Analysis Method: 8260C

Level: Med

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acetone	**32**		20	3.3	1	08/09/11	08/09/11	KWG1107636	
2-Butanone (MEK)	**6.3**	J	20	1.9	1	08/09/11	08/09/11	KWG1107636	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Sludge, solid

Service Request: K1107030
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1107587-3

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 5030A
Analysis Method: 8260C

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	5.0	0.12	1	08/08/11	08/08/11	KWG1107587	
Chloromethane	ND	U	5.0	0.18	1	08/08/11	08/08/11	KWG1107587	
Vinyl Chloride	ND	U	5.0	0.18	1	08/08/11	08/08/11	KWG1107587	
Bromomethane	ND	U	5.0	0.20	1	08/08/11	08/08/11	KWG1107587	
Chloroethane	ND	U	5.0	0.74	1	08/08/11	08/08/11	KWG1107587	
Trichlorofluoromethane	ND	U	5.0	0.085	1	08/08/11	08/08/11	KWG1107587	
Acrolein	ND	U	100	1.7	1	08/08/11	08/08/11	KWG1107587	
Trichlorotrifluoroethane	ND	U	5.0	0.24	1	08/08/11	08/08/11	KWG1107587	
1,1-Dichloroethene	ND	U	5.0	0.25	1	08/08/11	08/08/11	KWG1107587	
Acetone	**3.5**	J	20	2.9	1	08/08/11	08/08/11	KWG1107587	
Carbon Disulfide	ND	U	5.0	0.092	1	08/08/11	08/08/11	KWG1107587	
Methylene Chloride	**0.67**	J	10	0.16	1	08/08/11	08/08/11	KWG1107587	
Acrylonitrile	ND	U	20	0.43	1	08/08/11	08/08/11	KWG1107587	
trans-1,2-Dichloroethene	ND	U	5.0	0.12	1	08/08/11	08/08/11	KWG1107587	
1,1-Dichloroethane	ND	U	5.0	0.12	1	08/08/11	08/08/11	KWG1107587	
Vinyl Acetate	ND	U	20	0.31	1	08/08/11	08/08/11	KWG1107587	
cis-1,2-Dichloroethene	ND	U	5.0	0.12	1	08/08/11	08/08/11	KWG1107587	
2-Butanone (MEK)	ND	U	20	0.90	1	08/08/11	08/08/11	KWG1107587	
Chloroform	ND	U	5.0	0.11	1	08/08/11	08/08/11	KWG1107587	
1,1,1-Trichloroethane (TCA)	ND	U	5.0	0.11	1	08/08/11	08/08/11	KWG1107587	
Carbon Tetrachloride	ND	U	5.0	0.094	1	08/08/11	08/08/11	KWG1107587	
Benzene	ND	U	5.0	0.054	1	08/08/11	08/08/11	KWG1107587	
1,2-Dichloroethane (EDC)	ND	U	5.0	0.070	1	08/08/11	08/08/11	KWG1107587	
Trichloroethene (TCE)	ND	U	5.0	0.15	1	08/08/11	08/08/11	KWG1107587	
1,2-Dichloropropane	ND	U	5.0	0.13	1	08/08/11	08/08/11	KWG1107587	
Bromodichloromethane	ND	U	5.0	0.16	1	08/08/11	08/08/11	KWG1107587	
2-Chloroethyl Vinyl Ether	ND	U	10	0.43	1	08/08/11	08/08/11	KWG1107587	
cis-1,3-Dichloropropene	ND	U	5.0	0.13	1	08/08/11	08/08/11	KWG1107587	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1.8	1	08/08/11	08/08/11	KWG1107587	
Toluene	ND	U	5.0	0.15	1	08/08/11	08/08/11	KWG1107587	
trans-1,3-Dichloropropene	ND	U	5.0	0.11	1	08/08/11	08/08/11	KWG1107587	
1,1,2-Trichloroethane	ND	U	5.0	0.15	1	08/08/11	08/08/11	KWG1107587	
Tetrachloroethene (PCE)	ND	U	5.0	0.16	1	08/08/11	08/08/11	KWG1107587	
2-Hexanone	ND	U	20	0.93	1	08/08/11	08/08/11	KWG1107587	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107030
Project:	506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1107587-3	**Basis:**	Dry
Extraction Method:	EPA 5030A	**Level:**	Low
Analysis Method:	8260C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dibromochloromethane	ND	U	5.0	0.18	1	08/08/11	08/08/11	KWG1107587	
Chlorobenzene	ND	U	5.0	0.065	1	08/08/11	08/08/11	KWG1107587	
Ethylbenzene	ND	U	5.0	0.094	1	08/08/11	08/08/11	KWG1107587	
m,p-Xylenes	ND	U	5.0	0.10	1	08/08/11	08/08/11	KWG1107587	
o-Xylene	ND	U	5.0	0.081	1	08/08/11	08/08/11	KWG1107587	
Styrene	ND	U	5.0	0.14	1	08/08/11	08/08/11	KWG1107587	
Bromoform	ND	U	5.0	0.14	1	08/08/11	08/08/11	KWG1107587	
1,1,2,2-Tetrachloroethane	ND	U	5.0	0.13	1	08/08/11	08/08/11	KWG1107587	
1,3-Dichlorobenzene	ND	U	5.0	0.094	1	08/08/11	08/08/11	KWG1107587	
1,4-Dichlorobenzene	ND	U	5.0	0.086	1	08/08/11	08/08/11	KWG1107587	
1,2-Dichlorobenzene	ND	U	5.0	0.077	1	08/08/11	08/08/11	KWG1107587	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	107	83-128	08/08/11	Acceptable
Toluene-d8	118	83-135	08/08/11	Acceptable
4-Bromofluorobenzene	108	77-124	08/08/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107030
Project:	506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1107636-4	**Basis:**	Dry
Extraction Method:	EPA 5030A/5030B	**Level:**	Med
Analysis Method:	8260C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Acetone	ND	U	2.0	0.33	1	08/09/11	08/09/11	KWG1107636	
2-Butanone (MEK)	ND	U	2.0	0.19	1	08/09/11	08/09/11	KWG1107636	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	95	55-132	08/09/11	Acceptable
Toluene-d8	104	81-124	08/09/11	Acceptable
4-Bromofluorobenzene	91	64-132	08/09/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Sludge, solid

Service Request: K1107030

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: EPA 5030A
Analysis Method: 8260C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MOA11VOP038	K1107030-001	112	112	105
Method Blank	KWG1107587-3	107	118	108
Lab Control Sample	KWG1107587-1	108	121	112
Duplicate Lab Control Sample	KWG1107587-2	110	121	111

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	83-128
Sur2 =	Toluene-d8	83-135
Sur3 =	4-Bromofluorobenzene	77-124

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Soil

Service Request: K1107030

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: EPA 5035A/5030B
Analysis Method: 8260C

Units: PERCENT
Level: Med

Sample Name	Lab Code	Sur1	Sur2	Sur3
Batch QC	K1107273-003	87	103	95
Method Blank	KWG1107636-4	95	104	91
Batch QCMS	KWG1107636-1	97	107	101
Batch QCDMS	KWG1107636-2	96	109	101
Lab Control Sample	KWG1107636-3	99	108	97

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	55-132
Sur2 =	Toluene-d8	81-124
Sur3 =	4-Bromofluorobenzene	64-132

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107030
Project:	506.01	**Date Extracted:**	08/09/2011
Sample Matrix:	Soil	**Date Analyzed:**	08/09/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	Batch QC	**Units:**	mg/Kg
Lab Code:	K1107273-003	**Basis:**	Dry
Extraction Method:	EPA 5035A/5030B	**Level:**	Med
Analysis Method:	8260C	**Extraction Lot:**	KWG1107636

		Batch QCMS KWG1107636-1 Matrix Spike			Batch QCDMS KWG1107636-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Acetone	ND	3.39	3.44	99	3.53	3.44	103	70-135	4	40
2-Butanone (MEK)	ND	3.62	3.44	105	3.70	3.44	108	77-140	2	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107030
Project:	506.01	**Date Extracted:**	08/08/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	08/08/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	EPA 5030A	**Units:**	ug/Kg
Analysis Method:	8260C	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1107587

	Lab Control Sample KWG1107587-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107587-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Dichlorodifluoromethane	59.5	50.0	119	57.2	50.0	114	38-160	4	40
Chloromethane	46.4	50.0	93	46.8	50.0	94	37-146	1	40
Vinyl Chloride	47.8	50.0	96	46.7	50.0	93	54-127	2	40
Bromomethane	51.5	50.0	103	52.9	50.0	106	22-180	3	40
Chloroethane	52.7	50.0	105	52.5	50.0	105	51-122	0	40
Trichlorofluoromethane	53.9	50.0	108	52.4	50.0	105	51-140	3	40
Acrolein	52.8	100	53	51.7	100	52	10-218	2	40
Trichlorotrifluoroethane	53.2	50.0	106	53.6	50.0	107	53-135	1	40
1,1-Dichloroethene	57.9	50.0	116	56.4	50.0	113	64-152	3	40
Acetone	178	250	71	187	250	75	32-135	5	40
Carbon Disulfide	107	100	107	104	100	104	55-141	3	40
Methylene Chloride	45.3	50.0	91	46.1	50.0	92	65-122	2	40
Acrylonitrile	115	100	115	122	100	122	18-179	6	40
trans-1,2-Dichloroethene	53.9	50.0	108	53.5	50.0	107	63-127	1	40
1,1-Dichloroethane	52.1	50.0	104	52.5	50.0	105	59-137	1	40
Vinyl Acetate	87.8	180	49	87.9	180	49	45-158	0	40
cis-1,2-Dichloroethene	51.2	50.0	102	51.0	50.0	102	62-138	0	40
2-Butanone (MEK)	213	250	85	223	250	89	54-116	5	40
Chloroform	52.7	50.0	105	53.3	50.0	107	61-137	1	40
1,1,1-Trichloroethane (TCA)	59.2	50.0	118	57.6	50.0	115	59-146	3	40
Carbon Tetrachloride	59.5	50.0	119	58.1	50.0	116	51-135	2	40
Benzene	52.4	50.0	105	52.7	50.0	105	68-122	1	40
1,2-Dichloroethane (EDC)	51.0	50.0	102	51.4	50.0	103	65-121	1	40
Trichloroethene (TCE)	55.6	50.0	111	54.8	50.0	110	67-126	1	40
1,2-Dichloropropane	51.3	50.0	103	52.3	50.0	105	71-121	2	40
Bromodichloromethane	52.9	50.0	106	53.3	50.0	107	61-143	1	40
2-Chloroethyl Vinyl Ether	45.5	50.0	91	47.1	50.0	94	63-130	3	40
cis-1,3-Dichloropropene	52.7	50.0	105	53.2	50.0	106	58-138	1	40
4-Methyl-2-pentanone (MIBK)	230	250	92	243	250	97	69-126	5	40
Toluene	49.7	50.0	99	49.6	50.0	99	75-117	0	40
trans-1,3-Dichloropropene	51.1	50.0	102	51.4	50.0	103	63-121	1	40
1,1,2-Trichloroethane	52.3	50.0	105	51.5	50.0	103	72-118	2	40
Tetrachloroethene (PCE)	56.3	50.0	113	54.9	50.0	110	66-126	2	40
2-Hexanone	227	250	91	236	250	94	67-121	4	40
Dibromochloromethane	53.7	50.0	107	53.0	50.0	106	69-120	1	40
Chlorobenzene	52.8	50.0	106	50.9	50.0	102	70-116	4	40

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107030
Project:	506.01	**Date Extracted:**	08/08/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	08/08/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	EPA 5030A	**Units:**	ug/Kg
Analysis Method:	8260C	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1107587

	Lab Control Sample KWG1107587-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107587-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Ethylbenzene	54.4	50.0	109	52.0	50.0	104	70-118	5	40
m,p-Xylenes	107	100	107	103	100	103	69-127	4	40
o-Xylene	51.6	50.0	103	49.6	50.0	99	69-124	4	40
Styrene	52.6	50.0	105	49.4	50.0	99	62-135	6	40
Bromoform	50.5	50.0	101	52.0	50.0	104	62-134	3	40
1,1,2,2-Tetrachloroethane	41.9	50.0	84	41.5	50.0	83	60-128	1	40
1,3-Dichlorobenzene	48.8	50.0	98	46.7	50.0	93	69-128	4	40
1,4-Dichlorobenzene	47.4	50.0	95	45.3	50.0	91	69-125	5	40
1,2-Dichlorobenzene	47.3	50.0	95	45.9	50.0	92	67-124	3	40

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107030
Project:	506.01	**Date Extracted:**	08/09/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	08/09/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	EPA 5030A/5030B	**Units:**	mg/Kg
Analysis Method:	8260C	**Basis:**	Dry
		Level:	Med
		Extraction Lot:	KWG1107636

	Lab Control Sample KWG1107636-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Acetone	5.10	5.00	102	47-142
2-Butanone (MEK)	5.57	5.00	111	65-139

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

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

Columbia Analytical Services INC
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 16, 2011 Analytical Report for Service Request No: K1107022

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107022.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107022
Project:	Asplund WWTF	**Date Received:**	8/2/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 8/2/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Volatile Organic Compounds by EPA Method 624

Elevated Detection Limits:
The client specified Method Reporting Limit (MRL) of 0.50ug/L for m,p-Xylenes could not be achieved. The MRL was raised to the lowest level of the calibration at 1.0ug/L.

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

Approved by Howard Holm **Date** 8-17-11

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 624. Detection limits as per method.

MATRIX: Water	**Preservative:** HCl, 6°C Effluent samples contain L- Ascorbic Acid	**Type of Container:** 40-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOP036	C-Station	3	8/1/11 0815		
MOA11VOP037	Trip Blank	2	~~8/1 0910~~		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[illegible]	8/1/11 11:00	hand	[illegible]	8/1/11 1100
[illegible]	8/1/11 1130	FedEx	[illegible]	8/2/11 1000

K1107022

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC HV

Client / Project: Kinnetic Labs Service Request *K11* 7022

Received: 8/2/11 Opened: 8/2/11 By: SJ Unloaded: 8/2/11 By: SJ

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.2		276		7473 6538 7030	

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. 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
Inf Comp #1	3 VOA		X							
Eff Comp #2	3 VOA		X							
Eff Comp #4	1 VOA		X							

Notes, Discrepancies, & Resolutions: _____

Page 1 *of* _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107022
Project:	506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP036	**Units:**	ug/L
Lab Code:	K1107022-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	08/09/11	08/09/11	KWG1107620	
Chloromethane	**0.050**	J	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Vinyl Chloride	ND	U	0.50	0.053	1	08/09/11	08/09/11	KWG1107620	
Bromomethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Chloroethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Trichlorofluoromethane	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Acrolein†	ND	U	50	2.1	1	08/09/11	08/09/11	KWG1107620	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethene	ND	U	0.50	0.37	1	08/09/11	08/09/11	KWG1107620	
Acetone	ND	U	20	4.3	1	08/09/11	08/09/11	KWG1107620	
Carbon Disulfide	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Methylene Chloride	ND	U	2.0	0.093	1	08/09/11	08/09/11	KWG1107620	
Acrylonitrile†	**0.44**	J	10	0.28	1	08/09/11	08/09/11	KWG1107620	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethane	ND	U	0.50	0.041	1	08/09/11	08/09/11	KWG1107620	
Vinyl Acetate	ND	U	10	0.21	1	08/09/11	08/09/11	KWG1107620	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	08/09/11	08/09/11	KWG1107620	
2-Butanone (MEK)	ND	U	20	3.4	1	08/09/11	08/09/11	KWG1107620	
Chloroform	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Carbon Tetrachloride	ND	U	0.50	0.26	1	08/09/11	08/09/11	KWG1107620	
Benzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloropropane	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Bromodichloromethane	ND	U	0.50	0.047	1	08/09/11	08/09/11	KWG1107620	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	08/09/11	08/09/11	KWG1107620	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	08/09/11	08/09/11	KWG1107620	
Toluene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	08/09/11	08/09/11	KWG1107620	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	08/09/11	08/09/11	KWG1107620	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	08/09/11	08/09/11	KWG1107620	
2-Hexanone	ND	U	20	1.8	1	08/09/11	08/09/11	KWG1107620	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107022
Project:	506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP036	**Units:**	ug/L
Lab Code:	K1107022-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dibromochloromethane	ND	U	0.50	0.081	1	08/09/11	08/09/11	KWG1107620	
Chlorobenzene	ND	U	0.50	0.031	1	08/09/11	08/09/11	KWG1107620	
Ethylbenzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
m,p-Xylenes	ND	U	1.0	0.14	1	08/09/11	08/09/11	KWG1107620	
o-Xylene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Styrene	ND	U	0.50	0.025	1	08/09/11	08/09/11	KWG1107620	
Bromoform	ND	U	0.50	0.11	1	08/09/11	08/09/11	KWG1107620	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	08/09/11	08/09/11	KWG1107620	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	107	61-121	08/09/11	Acceptable
Toluene-d8	100	72-122	08/09/11	Acceptable
4-Bromofluorobenzene	91	70-120	08/09/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107022
Project:	506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP037 Trip Blank	**Units:**	ug/L
Lab Code:	K1107022-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	08/09/11	08/09/11	KWG1107620	
Chloromethane	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Vinyl Chloride	ND	U	0.50	0.053	1	08/09/11	08/09/11	KWG1107620	
Bromomethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Chloroethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Trichlorofluoromethane	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Acrolein†	ND	U	50	2.1	1	08/09/11	08/09/11	KWG1107620	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethene	ND	U	0.50	0.37	1	08/09/11	08/09/11	KWG1107620	
Acetone	ND	U	20	4.3	1	08/09/11	08/09/11	KWG1107620	
Carbon Disulfide	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Methylene Chloride	ND	U	2.0	0.093	1	08/09/11	08/09/11	KWG1107620	
Acrylonitrile†	ND	U	10	0.28	1	08/09/11	08/09/11	KWG1107620	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethane	ND	U	0.50	0.041	1	08/09/11	08/09/11	KWG1107620	
Vinyl Acetate	ND	U	10	0.21	1	08/09/11	08/09/11	KWG1107620	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	08/09/11	08/09/11	KWG1107620	
2-Butanone (MEK)	ND	U	20	3.4	1	08/09/11	08/09/11	KWG1107620	
Chloroform	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Carbon Tetrachloride	ND	U	0.50	0.26	1	08/09/11	08/09/11	KWG1107620	
Benzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloropropane	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Bromodichloromethane	ND	U	0.50	0.047	1	08/09/11	08/09/11	KWG1107620	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	08/09/11	08/09/11	KWG1107620	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	08/09/11	08/09/11	KWG1107620	
Toluene	**0.31**	J	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	08/09/11	08/09/11	KWG1107620	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	08/09/11	08/09/11	KWG1107620	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	08/09/11	08/09/11	KWG1107620	
2-Hexanone	ND	U	20	1.8	1	08/09/11	08/09/11	KWG1107620	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107022
Project:	506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Volatile Organic Compounds

Sample Name:	MOA11VOP037 Trip Blank	**Units:**	ug/L
Lab Code:	K1107022-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dibromochloromethane	ND	U	0.50	0.081	1	08/09/11	08/09/11	KWG1107620	
Chlorobenzene	ND	U	0.50	0.031	1	08/09/11	08/09/11	KWG1107620	
Ethylbenzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
m,p-Xylenes	ND	U	1.0	0.14	1	08/09/11	08/09/11	KWG1107620	
o-Xylene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Styrene	ND	U	0.50	0.025	1	08/09/11	08/09/11	KWG1107620	
Bromoform	ND	U	0.50	0.11	1	08/09/11	08/09/11	KWG1107620	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	08/09/11	08/09/11	KWG1107620	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	107	61-121	08/09/11	Acceptable
Toluene-d8	101	72-122	08/09/11	Acceptable
4-Bromofluorobenzene	91	70-120	08/09/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107022
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1107620-4

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 624

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	0.40	1	08/09/11	08/09/11	KWG1107620	
Chloromethane	**0.050**	J	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Vinyl Chloride	ND	U	0.50	0.053	1	08/09/11	08/09/11	KWG1107620	
Bromomethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Chloroethane	ND	U	0.50	0.32	1	08/09/11	08/09/11	KWG1107620	
Trichlorofluoromethane	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Acrolein†	ND	U	50	2.1	1	08/09/11	08/09/11	KWG1107620	
Trichlorotrifluoroethane	ND	U	5.0	0.077	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethene	ND	U	0.50	0.37	1	08/09/11	08/09/11	KWG1107620	
Acetone	ND	U	20	4.3	1	08/09/11	08/09/11	KWG1107620	
Carbon Disulfide	ND	U	0.50	0.048	1	08/09/11	08/09/11	KWG1107620	
Methylene Chloride	ND	U	2.0	0.093	1	08/09/11	08/09/11	KWG1107620	
Acrylonitrile†	ND	U	10	0.28	1	08/09/11	08/09/11	KWG1107620	
trans-1,2-Dichloroethene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
1,1-Dichloroethane	ND	U	0.50	0.041	1	08/09/11	08/09/11	KWG1107620	
Vinyl Acetate	ND	U	10	0.21	1	08/09/11	08/09/11	KWG1107620	
cis-1,2-Dichloroethene	ND	U	0.50	0.042	1	08/09/11	08/09/11	KWG1107620	
2-Butanone (MEK)	ND	U	20	3.4	1	08/09/11	08/09/11	KWG1107620	
Chloroform	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Carbon Tetrachloride	ND	U	0.50	0.26	1	08/09/11	08/09/11	KWG1107620	
Benzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloroethane (EDC)	ND	U	0.50	0.038	1	08/09/11	08/09/11	KWG1107620	
Trichloroethene (TCE)	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichloropropane	ND	U	0.50	0.044	1	08/09/11	08/09/11	KWG1107620	
Bromodichloromethane	ND	U	0.50	0.047	1	08/09/11	08/09/11	KWG1107620	
2-Chloroethyl Vinyl Ether	ND	U	10	0.12	1	08/09/11	08/09/11	KWG1107620	
cis-1,3-Dichloropropene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
4-Methyl-2-pentanone (MIBK)	ND	U	20	2.8	1	08/09/11	08/09/11	KWG1107620	
Toluene	ND	U	0.50	0.039	1	08/09/11	08/09/11	KWG1107620	
trans-1,3-Dichloropropene	ND	U	0.50	0.045	1	08/09/11	08/09/11	KWG1107620	
1,1,2-Trichloroethane	ND	U	0.50	0.072	1	08/09/11	08/09/11	KWG1107620	
Tetrachloroethene (PCE)	ND	U	0.50	0.043	1	08/09/11	08/09/11	KWG1107620	
2-Hexanone	ND	U	20	1.8	1	08/09/11	08/09/11	KWG1107620	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107022
Project:	506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1107620-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dibromochloromethane	ND	U	0.50	0.081	1	08/09/11	08/09/11	KWG1107620	
Chlorobenzene	ND	U	0.50	0.031	1	08/09/11	08/09/11	KWG1107620	
Ethylbenzene	ND	U	0.50	0.040	1	08/09/11	08/09/11	KWG1107620	
m,p-Xylenes	ND	U	1.0	0.14	1	08/09/11	08/09/11	KWG1107620	
o-Xylene	ND	U	0.50	0.035	1	08/09/11	08/09/11	KWG1107620	
Styrene	ND	U	0.50	0.025	1	08/09/11	08/09/11	KWG1107620	
Bromoform	ND	U	0.50	0.11	1	08/09/11	08/09/11	KWG1107620	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	
1,3-Dichlorobenzene	ND	U	0.50	0.071	1	08/09/11	08/09/11	KWG1107620	
1,4-Dichlorobenzene	ND	U	0.50	0.073	1	08/09/11	08/09/11	KWG1107620	
1,2-Dichlorobenzene	ND	U	0.50	0.086	1	08/09/11	08/09/11	KWG1107620	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	109	61-121	08/09/11	Acceptable
Toluene-d8	101	72-122	08/09/11	Acceptable
4-Bromofluorobenzene	90	70-120	08/09/11	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107022

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
Batch QC	K1107021-009	107	98	94
MOA11VOP036	K1107022-001	107	100	91
MOA11VOP037 Trip Blank	K1107022-002	107	101	91
Method Blank	KWG1107620-4	109	101	90
Batch QCMS	KWG1107620-1	106	110	104
Batch QCDMS	KWG1107620-2	106	110	104
Lab Control Sample	KWG1107620-3	104	110	108

Surrogate Recovery Control Limits (%)

Sur1 =	Dibromofluoromethane	61-121
Sur2 =	Toluene-d8	72-122
Sur3 =	4-Bromofluorobenzene	70-120

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107022
Project:	506.01	**Date Extracted:**	08/09/2011
Sample Matrix:	Water	**Date Analyzed:**	08/09/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1107021-009	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624	**Extraction Lot:**	KWG1107620

		Batch QCMS KWG1107620-1 Matrix Spike			Batch QCDMS KWG1107620-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
1,1-Dichloroethene	ND	9.69	10.0	97	8.93	10.0	89	64-151	8	30
Benzene	0.14	10.8	10.0	106	10.1	10.0	99	61-145	7	30
Trichloroethene (TCE)	0.060	10.1	10.0	101	9.21	10.0	92	23-193	10	30
Toluene	8.8	19.0	10.0	102	17.7	10.0	88	69-137	7	30
Chlorobenzene	0.040	10.6	10.0	105	9.68	10.0	96	76-128	9	30
1,2-Dichlorobenzene	ND	9.55	10.0	96	9.32	10.0	93	71-135	2	30

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107022
Project:	506.01	**Date Extracted:**	08/09/2011
Sample Matrix:	Water	**Date Analyzed:**	08/09/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	624	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1107620

	Lab Control Sample KWG1107620-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Dichlorodifluoromethane	11.2	10.0	112	37-147
Chloromethane	9.97	10.0	100	66-139
Vinyl Chloride	11.0	10.0	110	71-136
Bromomethane	9.80	10.0	98	61-154
Chloroethane	8.84	10.0	88	69-130
Trichlorofluoromethane	9.82	10.0	98	65-127
Acrolein	141	100	141	27-200
Trichlorotrifluoroethane	9.64	10.0	96	72-134
1,1-Dichloroethene	9.35	10.0	94	79-147
Acetone	195	200	97	79-146
Carbon Disulfide	8.58	20.0	43	41-174
Methylene Chloride	10.3	10.0	103	67-144
Acrylonitrile	21.5	20.0	108	82-138
trans-1,2-Dichloroethene	10.7	10.0	107	78-140
1,1-Dichloroethane	10.4	10.0	104	79-135
Vinyl Acetate	19.6	20.0	98	60-157
cis-1,2-Dichloroethene	10.3	10.0	103	80-134
2-Butanone (MEK)	223	200	111	82-140
Chloroform	10.2	10.0	102	81-136
1,1,1-Trichloroethane (TCA)	9.65	10.0	97	77-139
Carbon Tetrachloride	10.2	10.0	102	69-144
Benzene	10.6	10.0	106	81-140
1,2-Dichloroethane (EDC)	9.64	10.0	96	74-140
Trichloroethene (TCE)	10.1	10.0	101	81-133
1,2-Dichloropropane	9.85	10.0	99	80-134
Bromodichloromethane	9.80	10.0	98	80-136
2-Chloroethyl Vinyl Ether	8.12	10.0	81	61-141
cis-1,3-Dichloropropene	9.08	10.0	91	77-137
4-Methyl-2-pentanone (MIBK)	207	200	104	81-127
Toluene	10.7	10.0	107	80-139
trans-1,3-Dichloropropene	8.16	10.0	82	73-122
1,1,2-Trichloroethane	10.2	10.0	102	87-129
Tetrachloroethene (PCE)	11.7	10.0	117	82-129
2-Hexanone	203	200	102	80-123
Dibromochloromethane	10.1	10.0	101	82-128
Chlorobenzene	10.7	10.0	107	87-126

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

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

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Water

Service Request: K1107022
Date Extracted: 08/09/2011
Date Analyzed: 08/09/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1107620

Analyte Name	Lab Control Sample KWG1107620-3 Lab Control Spike Result	Expected	%Rec	%Rec Limits
Ethylbenzene	10.4	10.0	104	86-128
m,p-Xylenes	21.6	20.0	108	85-129
o-Xylene	10.0	10.0	100	89-125
Styrene	10.1	10.0	101	84-129
Bromoform	9.84	10.0	98	61-144
1,1,2,2-Tetrachloroethane	8.86	10.0	89	78-144
1,3-Dichlorobenzene	9.88	10.0	99	78-142
1,4-Dichlorobenzene	9.84	10.0	98	77-144
1,2-Dichlorobenzene	9.77	10.0	98	77-143

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105523

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 18, 2011. For your reference, these analyses have been assigned our service request number K1105523.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105523

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: : (By EPA 200.8/245.1) Ag, As, Be, Cd, Cr, Cu, Mo, Ni, Pb, Sb, Se, Tl, Zn, Hg

MATRIX: Water	**Preservative:** 6°C, HNO3	**Type of Container:** 250ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11MET009	Influent	1	~~6/14/11 0550~~	6/16/11 0600	For total metals
MOA11MET010	Influent	1	~~0550~~	6/16/11 0600	Prefiltered for dissolved metals
MOA11MET011	Effluent	1	~~0600~~	6/16/11 0600	For total metals
MOA11MET012	Effluent	1	~~0600~~	6/16/11 0600	Prefiltered for dissolved metals
			DAYS		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/16/11 1045	~~[signature]~~ HAND	[signature]	6/17/11 1045
[signature]	6/17/11 1110	FEDEX	[signature] CAS	6/18/11 0930

SAMPLED BY: NAME PRINTED BY:

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H2

Client / Project: Kinnetic Service Request K11 5523

Received: 6/18/11 Opened: 6/18/11 By: AJ Unloaded: 6/20/11 By: RST

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.5		257			X

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

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project No.: 506.01

Service Request: K1105523

Sample Name:	Lab Code:
Batch QC1D	**K1105463-003D**
Batch QC1S	**K1105463-003S**
MOA11MET009	**K1105523-001**
MOA11MET010D	**K1105523-002DDISS**
MOA11MET010	**K1105523-002DISS**
MOA11MET010S	**K1105523-002SDISS**
MOA11MET011	**K1105523-003**
MOA11MET012	**K1105523-004DISS**
Method Blank	**K1105523-MB**

Comments:

Approved By: JC **Date:** 7/7/11

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105523
Project No.:	506.01	**Date Collected:**	06/16/11
Project Name:	Asplund WWTF	**Date Received:**	06/18/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET009 **Lab Code:** K1105523-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	1.0	06/24/11	06/28/11	0.70		
Arsenic	200.8	1.00	0.14	1.0	06/24/11	06/28/11	2.33		
Beryllium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.010	J	
Cadmium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.320		
Chromium	200.8	0.40	0.08	1.0	06/24/11	06/28/11	2.89		
Copper	200.8	0.20	0.04	1.0	06/24/11	06/28/11	57.7		
Lead	200.8	0.040	0.010	1.0	06/24/11	06/28/11	3.280		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.55		
Molybdenum	200.8	0.100	0.016	1.0	06/24/11	06/28/11	3.82		
Nickel	200.8	0.40	0.06	1.0	06/24/11	06/28/11	5.57		
Selenium	200.8	2.0	0.6	1.0	06/24/11	06/28/11	0.8	J	
Silver	200.8	0.040	0.008	1.0	06/24/11	06/28/11	0.542		
Thallium	200.8	0.040	0.004	1.0	06/24/11	06/28/11	0.004	U	
Zinc	200.8	1.00	0.40	1.0	06/24/11	06/28/11	142		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105523
Project No.:	506.01	**Date Collected:**	06/16/11
Project Name:	Asplund WWTF	**Date Received:**	06/18/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET010 **Lab Code:** K1105523-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.57		
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	1.53		
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.031		
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.87		
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	9.62		
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.348		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	3.10		
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	3.66		
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	0.7	J	
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.106		
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.002	U	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	21.2		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105523
Project No.:	506.01	**Date Collected:**	06/16/11
Project Name:	Asplund WWTF	**Date Received:**	06/18/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET011 **Lab Code:** K1105523-003

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	1.0	06/24/11	06/28/11	0.62		
Arsenic	200.8	1.00	0.14	1.0	06/24/11	06/28/11	2.57		
Beryllium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.014	J	
Cadmium	200.8	0.040	0.006	1.0	06/24/11	06/28/11	0.179		
Chromium	200.8	0.40	0.08	1.0	06/24/11	06/28/11	1.69		
Copper	200.8	0.20	0.04	1.0	06/24/11	06/28/11	36.3		
Lead	200.8	0.040	0.010	1.0	06/24/11	06/28/11	1.690		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.09	J	
Molybdenum	200.8	0.100	0.016	1.0	06/24/11	06/28/11	3.57		
Nickel	200.8	0.40	0.06	1.0	06/24/11	06/28/11	4.21		
Selenium	200.8	2.0	0.6	1.0	06/24/11	06/28/11	1.5	J	
Silver	200.8	0.040	0.008	1.0	06/24/11	06/28/11	0.533		
Thallium	200.8	0.040	0.004	1.0	06/24/11	06/28/11	0.006	J	
Zinc	200.8	1.00	0.40	1.0	06/24/11	06/28/11	79.8		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1105523
Project No.:	506.01	**Date Collected:**	06/16/11
Project Name:	Asplund WWTF	**Date Received:**	06/18/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET012 **Lab Code:** K1105523-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.66		
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	2.26		
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.079		
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.74		
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	20.3		
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.338		
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	3.14		
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	3.52		
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	1.4		
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.092		
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.002	U	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	39.7		

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorpora
Service Request: K1105523
Project No.: 506.01
Date Collected:
Project Name: Asplund WWTF
Date Received:
Matrix: WATER
Units: ug/L
Basis: NA

Sample Name: Method Blank
Lab Code: K1105523-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	06/24/11	06/28/11	0.02	U	
Arsenic	200.8	0.50	0.07	1.0	06/24/11	06/28/11	0.07	U	
Beryllium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.009	J	
Cadmium	200.8	0.020	0.003	1.0	06/24/11	06/28/11	0.010	J	
Chromium	200.8	0.20	0.04	1.0	06/24/11	06/28/11	0.12	J	
Copper	200.8	0.10	0.02	1.0	06/24/11	06/28/11	0.02	U	
Lead	200.8	0.020	0.005	1.0	06/24/11	06/28/11	0.013	J	
Mercury	245.1	0.20	0.02	1.0	06/28/11	06/30/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	06/24/11	06/28/11	0.014	J	
Nickel	200.8	0.20	0.03	1.0	06/24/11	06/28/11	0.03	U	
Selenium	200.8	1.0	0.3	1.0	06/24/11	06/28/11	0.3	U	
Silver	200.8	0.020	0.004	1.0	06/24/11	06/28/11	0.004	U	
Thallium	200.8	0.020	0.002	1.0	06/24/11	06/28/11	0.003	J	
Zinc	200.8	0.50	0.20	1.0	06/24/11	06/28/11	0.20	U	

% Solids: 0.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC1S **Lab Code:** K1105463-003S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.11		0.13	J	1.00	98.0		245.1

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

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: MOA11MET010S **Lab Code:** K1105523-002SDISS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	20.3		0.57		20.00	98.6		200.8
Arsenic	70 - 130	21.9		1.53		20.00	101.8		200.8
Beryllium	70 - 130	19.8		0.003	U	20.00	99.0		200.8
Cadmium	70 - 130	19.5		0.031		20.00	97.3		200.8
Chromium	70 - 130	19.7		0.87		20.00	94.2		200.8
Copper	70 - 130	27.5		9.62		20.00	89.4		200.8
Lead	70 - 130	18.5		0.348		20.00	90.8		200.8
Molybdenum	70 - 130	23.8		3.10		20.00	103.5		200.8
Nickel	70 - 130	21.7		3.66		20.00	90.2		200.8
Selenium	70 - 130	20.5		0.7	J	20.00	99.0		200.8
Silver	70 - 130	19.0		0.106		20.00	94.5		200.8
Thallium	70 - 130	18.5		0.002	U	20.00	92.5		200.8
Zinc	70 - 130	38.5		21.2		20.00	86.5		200.8

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

Metals

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC1D **Lab Code:** K1105463-003D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.13	J	0.14	J	7.4		245.1

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

Metals

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: MOA11MET010D **Lab Code:** K1105523-002DDISS

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony	20	0.57		0.61		6.8		200.8
Arsenic		1.53		1.55		1.3		200.8
Beryllium		0.003	U	0.003	U			200.8
Cadmium		0.031		0.048		43.0		200.8
Chromium		0.87		0.89		2.3		200.8
Copper	20	9.62		9.79		1.8		200.8
Lead	20	0.348		0.388		10.9		200.8
Molybdenum	20	3.10		3.16		1.9		200.8
Nickel	20	3.66		3.70		1.1		200.8
Selenium		0.7	J	0.7	J	0.0		200.8
Silver		0.106		0.099		6.8		200.8
Thallium		0.002	U	0.002	U			200.8
Zinc	20	21.2		21.8		2.8		200.8

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

Metals

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1105523

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Antimony	20	19.8	99.0					
Arsenic	20	19.6	98.0					
Beryllium	20	20.3	101.5					
Cadmium	20	19.8	99.0					
Chromium	20	20.7	103.5					
Copper	20	19.8	99.0					
Lead	20	22.1	110.5					
Mercury	5	4.99	99.8					
Molybdenum	20	18.7	93.5					
Nickel	20	19.9	99.5					
Selenium	20	19.2	96.0					
Silver	20	18.3	91.5					
Thallium	20	22.0	110.0					
Zinc	20	20.1	100.5					

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

September 9, 2011 Analytical Report for Service Request No: K1107028

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Avenue
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the sample submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107028.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 8290/PCDD PCDF. Detection limits as per method. Please report in dry weight

MATRIX: Sludge	**Preservative:** None, 6°C	**Type of Container:** 250-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11DXN002	Sludge	1	8/1/11 0600		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[illegible]	8/1/11 1100	hand	[illegible]	8/1/11 1100
[illegible]	8/1/11 1130	FedEx	[illegible]	8/2/11 1000

K1107028

SAMPLED BY (NAME/SIGNATURE): _____

PC H2

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request *K11* 7028

Received: 8/2/11 Opened: 8/2/11 By: [illegible] Unloaded: 8/2/11 By: [illegible]

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.0		244		7473 6538 7144	

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

Page 1 *of* _____

August 31, 2011 Service Request No: K1107028

Howard Holmes
Columbia Analytical Services Inc
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Results for: Kinnetic Laboratories, Incorporated

Dear Howard:

Enclosed are the results of the sample(s) submitted to our laboratory on August 5, 2011. For your reference, these analyses have been assigned our service request number : **K1107028**.

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.
All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) 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. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct number is 281-994-2954.

Respectfully submitted,

Columbia Analytical Services, Inc.

Arthi Kodur
Digitally signed by Arthi Kodur
Date: 2011.09.09 15:51:51 -05'00'

Darren Biles
Project Manager

Page 1 of _____

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com.

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC

Client:	Kinnetic Laboratories, Incorporated	**Service Request No.:**	K1107028
Project:	Asplund WWTF/506.01	**Date Received:**	8/5/11
Sample Matrix:	Soil		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One solid sample was received for analysis at Columbia Analytical Services on 8/5/11.

Please note the reporting forms are currently referencing the date CAS-Kelso received the samples (8/2/11) and not the date CAS-Houston received the samples (8/5/11).

The sample was received at 1°C in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 6°C upon receipt at the laboratory.

Data Validation Notes and Discussion

MS/MSD

EQ1100378: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch. The batch quality control criteria were met.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in

writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01

Service Request: K1107028

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1107028-001	MOA11DXN002	8/1/11	06:00

Laboratory Certifications
2011-2012

STATE/PROGRAM	AGENCY	CERT#	EXP DATE	CERTIFIED?
DoD ELAP	A2LA	2897.01	11/30/11	Yes
ISO 17025	A2LA	2897.01	11/30/11	Yes
Arizona	AZ-DHS	AZ0725	05/27/12	Yes
arkansas	ADEQ	10-035-0	06/16/11	Yes
California	CA-ELAP	2452	02/28/13	Yes
Florida/NELAP	FL-DOHS	E87611	06/30/12	Yes
Hawaii	HI-DOH	N/A	06/30/12	Yes
Illinois/NELAP	IL-EPA	002611	10/06/11	Yes
Louisiana/NELAP	LELAP	03048	06/30/12	Yes
Louisiana/NELAP	LDHH	LA100032	12/31/11	Yes
Maine	ME-DOHS	2010041	06/05/12	Yes
Michigan	MIDEQ	9971	06/30/11	Yes
Minnesota	MDH	048-999-427	12/31/11	Yes
Nevada	NDEP	TX014112010A	07/31/10	Yes (Extension)
New Jersey	NJDEP	TX008	06/30/12	Yes
New Mexico	NMED-DWB	N/A	06/30/11	Yes
New York/NELAP	NY-DOH	11707	04/1/12	Yes
Oklahoma	OKDEQ	2010-022	08/31/11	Yes
Oregon/NELAP	ORELAP	TX200002-006	03/24/12	Yes
Pennsylvania/NELAP	PLAP	002	06/30/12	Yes
Tennessee	TNDEC	04016	06/30/12	Yes
Texas/NELAP	TCEQ	T104704216-10-1	06/30/12	Yes
UTAH/NELAP	UTELCP	COLU2	06/30/12	Yes
Soil Import Permit	USDA	P330-09-00067	03/27/12	Yes
Washington/NELAP	WA-Ecology	C819-10	11/14/11	Yes
West Virginia	WVDEP	347	06/30/12	Yes

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
MRL	Method Reporting Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent Recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
RRT	Relative Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-Noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected.

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected.'

- **S** Peak is saturated; data not reportable.

- **P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.

- **Q** Lock-mass interference by chlorodiphenyl ether compounds.

COLUMBIA ANALYTICAL SERVICES, INC. – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID: K1107028 DB-5 DB-225 SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
08/24/11		001

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
08/25/11		001

Columbia Analytical Services INC

Analytical Results

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107028
Project:	Asplund WWTF/506.01	**Date Collected:**	8/ 1/11 0600
Sample Matrix:	Sludge, Solid	**Date Received:**	8/ 2/11
Sample Name:	MOA11DXN002	**Units:**	ng/Kg
Lab Code:	K1107028-001	**Basis:**	Dry
		Percent Solids:	30.1

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/18/11 1138
Prep Method:	Method	**Date Extracted:**	8/10/11
Sample Amount:	10.250g	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P115316	**Blank File Name:**	P115296
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P115308

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**0.788**	JK	0.149	3.24	0.62	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	618.504	62		40-135	0.78	1.008
37Cl-2,3,7,8-TCDD	800	518.149	65		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107028
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, Solid	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1100378-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/17/11 1843
Prep Method:	Method	**Date Extracted:**	8/10/11
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P115296	**Blank File Name:**	P115296
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P115294

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0683	1.00			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	639.982	64		40-135	0.80	1.008
37Cl-2,3,7,8-TCDD	800	519.728	65		40-135	NA	1.008

Columbia Analytical Services INC

Accuracy and Precision

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107028
Project:	Asplund WWTF/506.01	**Date Analyzed:**	8/18/11
Sample Matrix:	Sludge, Solid		

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Units:**	ng/Kg
Prep Method:	Method	**Basis:**	Dry
		Extraction Lot:	139176

	Lab Control Sample EQ1100378-02			Duplicate Lab Control Sample EQ1100378-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,3,7,8-TCDD	18.0	20.0	90	18.8	20.0	94	75 - 117	4	15

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107028
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, Solid	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1100378-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/18/11 1226
Prep Method:	Method	**Date Extracted:**	8/10/11
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P115317	**Blank File Name:**	P115296
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P115308

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**18.0**		0.0558	1.00	0.79	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	626.667	63		40-135	0.78	1.008
37Cl-2,3,7,8-TCDD	800	503.998	63		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107028
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, Solid	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1100378-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/18/11 1314
Prep Method:	Method	**Date Extracted:**	8/10/11
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P115318	**Blank File Name:**	P115296
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P115308

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**18.8**		0.0475	1.00	0.75	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	667.420	67		40-135	0.79	1.008
37Cl-2,3,7,8-TCDD	800	552.176	69		40-135	NA	1.009

Columbia Analytical Services INC

Chain of Custody

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Howard Holmes

Project Name:
Project Number: 506.01AK11-1002
Project Manager: Gary Lawley
Company: Kinnetic Laboratories, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290	Total Solids 8290
K1107028-001	MOA11DXN002	1	Sludge, Solid	8/1/11	0600	8/2/11	HOUSTON	II	II

24

Test Comments

PCDD PCDF - 8290 K1107028-001 2,3,7,8 TCDD only

Folder Comments:

~~QC REQUIRED ON THIS SR.~~ no qc per howard alh 8/5/11

H2

Special Instructions/Comments

Please provide the electronic (PDF and EDD) report to the following e-mail address: kelso_data@caslab.com

Opened @ 1008; 2 front seals
b-wrap, blue ice, inserts
0°C/1°C

Turnaround Requirements

____ **RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS

1 2 3 4 5

____ **STANDARD**

Requested FAX Date: _____

Requested Report Date: 08/19/11

Report Requirements

____ I. Results Only

X II. Results + QC Summaries

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

PQL/MDL/J Y

EDD

Invoice Information

PO# K1107028

Bill to

Relinquished By: [signature] 8/4/11 1154

Received By: Cindy [illegible] 8/5/11 0945

Airbill Number: 1297365901660494790

Pag

Columbia Analytical Services™

Cooler Receipt Form

Project Chemist: DB

Client/Project: Kinnetic Laboratories; 506.01 AK11-1002

Service Request: K1107028

Date/Time Received: 8/5/11 09:45:00

Date/Time Logged in: 8/5/11 12:18:00

Technician: CD

Technician: CD

1. Method of delivery: ○ US Mail ○ Fed Ex ◉ UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ◉ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ◉ Yes ○ No ○ N/A

Were they intact? ◉ Yes ○ No ○ N/A

Were they signed and dated? ◉ Yes ○ No ○ N/A

If yes, how many and where? 2-front

4. Method of delivery: ☑ Inserts ○ Baggies ☑ Bubble Wrap ☑ Gel Packs ○ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ◉ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
1Z9736590166494790		Aug 5, 2011	1008	CD	0/1	☒	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ◉ Yes ○ No ○ N/A

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ◉ Yes ○ No ○ N/A

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ◉ Yes ○ No ○ N/A

9. Were appropriate bottles/containers and volumes received for the requested tests? ◉ Yes ○ No ○ N/A

10. Did sample labels and tags agree with custody documents? ◉ Yes ○ No ○ N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Notes, Discrepancies, & Resolutions:

Print Form

Reset Form

Columbia Analytical Services

Sample Acceptance Policy

This policy outlines the criteria samples must meet to be accepted by CAS/ Houston.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample
- ✓ The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, CAS/Houston will complete a COC, which must be approved by the client, in writing, prior to proceeding with the analysis.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C.
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder.

Service Request Summary

Folder #: **K1107028**
Client Name: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project Number: 506.01

Report To: Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Avenue
Anchorage, AK 99501
Phone Number: 907-276-6178
Cell Number:
Fax Number:
E-mail: glawley@kinneticlabs.com

Project Chemist: Darren Biles
Originating Lab: KELSO
Logged By: SHOPKINS
Date Received: 8/ 2/11
Internal Due Date: 8/19/11
QAP: LAB QAP
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: AK11-1002
EDD: BASIC_WQC

1 - 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: E-WICO2-Box 32

NPDES

CAS Samp No	Client Samp No.	Matrix	Collected		SVM 8290/ PCDD PCDF	SVM CAS SOP/ Total Solids
K1107028-001	MOA11DXN002	Sludge,	8/1/11	0600	II	II

27

Folder Comments:

QC REQUIRED ON THIS SR.

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	PCDD PCDF/8290	1	2,3,7,8 TCDD only

Preparation Information Benchsheet

Prep Run#: 139176
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtDioxS(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/10/11 01:15 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1100803-001	11.3255 - 10648	.01	8290/PCDD PCDF		Sludge, Solid	10.422g	brown, watery mud
2	E1100803-002	11.3255 - 10649	.01	8290/PCDD PCDF		Sludge, Solid	10.333g	brown, watery mud
3	E1100803-003	11.3255 - 10650	.01	8290/PCDD PCDF		Sludge, Solid	10.090g	brown, watery mud
4	E1100807-001	11078025-1	.01	8290/PCDD PCDF		Paper	5.053g	brown, paper rectangles
5	E1100807-002	11078025-2	.01	8290/PCDD PCDF		Paper	5.037g	brown, paper rectangles
6	EQ1100378-01	MB		8290/PCDD PCDF		Solid	10.000g	
7	EQ1100378-02	LCS		8290/PCDD PCDF		Solid	10.000g	
8	EQ1100378-03	DLCS		8290/PCDD PCDF		Solid	10.000g	
9	K1107028-001	MOA11DXN002	.01	8290/PCDD PCDF		Sludge, Solid	10.250g	black sludge

Spiking Solutions

Name: 8290 Matrix Working Standard | Inventory ID: 30707 | Logbook Ref: D12-24-4A (30707) | Expires On: 06/06/2012

EQ1100378-02	100.00µL	EQ1100378-03	100.00µL

Name: 8290 Internal Working Standard | Inventory ID: 32146 | Logbook Ref: D12-35-3A(32146) | Expires On: 07/15/2012

E1100803-001	100.00µL	E1100803-002	100.00µL	E1100803-003	100.00µL	E1100807-001	100.00µL	E1100807-002	100.00µL	EQ1100378-01	100.00µL
EQ1100378-02	100.00µL	EQ1100378-03	100.00µL	K1107028-001	100.00µL						

Name: 8290/1613B Cleanup Working Standard | Inventory ID: 33115 | Logbook Ref: D12-39-5A/B (33115) | Expires On: 08/10/2012

E1100803-001	100.00µL	E1100803-002	100.00µL	E1100803-003	100.00µL	E1100807-001	100.00µL	E1100807-002	100.00µL	EQ1100378-01	100.00µL
EQ1100378-02	100.00µL	EQ1100378-03	100.00µL	K1107028-001	100.00µL						

Preparation Materials

Carbon, High Purity	C2-57-7 (30675)	Ethyl Acetate 99.9% Minimum EtOAc	29101 (29101)	Extraction Thimbles 43 x123 mm	(1577)
Glass Wool	C2-47-6 (24744)	Sulfuric Acid Reagent Grade H2SO4	29341 (29341)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	C2-57-6 (30674)
Sodium Hydroxide Reagent Grade NaOH	C2-53-5 (27837)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	C2-55-5 (29761)	Tridecane (n-Tridecane)	C2-57-3 (30536)
Hexane (n-Hexane) 98.5% Minimum	C2-58-5 (32781)	Nonane (n-Nonane) 99%	C2-33-001 (13944)	Silica Gel Reagent Grade	C2-52-5 (27100)
Toluene 99.9% Minimum	C2-57-5 (30673)				

Preparation Information Benchsheet

Prep Run#: 139176
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtDioxS(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/10/11 01:15 PM

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	8/10/11 13:15	Started:	8/15/11 09:00	Started:	8/16/11 08:55	Started:	8/17/11 06:00
Finished:	8/11/11 06:44	Finished:	8/15/11 10:00	Finished:	8/16/11 11:45	Finished:	8/17/11 09:05
By:	EBAUCH	By:	EBAUCH	By:	EBAUCH	By:	EBAUCH

29

Comments: _____

Reviewed By: EB Date: 8/17/11

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

COLUMBIA ANALYTICAL SERVICES, INC.

Total Solids Report

Sample ID	Tare (g)	Tare + Wet Wt.(g)	Tare + Dry Wt.(g)	% Total Solids
E1100803-001	13.261	24.059	20.798	69.8
E1100803-002	13.164	24.423	18.857	50.6
E1100803-003	13.112	27.900	21.948	59.8
E1100807-001	13.176	13.904	13.855	93.3
E1100807-002	13.222	14.660	14.570	93.7
K1107028-001	13.139	18.132	14.641	30.1

Batch No.: EQ1100378

Comments:

Analyst:	CD	Date/Time:	8/15/11	12:40PM

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 17, 2011 Analytical Report for Service Request No: K1107024

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107024.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107024
Project:	Asplund WWTF	**Date Received:**	8/2/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Matrix Spike (MS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 8/2/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Oil and Grease by EPA Method 1664:
The spike recovery of Oil and Grease for Laboratory Control Sample (LCS) and Duplicate Laboratory Control Sample were outside the lower control criterion. The error associated with reduced recovery indicated a potential low bias. The Laboratory Control Sample and Duplicate Laboratory Control Sample were reanalyzed and were within acceptance limits. The data was flagged to indicate the problem.

The matrix spike recovery of Oil and Grease for sample Batch QC was outside control criteria. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

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

Approved by Howard Holmes **Date** 8-18-11

Kinnetic Laboratories, Inc. Chain of Custody Record

K1107024

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 1664 Oil & Grease

MATRIX: Water	**Preservative:** HCL, 6°C	**Type of Container:** 1-L Amber

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11O&G003	Influent	1	8/1/11 0910		
MOA11O&G004	Effluent	1	8/1/11 0910		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[illegible]	8/1/11 1100	hand	[illegible]	8/1/11 1100
[illegible]	8/1/11 1130	Fed-X	[illegible]	8/2/11 1000

K1107024

SAMPLED BY (NAME/SIGNATURE)

PC 11'8

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request *K11* 7024

Received: 8/2/11 Opened: 8/2/11 By: [illegible] Unloaded: 8/2/11 By: [illegible]

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.0		244		797 3 6538 7144	

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107024
Project:	Asplund WWTF/506.01	**Date Collected:**	8/ 1/11
Sample Matrix:	Water	**Date Received:**	8/ 2/11
Prep Method:	Method	**Units:**	mg/L
Analysis Method:	1664	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11O&G003	K1107024-001	**25.1**		4.8	0.8	1	8/11/11	8/12/11 11:00	
MOA11O&G004	K1107024-002	**26.2**		6.3	0.9	1	8/11/11	8/12/11 11:00	
Method Blank	K1107024-MB	ND	U	5.0	0.8	1	8/11/11	8/12/11 11:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107024
Date Collected: NA
Date Received: NA
Date Analyzed: 8/12/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107196-001

Units: mg/L
Basis: NA

Analytical Method: 1664
Prep Method: Method

Batch QCMS
Matrix Spike
K1107196-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec		% Rec Limits
Oil and Grease, Total (HEM)	1.6	46.2	59.4	75	*	78 - 114

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107024
Date Analyzed: 8/12/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1107024-LCS1			Duplicate Lab Control Sample K1107024-DLCS1					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	1664	30.7	60.0	51 *	33.7	60.0	56 *	78 - 114	9	20

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107024
Date Analyzed: 8/12/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

		Lab Control Sample K1107024-LCS2			Duplicate Lab Control Sample K1107024-DLCS2					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	1664	47.3	60.0	79	48.4	60.0	81	78 - 114	2	20

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

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

Columbia Analytical Services INC
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

September 19, 2011 Analytical Report for Service Request No: K1107029

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Avenue
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the sample submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107029.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Case Narrative

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 25, 2011 Analytical Report for Service Request No: K1107023

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Avenue
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107023.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107023
Project:	Asplund WWTF	**Date Received:**	8/2/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 8/2/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Organochlorine Pesticides by EPA Method 8081

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for Endrin Aldehyde in the replicate Laboratory Control Sample (LCS) analyses (KWG1107787-1 and KWG1107787-2) was outside control criteria. The individual recoveries of this analyte were within control, and the associated field samples did not contain hits for this analyte. The data was flagged to indicate the problem.

Elevated Detection Limits:
The MDL is elevated for Methoxychlor, Toxaphene and Chlordane in sample Method Blank KWG1107787-9. The chromatogram indicated the presence of non-target background components, which were apparently introduced as laboratory artifacts. The contamination prevented adequate resolution of the target compounds at the MDL. Note the level of background was relatively low compared to the MDL, so the affect on the results was minimal. The results are flagged to indicate the problem.

The detection limit was elevated for several analytes in all samples. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference.

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

Organophosphorus Pesticides by EPA Method 8141

Second Source Exceptions:
The analysis of EPA 8141 requires the use of dual column confirmation. When the Initial Calibration Verification (ICV) criteria are met for both columns, the lower of the two sample results is generally reported. The criteria were not met for Fenthion in CAL 10756. The data quality was not affected. No further corrective action was necessary.

Approved by _____ **Date** 8-26-11

Elevated Detection Limits:
The reporting limit is elevated for all analytes in both samples. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components which prevented adequate resolution of the internal standard. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. A semi-quantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution. The results are flagged to indicate the matrix interference.

Matrix Spike Recovery Exceptions:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

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

Semivolatile Organic Compounds by EPA Method 625

Elevated Detection Limits:
The detection limits for sample MOA11ORG004 were elevated due to less than optimal sample volume available for analysis. The detection limits were further elevated by the sample extract not being able to be concentrated to the final volume necessary to achieve target detection limits.

Sample Notes and Discussion:
A Matrix Spike/Matrix Spike Duplicate (MS/MSD) was not extracted with this sample batch. A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

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

Dioxins and Furans by EPA Method 8290

This analysis was performed by CAS-Houston. Their report can be found at the end of this report.

Approved by Howard Holman **Date** 8-26-11

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: EPA 625/SVO; 8081B/Pest OC; 8141A/PEST_OP; 8290/PCDD PCDF.

MATRIX: Water	**Preservative:** None, 6°C Effluent samples contain L-Ascorbic Acid	**Type of Container:** 1-L amber glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11ORG003	Influent	5	8/1/11 0910		
MOA11ORG004	Effluent	4	8/1/11 0910		
		(note: effluent composite short on volume)			

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
MJS	8/1/11 1100	hand	[signature]	8/1/11 1100
[signature]	8/1/11 1130	Fed-X	[signature]	8/2/11 1000

K1107023

SAMPLED BY (NAME/SIGNATURE): _____

PC HV

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request K11 1023

Received: 8/2/11 Opened: 8/2/11 By: [illegible] Unloaded: 8/2/11 By: [illegible]

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.0		244		7473 6538 7144	

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Organochlorine Pesticides

Sample Name:	MOA11ORG003	**Units:**	ug/L
Lab Code:	K1107023-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	Ui	0.0097	0.0097	1	08/05/11	08/12/11	KWG1107787	
Heptachlor	ND	U	0.0097	0.00036	1	08/05/11	08/12/11	KWG1107787	
Aldrin	ND	Ui	0.0097	0.0013	1	08/05/11	08/12/11	KWG1107787	
Heptachlor Epoxide	ND	Ui	0.0097	0.0097	1	08/05/11	08/12/11	KWG1107787	
gamma-Chlordane†	ND	U	0.0097	0.00032	1	08/05/11	08/12/11	KWG1107787	
Endosulfan I	ND	U	0.0097	0.00044	1	08/05/11	08/12/11	KWG1107787	
alpha-Chlordane	ND	Ui	0.023	0.023	1	08/05/11	08/12/11	KWG1107787	
Dieldrin	ND	U	0.0097	0.00035	1	08/05/11	08/12/11	KWG1107787	
4,4'-DDE	ND	Ui	0.0097	0.0017	1	08/05/11	08/12/11	KWG1107787	
Endrin	ND	Ui	0.0097	0.0025	1	08/05/11	08/12/11	KWG1107787	
Endosulfan II	ND	Ui	0.018	0.018	1	08/05/11	08/12/11	KWG1107787	
4,4'-DDD	ND	Ui	0.0097	0.0097	1	08/05/11	08/12/11	KWG1107787	
Endrin Aldehyde	ND	Ui	0.0097	0.0097	1	08/05/11	08/12/11	KWG1107787	
Endosulfan Sulfate	ND	U	0.0097	0.00047	1	08/05/11	08/12/11	KWG1107787	
4,4'-DDT	ND	Ui	0.079	0.079	1	08/05/11	08/12/11	KWG1107787	
Endrin Ketone	ND	Ui	0.0097	0.0097	1	08/05/11	08/12/11	KWG1107787	
Methoxychlor	ND	Ui	0.039	0.039	1	08/05/11	08/12/11	KWG1107787	
Toxaphene	ND	Ui	0.57	0.57	1	08/05/11	08/12/11	KWG1107787	
Chlordane	ND	Ui	0.31	0.31	1	08/05/11	08/12/11	KWG1107787	
Mirex	ND	Ui	0.0097	0.0013	1	08/05/11	08/12/11	KWG1107787	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	65	20-102	08/12/11	Acceptable
Decachlorobiphenyl	68	35-128	08/12/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Organochlorine Pesticides

Sample Name:	MOA11ORG004	**Units:**	ug/L
Lab Code:	K1107023-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.012	0.00049	1	08/05/11	08/12/11	KWG1107787	
Heptachlor	ND	Ui	0.012	0.010	1	08/05/11	08/12/11	KWG1107787	
Aldrin	ND	Ui	0.014	0.014	1	08/05/11	08/12/11	KWG1107787	
Heptachlor Epoxide	ND	Ui	0.012	0.012	1	08/05/11	08/12/11	KWG1107787	
gamma-Chlordane†	ND	U	0.012	0.00036	1	08/05/11	08/12/11	KWG1107787	
Endosulfan I	ND	U	0.012	0.00049	1	08/05/11	08/12/11	KWG1107787	
alpha-Chlordane	ND	Ui	0.012	0.012	1	08/05/11	08/12/11	KWG1107787	
Dieldrin	ND	Ui	0.012	0.0045	1	08/05/11	08/12/11	KWG1107787	
4,4'-DDE	ND	U	0.012	0.00040	1	08/05/11	08/12/11	KWG1107787	
Endrin	ND	Ui	0.012	0.0084	1	08/05/11	08/12/11	KWG1107787	
Endosulfan II	ND	Ui	0.018	0.018	1	08/05/11	08/12/11	KWG1107787	
4,4'-DDD	ND	Ui	0.012	0.012	1	08/05/11	08/12/11	KWG1107787	
Endrin Aldehyde	ND	Ui	0.012	0.012	1	08/05/11	08/12/11	KWG1107787	
Endosulfan Sulfate	ND	Ui	0.012	0.012	1	08/05/11	08/12/11	KWG1107787	
4,4'-DDT	ND	Ui	0.080	0.080	1	08/05/11	08/12/11	KWG1107787	
Endrin Ketone	ND	Ui	0.012	0.00087	1	08/05/11	08/12/11	KWG1107787	
Methoxychlor	ND	Ui	0.012	0.012	1	08/05/11	08/12/11	KWG1107787	
Toxaphene	ND	Ui	1.2	1.2	1	08/05/11	08/12/11	KWG1107787	
Chlordane	ND	Ui	0.31	0.31	1	08/05/11	08/12/11	KWG1107787	
Mirex	ND	U	0.012	0.00090	1	08/05/11	08/12/11	KWG1107787	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	41	20-102	08/12/11	Acceptable
Decachlorobiphenyl	53	35-128	08/12/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Organochlorine Pesticides

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1107787-9	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	0.0097	0.00044	1	08/05/11	08/12/11	KWG1107787	
Heptachlor	ND	U	0.0097	0.00036	1	08/05/11	08/12/11	KWG1107787	
Aldrin	ND	U	0.0097	0.00040	1	08/05/11	08/12/11	KWG1107787	
Heptachlor Epoxide	ND	U	0.0097	0.00032	1	08/05/11	08/12/11	KWG1107787	
gamma-Chlordane†	ND	U	0.0097	0.00032	1	08/05/11	08/12/11	KWG1107787	
Endosulfan I	ND	U	0.0097	0.00044	1	08/05/11	08/12/11	KWG1107787	
alpha-Chlordane	ND	U	0.0097	0.0040	1	08/05/11	08/12/11	KWG1107787	
Dieldrin	ND	U	0.0097	0.00035	1	08/05/11	08/12/11	KWG1107787	
4,4'-DDE	ND	U	0.0097	0.00036	1	08/05/11	08/12/11	KWG1107787	
Endrin	ND	U	0.0097	0.00068	1	08/05/11	08/12/11	KWG1107787	
Endosulfan II	ND	U	0.0097	0.00040	1	08/05/11	08/12/11	KWG1107787	
4,4'-DDD	ND	U	0.0097	0.0015	1	08/05/11	08/12/11	KWG1107787	
Endrin Aldehyde	ND	U	0.0097	0.00046	1	08/05/11	08/12/11	KWG1107787	
Endosulfan Sulfate	ND	U	0.0097	0.00047	1	08/05/11	08/12/11	KWG1107787	
4,4'-DDT	ND	U	0.0097	0.00058	1	08/05/11	08/12/11	KWG1107787	
Endrin Ketone	ND	U	0.0097	0.00066	1	08/05/11	08/12/11	KWG1107787	
Methoxychlor	ND	Ui	0.0097	0.0026	1	08/05/11	08/12/11	KWG1107787	
Toxaphene	ND	Ui	0.49	0.055	1	08/05/11	08/12/11	KWG1107787	
Chlordane	ND	Ui	0.20	0.016	1	08/05/11	08/12/11	KWG1107787	
Mirex	ND	U	0.0097	0.00081	1	08/05/11	08/12/11	KWG1107787	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	56	20-102	08/12/11	Acceptable
Decachlorobiphenyl	49	35-128	08/12/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3535A
Analysis Method: 8081B

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
MOA11ORG003	K1107023-001	65	68
MOA11ORG004	K1107023-002	41	53
Method Blank	KWG1107787-9	56	49
Lab Control Sample	KWG1107787-1	49	51
Duplicate Lab Control Sample	KWG1107787-2	56	59

Surrogate Recovery Control Limits (%)

Sur1 =	Tetrachloro-m-xylene	20-102
Sur2 =	Decachlorobiphenyl	35-128

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Extracted:**	08/05/2011
Sample Matrix:	Water	**Date Analyzed:**	08/12/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8081B	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1107787

	Lab Control Sample KWG1107787-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107787-2 Duplicate Lab Control Spike						
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**		**RPD Limit**
gamma-BHC (Lindane)	0.130	0.200	65	0.144	0.200	72	44-117	10		30
Heptachlor	0.139	0.200	69	0.144	0.200	72	40-115	4		30
Aldrin	0.116	0.200	58	0.122	0.200	61	10-102	5		30
Heptachlor Epoxide	0.127	0.200	64	0.142	0.200	71	49-109	11		30
gamma-Chlordane	0.125	0.200	62	0.134	0.200	67	47-113	7		30
Endosulfan I	0.126	0.200	63	0.136	0.200	68	35-115	8		30
alpha-Chlordane	0.122	0.200	61	0.133	0.200	67	45-115	8		30
Dieldrin	0.134	0.200	67	0.143	0.200	71	50-115	6		30
4,4'-DDE	0.120	0.200	60	0.131	0.200	66	41-116	9		30
Endrin	0.137	0.200	69	0.152	0.200	76	48-126	10		30
Endosulfan II	0.124	0.200	62	0.143	0.200	71	28-128	14		30
4,4'-DDD	0.138	0.200	69	0.153	0.200	76	33-132	10		30
Endrin Aldehyde	0.0755	0.200	38	0.104	0.200	52	27-104	32	*	30
Endosulfan Sulfate	0.109	0.200	54	0.136	0.200	68	38-118	22		30
4,4'-DDT	0.138	0.200	69	0.150	0.200	75	42-143	9		30
Endrin Ketone	0.117	0.200	58	0.149	0.200	75	30-124	24		30
Methoxychlor	0.128	0.200	64	0.155	0.200	77	43-143	19		30
Mirex	0.102	0.200	51	0.107	0.200	54	43-126	5		30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Organophosphorus Pesticides

Sample Name:	MOA11ORG003	**Units:**	ug/L
Lab Code:	K1107023-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8141B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	20	1.6	10	08/04/11	08/12/11	KWG1107482	
Methyl Parathion	ND	U	5.0	0.20	10	08/04/11	08/12/11	KWG1107482	
Malathion	ND	U	2.0	0.17	10	08/04/11	08/12/11	KWG1107482	
Ethyl Parathion	ND	U	5.0	0.11	10	08/04/11	08/12/11	KWG1107482	
Azinphos-methyl (Guthion)	ND	U	10	0.30	10	08/04/11	08/12/11	KWG1107482	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	100	43-148	08/12/11	Acceptable
Triphenyl Phosphate	90	48-142	08/12/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Organophosphorus Pesticides

Sample Name:	MOA11ORG004	**Units:**	ug/L
Lab Code:	K1107023-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8141B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	22	1.7	10	08/04/11	08/12/11	KWG1107482	
Methyl Parathion	ND	U	5.4	0.22	10	08/04/11	08/12/11	KWG1107482	
Malathion	ND	U	2.2	0.19	10	08/04/11	08/12/11	KWG1107482	
Ethyl Parathion	ND	U	5.4	0.12	10	08/04/11	08/12/11	KWG1107482	
Azinphos-methyl (Guthion)	ND	U	11	0.32	10	08/04/11	08/12/11	KWG1107482	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	106	43-148	08/12/11	Acceptable
Triphenyl Phosphate	94	48-142	08/12/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Organophosphorus Pesticides

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1107482-5	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8141B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	2.0	0.16	1	08/04/11	08/09/11	KWG1107482	
Methyl Parathion	ND	U	0.49	0.020	1	08/04/11	08/09/11	KWG1107482	
Malathion	ND	U	0.20	0.017	1	08/04/11	08/09/11	KWG1107482	
Ethyl Parathion	ND	U	0.49	0.011	1	08/04/11	08/09/11	KWG1107482	
Azinphos-methyl (Guthion)	ND	U	0.98	0.030	1	08/04/11	08/09/11	KWG1107482	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	85	43-148	08/09/11	Acceptable
Triphenyl Phosphate	84	48-142	08/09/11	Acceptable

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023

Surrogate Recovery Summary
Organophosphorus Pesticides

Extraction Method: EPA 3535A
Analysis Method: 8141B

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
MOA11ORG003	K1107023-001	100 D	90 D
MOA11ORG004	K1107023-002	106 D	94 D
Method Blank	KWG1107482-5	85	84
Lab Control Sample	KWG1107482-1	92	93
Duplicate Lab Control Sample	KWG1107482-2	88	87

Surrogate Recovery Control Limits (%)

Sur1 =	Tributyl Phosphate	43-148
Sur2 =	Triphenyl Phosphate	48-142

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Extracted:**	08/04/2011
Sample Matrix:	Water	**Date Analyzed:**	08/09/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Organophosphorus Pesticides

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8141B	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1107482

	Lab Control Sample KWG1107482-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107482-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Demeton-O,S	0.487	2.00	24	0.438	2.00	22	10-130	11	30
Methyl Parathion	1.87	2.00	93	1.81	2.00	91	41-160	3	30
Malathion	1.67	2.00	84	1.66	2.00	83	34-146	1	30
Ethyl Parathion	1.82	2.00	91	1.86	2.00	93	39-140	2	30
Azinphos-methyl (Guthion)	1.94	2.00	97	1.99	2.00	100	31-179	3	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023
Date Collected: 08/01/2011
Date Received: 08/02/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name: MOA11ORG003
Lab Code: K1107023-001

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 625

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	24	1.7	1	08/03/11	08/11/11	KWG1107371	
Bis(2-chloroethyl) Ether	ND	U	9.3	0.37	1	08/03/11	08/11/11	KWG1107371	
Phenol	**38**		9.3	0.45	1	08/03/11	08/11/11	KWG1107371	
2-Chlorophenol	ND	U	9.3	0.42	1	08/03/11	08/11/11	KWG1107371	
Bis(2-chloroisopropyl) Ether	ND	U	9.3	0.36	1	08/03/11	08/11/11	KWG1107371	
Hexachloroethane	ND	U	9.3	0.26	1	08/03/11	08/11/11	KWG1107371	
N-Nitrosodi-n-propylamine	ND	U	9.3	0.51	1	08/03/11	08/11/11	KWG1107371	
4-Methylphenol	**77**		9.3	1.2	1	08/03/11	08/11/11	KWG1107371	
Nitrobenzene	ND	U	9.3	0.36	1	08/03/11	08/11/11	KWG1107371	
Isophorone	ND	U	9.3	0.35	1	08/03/11	08/11/11	KWG1107371	
2-Nitrophenol	ND	U	9.3	0.35	1	08/03/11	08/11/11	KWG1107371	
2,4-Dimethylphenol	ND	U	9.3	1.1	1	08/03/11	08/11/11	KWG1107371	
Bis(2-chloroethoxy)methane	ND	U	9.3	0.31	1	08/03/11	08/11/11	KWG1107371	
2,4-Dichlorophenol	ND	U	9.3	0.29	1	08/03/11	08/11/11	KWG1107371	
1,2,4-Trichlorobenzene	ND	U	9.3	0.32	1	08/03/11	08/11/11	KWG1107371	
Naphthalene	**0.59**	J	9.3	0.31	1	08/03/11	08/11/11	KWG1107371	
Hexachlorobutadiene	ND	U	9.3	0.22	1	08/03/11	08/11/11	KWG1107371	
4-Chloro-3-methylphenol	ND	U	9.3	0.48	1	08/03/11	08/11/11	KWG1107371	
Hexachlorocyclopentadiene	ND	U	9.3	0.58	1	08/03/11	08/11/11	KWG1107371	
2,4,6-Trichlorophenol	ND	U	9.3	0.19	1	08/03/11	08/11/11	KWG1107371	
2-Chloronaphthalene	ND	U	9.3	0.43	1	08/03/11	08/11/11	KWG1107371	
Acenaphthylene	ND	U	9.3	0.29	1	08/03/11	08/11/11	KWG1107371	
Dimethyl Phthalate	ND	U	9.3	0.71	1	08/03/11	08/11/11	KWG1107371	
2,6-Dinitrotoluene	ND	U	9.3	0.27	1	08/03/11	08/11/11	KWG1107371	
Acenaphthene	ND	U	9.3	0.27	1	08/03/11	08/11/11	KWG1107371	
2,4-Dinitrophenol	ND	U	24	1.0	1	08/03/11	08/11/11	KWG1107371	
4-Nitrophenol	ND	U	24	2.3	1	08/03/11	08/11/11	KWG1107371	
2,4-Dinitrotoluene	ND	U	9.3	0.26	1	08/03/11	08/11/11	KWG1107371	
Fluorene	ND	U	9.3	0.23	1	08/03/11	08/11/11	KWG1107371	
4-Chlorophenyl Phenyl Ether	ND	U	9.3	0.26	1	08/03/11	08/11/11	KWG1107371	
Diethyl Phthalate	**9.5**		9.3	0.33	1	08/03/11	08/11/11	KWG1107371	
2-Methyl-4,6-dinitrophenol	ND	U	24	2.3	1	08/03/11	08/11/11	KWG1107371	
N-Nitrosodiphenylamine	ND	U	9.3	0.34	1	08/03/11	08/11/11	KWG1107371	

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023
Date Collected: 08/01/2011
Date Received: 08/02/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name: MOA11ORG003
Lab Code: K1107023-001

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 625

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Diphenylhydrazine†	ND	U	9.3	0.23	1	08/03/11	08/11/11	KWG1107371	
4-Bromophenyl Phenyl Ether	ND	U	9.3	0.35	1	08/03/11	08/11/11	KWG1107371	
Hexachlorobenzene	ND	U	9.3	0.27	1	08/03/11	08/11/11	KWG1107371	
Pentachlorophenol	ND	U	24	0.38	1	08/03/11	08/11/11	KWG1107371	
Phenanthrene	**0.40**	J	9.3	0.24	1	08/03/11	08/11/11	KWG1107371	
Anthracene	ND	U	9.3	0.33	1	08/03/11	08/11/11	KWG1107371	
Di-n-butyl Phthalate	**2.1**	J	9.3	0.46	1	08/03/11	08/11/11	KWG1107371	
Fluoranthene	**0.93**	J	9.3	0.45	1	08/03/11	08/11/11	KWG1107371	
Benzidine	ND	U	47	29	1	08/03/11	08/11/11	KWG1107371	
Pyrene	ND	U	9.3	0.47	1	08/03/11	08/11/11	KWG1107371	
Butyl Benzyl Phthalate	**3.2**	J	9.3	0.55	1	08/03/11	08/11/11	KWG1107371	
3,3'-Dichlorobenzidine	ND	U	24	0.48	1	08/03/11	08/11/11	KWG1107371	
Benz(a)anthracene	**0.75**	J	9.3	0.25	1	08/03/11	08/11/11	KWG1107371	
Chrysene	**0.55**	J	9.3	0.40	1	08/03/11	08/11/11	KWG1107371	
Bis(2-ethylhexyl) Phthalate	**15**		9.3	0.34	1	08/03/11	08/11/11	KWG1107371	
Di-n-octyl Phthalate	ND	U	9.3	0.38	1	08/03/11	08/11/11	KWG1107371	
Benzo(b)fluoranthene	ND	U	9.3	0.27	1	08/03/11	08/11/11	KWG1107371	
Benzo(k)fluoranthene	ND	U	9.3	0.32	1	08/03/11	08/11/11	KWG1107371	
Benzo(a)pyrene	ND	U	9.3	0.37	1	08/03/11	08/11/11	KWG1107371	
Indeno(1,2,3-cd)pyrene	ND	U	9.3	0.45	1	08/03/11	08/11/11	KWG1107371	
Dibenz(a,h)anthracene	ND	U	9.3	0.41	1	08/03/11	08/11/11	KWG1107371	
Benzo(g,h,i)perylene	ND	U	9.3	0.41	1	08/03/11	08/11/11	KWG1107371	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	70	34-112	08/11/11	Acceptable
Phenol-d6	70	34-116	08/11/11	Acceptable
Nitrobenzene-d5	84	43-120	08/11/11	Acceptable
2-Fluorobiphenyl	71	45-115	08/11/11	Acceptable
2,4,6-Tribromophenol	92	34-134	08/11/11	Acceptable
Terphenyl-d14	55	13-152	08/11/11	Acceptable

Comments:

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11ORG003	**Units:**	ug/L
Lab Code:	K1107023-001	**Basis:**	NA

† Analyte Comments

1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023
Date Collected: 08/01/2011
Date Received: 08/02/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name: MOA11ORG004
Lab Code: K1107023-002

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 625

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	28	1.9	1	08/03/11	08/10/11	KWG1107371	
Bis(2-chloroethyl) Ether	ND	U	12	0.42	1	08/03/11	08/10/11	KWG1107371	
Phenol	**22**		12	0.50	1	08/03/11	08/10/11	KWG1107371	
2-Chlorophenol	**0.54**	J	12	0.47	1	08/03/11	08/10/11	KWG1107371	
Bis(2-chloroisopropyl) Ether	ND	U	12	0.40	1	08/03/11	08/10/11	KWG1107371	
Hexachloroethane	ND	U	12	0.29	1	08/03/11	08/10/11	KWG1107371	
N-Nitrosodi-n-propylamine	ND	U	12	0.57	1	08/03/11	08/10/11	KWG1107371	
4-Methylphenol	**72**		12	1.4	1	08/03/11	08/10/11	KWG1107371	
Nitrobenzene	ND	U	12	0.40	1	08/03/11	08/10/11	KWG1107371	
Isophorone	ND	U	12	0.39	1	08/03/11	08/10/11	KWG1107371	
2-Nitrophenol	ND	U	12	0.39	1	08/03/11	08/10/11	KWG1107371	
2,4-Dimethylphenol	ND	U	12	1.3	1	08/03/11	08/10/11	KWG1107371	
Bis(2-chloroethoxy)methane	ND	U	12	0.35	1	08/03/11	08/10/11	KWG1107371	
2,4-Dichlorophenol	**0.33**	J	12	0.33	1	08/03/11	08/10/11	KWG1107371	
1,2,4-Trichlorobenzene	ND	U	12	0.36	1	08/03/11	08/10/11	KWG1107371	
Naphthalene	ND	U	12	0.35	1	08/03/11	08/10/11	KWG1107371	
Hexachlorobutadiene	ND	U	12	0.25	1	08/03/11	08/10/11	KWG1107371	
4-Chloro-3-methylphenol	ND	U	12	0.54	1	08/03/11	08/10/11	KWG1107371	
Hexachlorocyclopentadiene	ND	U	12	0.65	1	08/03/11	08/10/11	KWG1107371	
2,4,6-Trichlorophenol	**1.0**	J	12	0.22	1	08/03/11	08/10/11	KWG1107371	
2-Chloronaphthalene	ND	U	12	0.48	1	08/03/11	08/10/11	KWG1107371	
Acenaphthylene	ND	U	12	0.33	1	08/03/11	08/10/11	KWG1107371	
Dimethyl Phthalate	ND	U	12	0.79	1	08/03/11	08/10/11	KWG1107371	
2,6-Dinitrotoluene	ND	Ui	12	1.5	1	08/03/11	08/10/11	KWG1107371	
Acenaphthene	ND	U	12	0.30	1	08/03/11	08/10/11	KWG1107371	
2,4-Dinitrophenol	ND	U	28	1.2	1	08/03/11	08/10/11	KWG1107371	
4-Nitrophenol	ND	U	28	2.6	1	08/03/11	08/10/11	KWG1107371	
2,4-Dinitrotoluene	ND	U	12	0.29	1	08/03/11	08/10/11	KWG1107371	
Fluorene	ND	U	12	0.26	1	08/03/11	08/10/11	KWG1107371	
4-Chlorophenyl Phenyl Ether	ND	U	12	0.29	1	08/03/11	08/10/11	KWG1107371	
Diethyl Phthalate	**7.3**	J	12	0.37	1	08/03/11	08/10/11	KWG1107371	
2-Methyl-4,6-dinitrophenol	ND	U	28	2.6	1	08/03/11	08/10/11	KWG1107371	
N-Nitrosodiphenylamine	ND	U	12	0.38	1	08/03/11	08/10/11	KWG1107371	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11ORG004	**Units:**	ug/L
Lab Code:	K1107023-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Diphenylhydrazine†	ND	U	12	0.26	1	08/03/11	08/10/11	KWG1107371	
4-Bromophenyl Phenyl Ether	ND	U	12	0.39	1	08/03/11	08/10/11	KWG1107371	
Hexachlorobenzene	ND	U	12	0.30	1	08/03/11	08/10/11	KWG1107371	
Pentachlorophenol	ND	U	28	0.43	1	08/03/11	08/10/11	KWG1107371	
Phenanthrene	ND	U	12	0.27	1	08/03/11	08/10/11	KWG1107371	
Anthracene	ND	U	12	0.37	1	08/03/11	08/10/11	KWG1107371	
Di-n-butyl Phthalate	**1.5**	J	12	0.52	1	08/03/11	08/10/11	KWG1107371	
Fluoranthene	ND	U	12	0.50	1	08/03/11	08/10/11	KWG1107371	
Benzidine	ND	U	56	33	1	08/03/11	08/10/11	KWG1107371	
Pyrene	ND	U	12	0.53	1	08/03/11	08/10/11	KWG1107371	
Butyl Benzyl Phthalate	**2.6**	J	12	0.62	1	08/03/11	08/10/11	KWG1107371	
3,3'-Dichlorobenzidine	ND	U	28	0.54	1	08/03/11	08/10/11	KWG1107371	
Benz(a)anthracene	ND	U	12	0.28	1	08/03/11	08/10/11	KWG1107371	
Chrysene	ND	U	12	0.45	1	08/03/11	08/10/11	KWG1107371	
Bis(2-ethylhexyl) Phthalate	**14**		12	0.38	1	08/03/11	08/10/11	KWG1107371	
Di-n-octyl Phthalate	ND	U	12	0.43	1	08/03/11	08/10/11	KWG1107371	
Benzo(b)fluoranthene	ND	U	12	0.30	1	08/03/11	08/10/11	KWG1107371	
Benzo(k)fluoranthene	ND	U	12	0.36	1	08/03/11	08/10/11	KWG1107371	
Benzo(a)pyrene	ND	U	12	0.42	1	08/03/11	08/10/11	KWG1107371	
Indeno(1,2,3-cd)pyrene	ND	U	12	0.50	1	08/03/11	08/10/11	KWG1107371	
Dibenz(a,h)anthracene	ND	U	12	0.46	1	08/03/11	08/10/11	KWG1107371	
Benzo(g,h,i)perylene	ND	U	12	0.46	1	08/03/11	08/10/11	KWG1107371	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	50	34-112	08/10/11	Acceptable
Phenol-d6	61	34-116	08/10/11	Acceptable
Nitrobenzene-d5	70	43-120	08/10/11	Acceptable
2-Fluorobiphenyl	72	45-115	08/10/11	Acceptable
2,4,6-Tribromophenol	95	34-134	08/10/11	Acceptable
Terphenyl-d14	65	13-152	08/10/11	Acceptable

Comments:

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Water	**Date Received:**	08/02/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11ORG004	**Units:**	ug/L
Lab Code:	K1107023-002	**Basis:**	NA

† Analyte Comments

1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1107371-3

Units: ug/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 625

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	24	1.7	1	08/03/11	08/10/11	KWG1107371	
Bis(2-chloroethyl) Ether	ND	U	9.3	0.37	1	08/03/11	08/10/11	KWG1107371	
Phenol	ND	U	9.3	0.45	1	08/03/11	08/10/11	KWG1107371	
2-Chlorophenol	ND	U	9.3	0.42	1	08/03/11	08/10/11	KWG1107371	
Bis(2-chloroisopropyl) Ether	ND	U	9.3	0.36	1	08/03/11	08/10/11	KWG1107371	
Hexachloroethane	ND	U	9.3	0.26	1	08/03/11	08/10/11	KWG1107371	
N-Nitrosodi-n-propylamine	ND	U	9.3	0.51	1	08/03/11	08/10/11	KWG1107371	
4-Methylphenol	ND	U	9.3	1.2	1	08/03/11	08/10/11	KWG1107371	
Nitrobenzene	ND	U	9.3	0.36	1	08/03/11	08/10/11	KWG1107371	
Isophorone	ND	U	9.3	0.35	1	08/03/11	08/10/11	KWG1107371	
2-Nitrophenol	ND	U	9.3	0.35	1	08/03/11	08/10/11	KWG1107371	
2,4-Dimethylphenol	ND	U	9.3	1.1	1	08/03/11	08/10/11	KWG1107371	
Bis(2-chloroethoxy)methane	ND	U	9.3	0.31	1	08/03/11	08/10/11	KWG1107371	
2,4-Dichlorophenol	ND	U	9.3	0.29	1	08/03/11	08/10/11	KWG1107371	
1,2,4-Trichlorobenzene	ND	U	9.3	0.32	1	08/03/11	08/10/11	KWG1107371	
Naphthalene	ND	U	9.3	0.31	1	08/03/11	08/10/11	KWG1107371	
Hexachlorobutadiene	ND	U	9.3	0.22	1	08/03/11	08/10/11	KWG1107371	
4-Chloro-3-methylphenol	ND	U	9.3	0.48	1	08/03/11	08/10/11	KWG1107371	
Hexachlorocyclopentadiene	ND	U	9.3	0.58	1	08/03/11	08/10/11	KWG1107371	
2,4,6-Trichlorophenol	ND	U	9.3	0.19	1	08/03/11	08/10/11	KWG1107371	
2-Chloronaphthalene	ND	U	9.3	0.43	1	08/03/11	08/10/11	KWG1107371	
Acenaphthylene	ND	U	9.3	0.29	1	08/03/11	08/10/11	KWG1107371	
Dimethyl Phthalate	ND	U	9.3	0.71	1	08/03/11	08/10/11	KWG1107371	
2,6-Dinitrotoluene	ND	U	9.3	0.27	1	08/03/11	08/10/11	KWG1107371	
Acenaphthene	ND	U	9.3	0.27	1	08/03/11	08/10/11	KWG1107371	
2,4-Dinitrophenol	ND	U	24	1.0	1	08/03/11	08/10/11	KWG1107371	
4-Nitrophenol	ND	U	24	2.3	1	08/03/11	08/10/11	KWG1107371	
2,4-Dinitrotoluene	ND	U	9.3	0.26	1	08/03/11	08/10/11	KWG1107371	
Fluorene	ND	U	9.3	0.23	1	08/03/11	08/10/11	KWG1107371	
4-Chlorophenyl Phenyl Ether	ND	U	9.3	0.26	1	08/03/11	08/10/11	KWG1107371	
Diethyl Phthalate	ND	U	9.3	0.33	1	08/03/11	08/10/11	KWG1107371	
2-Methyl-4,6-dinitrophenol	ND	U	24	2.3	1	08/03/11	08/10/11	KWG1107371	
N-Nitrosodiphenylamine	ND	U	9.3	0.34	1	08/03/11	08/10/11	KWG1107371	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1107371-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Diphenylhydrazine†	ND	U	9.3	0.23	1	08/03/11	08/10/11	KWG1107371	
4-Bromophenyl Phenyl Ether	ND	U	9.3	0.35	1	08/03/11	08/10/11	KWG1107371	
Hexachlorobenzene	ND	U	9.3	0.27	1	08/03/11	08/10/11	KWG1107371	
Pentachlorophenol	ND	U	24	0.38	1	08/03/11	08/10/11	KWG1107371	
Phenanthrene	ND	U	9.3	0.24	1	08/03/11	08/10/11	KWG1107371	
Anthracene	ND	U	9.3	0.33	1	08/03/11	08/10/11	KWG1107371	
Di-n-butyl Phthalate	ND	U	9.3	0.46	1	08/03/11	08/10/11	KWG1107371	
Fluoranthene	ND	U	9.3	0.45	1	08/03/11	08/10/11	KWG1107371	
Benzidine	ND	U	47	29	1	08/03/11	08/10/11	KWG1107371	
Pyrene	ND	U	9.3	0.47	1	08/03/11	08/10/11	KWG1107371	
Butyl Benzyl Phthalate	ND	U	9.3	0.55	1	08/03/11	08/10/11	KWG1107371	
3,3'-Dichlorobenzidine	ND	U	24	0.48	1	08/03/11	08/10/11	KWG1107371	
Benz(a)anthracene	ND	U	9.3	0.25	1	08/03/11	08/10/11	KWG1107371	
Chrysene	ND	U	9.3	0.40	1	08/03/11	08/10/11	KWG1107371	
Bis(2-ethylhexyl) Phthalate	ND	U	9.3	0.34	1	08/03/11	08/10/11	KWG1107371	
Di-n-octyl Phthalate	ND	U	9.3	0.38	1	08/03/11	08/10/11	KWG1107371	
Benzo(b)fluoranthene	ND	U	9.3	0.27	1	08/03/11	08/10/11	KWG1107371	
Benzo(k)fluoranthene	ND	U	9.3	0.32	1	08/03/11	08/10/11	KWG1107371	
Benzo(a)pyrene	ND	U	9.3	0.37	1	08/03/11	08/10/11	KWG1107371	
Indeno(1,2,3-cd)pyrene	ND	U	9.3	0.45	1	08/03/11	08/10/11	KWG1107371	
Dibenz(a,h)anthracene	ND	U	9.3	0.41	1	08/03/11	08/10/11	KWG1107371	
Benzo(g,h,i)perylene	ND	U	9.3	0.41	1	08/03/11	08/10/11	KWG1107371	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	69	34-112	08/10/11	Acceptable
Phenol-d6	74	34-116	08/10/11	Acceptable
Nitrobenzene-d5	82	43-120	08/10/11	Acceptable
2-Fluorobiphenyl	76	45-115	08/10/11	Acceptable
2,4,6-Tribromophenol	77	34-134	08/10/11	Acceptable
Terphenyl-d14	77	13-152	08/10/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1107371-3	**Basis:**	NA

† Analyte Comments

1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023

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

Extraction Method: EPA 3520C
Analysis Method: 625

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6
MOA11ORG003	K1107023-001	70	70	84	71	92	55
MOA11ORG004	K1107023-002	50	61	70	72	95	65
Method Blank	KWG1107371-3	69	74	82	76	77	77
Lab Control Sample	KWG1107371-1	68	63	73	84	87	85
Duplicate Lab Control Sample	KWG1107371-2	70	64	75	77	84	81

Surrogate Recovery Control Limits (%)

Sur1 =	2-Fluorophenol	34-112	Sur5 =	2,4,6-Tribromophenol	34-134
Sur2 =	Phenol-d6	34-116	Sur6 =	Terphenyl-d14	13-152
Sur3 =	Nitrobenzene-d5	43-120			
Sur4 =	2-Fluorobiphenyl	45-115			

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023
Date Extracted: 08/03/2011
Date Analyzed: 08/10/2011

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

Extraction Method: EPA 3520C
Analysis Method: 625

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1107371

	Lab Control Sample KWG1107371-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107371-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
N-Nitrosodimethylamine	80.6	100	81	79.0	100	79	47-110	2	30
Bis(2-chloroethyl) Ether	64.4	100	64	62.0	100	62	55-102	4	30
Phenol	71.6	100	72	71.3	100	71	53-101	0	30
2-Chlorophenol	74.7	100	75	73.3	100	73	59-101	2	30
Bis(2-chloroisopropyl) Ether	73.4	100	73	71.0	100	71	51-105	3	30
Hexachloroethane	66.7	100	67	65.2	100	65	50-98	2	30
N-Nitrosodi-n-propylamine	73.9	100	74	74.8	100	75	59-105	1	30
4-Methylphenol	77.2	100	77	74.4	100	74	52-108	4	30
Nitrobenzene	74.7	100	75	72.7	100	73	58-105	3	30
Isophorone	81.3	100	81	75.2	100	75	57-108	8	30
2-Nitrophenol	83.3	100	83	80.0	100	80	61-105	4	30
2,4-Dimethylphenol	70.0	100	70	68.1	100	68	29-105	3	30
Bis(2-chloroethoxy)methane	76.2	100	76	74.7	100	75	56-106	2	30
2,4-Dichlorophenol	80.6	100	81	77.6	100	78	59-106	4	30
1,2,4-Trichlorobenzene	64.8	100	65	63.4	100	63	53-101	2	30
Naphthalene	72.9	100	73	70.7	100	71	55-102	3	30
Hexachlorobutadiene	65.4	100	65	63.2	100	63	52-101	3	30
4-Chloro-3-methylphenol	88.0	100	88	83.3	100	83	60-112	6	30
Hexachlorocyclopentadiene	35.1	100	35	31.1	100	31	10-63	12	30
2,4,6-Trichlorophenol	96.2	100	96	88.8	100	89	65-112	8	30
2-Chloronaphthalene	79.2	100	79	72.7	100	73	57-106	9	30
Acenaphthylene	79.7	100	80	74.9	100	75	57-112	6	30
Dimethyl Phthalate	88.2	100	88	83.0	100	83	62-122	6	30
2,6-Dinitrotoluene	92.1	100	92	86.7	100	87	63-122	6	30
Acenaphthene	87.3	100	87	79.2	100	79	60-109	10	30
2,4-Dinitrophenol	91.0	100	91	84.6	100	85	32-123	7	30
4-Nitrophenol	84.9	100	85	75.2	100	75	51-125	12	30
2,4-Dinitrotoluene	95.7	100	96	85.1	100	85	56-127	12	30
Fluorene	84.7	100	85	76.7	100	77	56-115	10	30
4-Chlorophenyl Phenyl Ether	77.4	100	77	70.5	100	71	57-116	9	30
Diethyl Phthalate	89.2	100	89	79.9	100	80	54-135	11	30
2-Methyl-4,6-dinitrophenol	91.4	100	91	78.2	100	78	49-128	16	30
N-Nitrosodiphenylamine	84.0	100	84	77.0	100	77	48-122	9	30
1,2-Diphenylhydrazine	82.7	100	83	75.2	100	75	54-117	10	30
4-Bromophenyl Phenyl Ether	83.5	100	83	79.2	100	79	64-116	5	30

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

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

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023
Date Extracted: 08/03/2011
Date Analyzed: 08/10/2011

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

Extraction Method: EPA 3520C
Analysis Method: 625

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1107371

	Lab Control Sample KWG1107371-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107371-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Hexachlorobenzene	80.4	100	80	75.9	100	76	61-116	6	30
Pentachlorophenol	86.0	100	86	80.2	100	80	52-117	7	30
Phenanthrene	90.3	100	90	83.6	100	84	64-113	8	30
Anthracene	86.8	100	87	81.0	100	81	62-114	7	30
Di-n-butyl Phthalate	90.3	100	90	79.6	100	80	63-125	13	30
Fluoranthene	87.6	100	88	80.4	100	80	60-120	9	30
Benzidine	103	150	69	94.6	150	63	10-202	9	30
Pyrene	79.7	100	80	72.8	100	73	57-115	9	30
Butyl Benzyl Phthalate	80.6	100	81	75.1	100	75	65-115	7	30
3,3'-Dichlorobenzidine	63.0	100	63	55.6	100	56	42-120	13	30
Benz(a)anthracene	81.5	100	82	76.0	100	76	66-113	7	30
Chrysene	80.2	100	80	75.8	100	76	64-113	6	30
Bis(2-ethylhexyl) Phthalate	81.2	100	81	77.8	100	78	61-120	4	30
Di-n-octyl Phthalate	93.8	100	94	88.4	100	88	64-128	6	30
Benzo(b)fluoranthene	84.8	100	85	78.7	100	79	64-115	7	30
Benzo(k)fluoranthene	82.3	100	82	80.8	100	81	62-119	2	30
Benzo(a)pyrene	84.2	100	84	78.2	100	78	57-119	7	30
Indeno(1,2,3-cd)pyrene	86.5	100	86	80.9	100	81	65-116	7	30
Dibenz(a,h)anthracene	88.1	100	88	83.2	100	83	64-119	6	30
Benzo(g,h,i)perylene	86.8	100	87	82.1	100	82	65-115	5	30

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

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

Columbia Analytical Services™ 19408 Park Row, Suite 320, Houston, TX 77084 | 713.266.1599 | www.caslab.com

August 24, 2011 Service Request No: K1107023

Howard Holmes.

Columbia Analytical Services Inc
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Results for: Kinnetic Laboratories, Incorporated.

Dear Howard:

Enclosed are the results of the sample(s) submitted to our laboratory on August 05, 2011. For your reference, these analyses have been assigned our service request number : **K1107023**.

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.
All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) 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. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct number is 281-994-2954.

Respectfully submitted,

Columbia Analytical Services, Inc.

Darren Biles
Project Manager

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com.

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC

Client:	Kinnetic Laboratories, Inc.	**Service Request No.:**	K1107023
Project:	Asplund WWTF/506.01	**Date Received:**	8/5/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services in Houston, TX on 8/5/11

The samples were received at 0°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Y flags – Labeled Standards

Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

Detection Limits

Detection limits are calculated for each congener in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Use of Columbia Analytical Services, Inc. (CAS) Name. Client shall not use CAS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to CAS any test result, tolerance or specification derived from CAS's data ("Attribution") without CAS's prior written consent, which may be withheld by CAS for any reason in its sole discretion. To request CAS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If CAS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use CAS's name or trademark in any Materials or Attribution shall be deemed denied. CAS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of CAS's name or trademark may cause CAS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01

Service Request: K1107023

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1107023-001	MOA11ORG003	8/1/11	09:10
K1107023-002	MOA11ORG004	8/1/11	09:10

Laboratory Certifications
2011-2012

STATE/PROGRAM	AGENCY	CERT#	EXP DATE	CERTIFIED?
DoD ELAP	A2LA	2897.01	11/30/11	Yes
ISO 17025	A2LA	2897.01	11/30/11	Yes
Arizona	AZ-DHS	AZ0725	05/27/12	Yes
Arkansas	ADEQ	10-035-0	06/16/11	Yes
California	CA-ELAP	2452	02/28/13	Yes
Florida/NELAP	FL-DOHS	E87611	06/30/12	Yes
Hawaii	HI-DOH	N/A	06/30/12	Yes
Illinois/NELAP	IL-EPA	002611	10/06/11	Yes
Louisiana/NELAP	LELAP	03048	06/30/12	Yes
Louisiana/NELAP	LDHH	LA100032	12/31/11	Yes
Maine	ME-DOHS	2010041	06/05/12	Yes
Michigan	MIDEQ	9971	06/30/11	Yes
Minnesota	MDH	048-999-427	12/31/11	Yes
Nevada	NDEP	TX014112010A	07/31/10	Yes (Extension)
New Jersey	NJDEP	TX008	06/30/12	Yes
New Mexico	NMED-DWB	N/A	06/30/11	Yes
New York/NELAP	NY-DOH	11707	04/1/12	Yes
Oklahoma	OKDEQ	2010-022	08/31/11	Yes
Oregon/NELAP	ORELAP	TX200002-006	03/24/12	Yes
Pennsylvania/NELAP	PLAP	002	06/30/12	Yes
Tennessee	TNDEC	04016	06/30/12	Yes
Texas/NELAP	TCEQ	T104704216-10-1	06/30/12	Yes
UTAH/NELAP	UTELCP	COLU2	06/30/12	Yes
Soil Import Permit	USDA	P330-09-00067	03/27/12	Yes
Washington/NELAP	WA-Ecology	C819-10	11/14/11	Yes
West Virginia	WVDEP	347	06/30/12	Yes

Abbreviations, Acronyms & Definitions

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
MRL	Method Reporting Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent Recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
RRT	Relative Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-Noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).

- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

- **U** Indicates the compound was analyzed and not detected.

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected.'

- **S** Peak is saturated; data not reportable.

- **P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.

- **Q** Lock-mass interference by chlorodiphenyl ether compounds.

COLUMBIA ANALYTICAL SERVICES, INC. – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1107023 DB-5 DB-225 SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 8/18/11	Analyst: Cee	Samples: 1,2

Second Level - Data Review – to be filled by person doing peer review

Date: 08/19/11	Analyst: [illegible]	Samples: 001,002

PEER REVIEW PAGE R042110.DOC

Columbia Analytical Services INC

Analytical Results

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	8/ 1/11 0910
Sample Matrix:	Water	**Date Received:**	8/ 2/11
Sample Name:	MOA11ORG003	**Units:**	pg/L
Lab Code:	K1107023-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/9/11 1352
Prep Method:	Method	**Date Extracted:**	8/5/11
Sample Amount:	960mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P115155	**Blank File Name:**	P213988
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P115147

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.86	10.4			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	727.047	73		40-135	0.81	1.008
37Cl-2,3,7,8-TCDD	800	677.075	85		40-135	NA	1.009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	8/ 1/11 0910
Sample Matrix:	Water	**Date Received:**	8/ 2/11
Sample Name:	MOA11ORG004	**Units:**	pg/L
Lab Code:	K1107023-002	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/9/11 1438
Prep Method:	Method	**Date Extracted:**	8/5/11
Sample Amount:	820mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P115156	**Blank File Name:**	P213988
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P115147

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	3.62	12.2			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	494.352	49		40-135	0.79	1.008
37Cl-2,3,7,8-TCDD	800	692.579	87		40-135	NA	1.009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	pg/L
Lab Code:	EQ1100375-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/9/11 1608
Prep Method:	Method	**Date Extracted:**	8/5/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-04
		GC Column:	DB-5
Data File Name:	P213988	**Blank File Name:**	P213988
ICAL Date:	03/21/11	**Cal Ver. File Name:**	P213985

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	1.52	10.0			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	710.915	71		40-135	0.79	1.008
37Cl-2,3,7,8-TCDD	800	642.832	80		40-135	NA	1.009

Columbia Analytical Services INC

Accuracy and Precision

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107023
Date Analyzed: 8/19/11

Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method

Units: pg/L
Basis: NA

Extraction Lot: 139120

	Lab Control Sample EQ1100375-02			Duplicate Lab Control Sample EQ1100375-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,3,7,8-TCDD	187	200	94	186	200	93	78 - 111	1	4

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100375-02	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/19/11 1101
Prep Method:	Method	**Date Extracted:**	8/5/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P115337	**Blank File Name:**	P213988
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P115335

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**187**		0.662	10.0	0.74	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	686.324	69		40-135	0.80	1.008
37Cl-2,3,7,8-TCDD	800	599.550	75		40-135	NA	1.008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107023
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ1100375-03	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/19/11 1151
Prep Method:	Method	**Date Extracted:**	8/5/11
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P115338	**Blank File Name:**	P213988
ICAL Date:	03/14/11	**Cal Ver. File Name:**	P115335

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**186**		0.568	10.0	0.75	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	664.568	66		40-135	0.80	1.008
37Cl-2,3,7,8-TCDD	800	595.777	74		40-135	NA	1.009

Columbia Analytical Services INC

Chain of Custody

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

CAS Contact: Howard Holmes

Project Name:
Project Number: 506.01
Project Manager: Gary Lawley
Company: Kinnetic Laboratories, Incorporated

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290
K1107023-001	MOA11ORG003	1	Water	8/1/11	0910	8/2/11	HOUSTON	II
K1107023-002	MOA11ORG004	1	Water	8/1/11	0910	8/2/11	HOUSTON	II

48

Test Comments
PCDD PCDF - 8290 K1107023-001,2 2,3,7,8 TCDD

Folder Comments:
MUST PERF~~ORM QC ON THIS SR~~ no qc per howard ak 8/5/11

H2

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address:
kelso_data@caslab.com

opened @ 1008; 2 front seals
b.wrap, blueice, inserts
0°C/1°C

Turnaround Requirements
____ **RUSH** (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
____ **STANDARD**
Requested FAX Date: _____
Requested Report Date: 08/19/11

Report Requirements
____ I. Results Only
X II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
PQL/MDL/J Y
EDD

Invoice Information
PO# K1107023
Bill to

Relinquished By: [signature] 8/4/11 1154 Received By: Cindy Deren 8/5/11 0945 Airbill Number: 1Z9736590166494790

Pag

Columbia Analytical Services™

Cooler Receipt Form

Project Chemist: DB

Client/Project: Kinnetic Laboratories; 506.01

Service Request: K1107023

Date/Time Received: 8/5/11 09:45:00

Date/Time Logged in: 8/5/11 12:12:00

Technician: CD

Technician: CD

1. Method of delivery: ○ US Mail ○ Fed Ex ◉ UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ◉ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ◉ Yes ○ No ○ N/A

Were they intact? ◉ Yes ○ No ○ N/A

Were they signed and dated? ◉ Yes ○ No ○ N/A

If yes, how many and where? 2-front

4. Method of delivery: ☑ Inserts ○ Baggies ☑ Bubble Wrap ☑ Gel Packs ○ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ◉ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
1Z9736590166494790		Aug 5, 2011	1008	CD	0/1	☒	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ◉ Yes ○ No ○ N/A

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ◉ Yes ○ No ○ N/A

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ◉ Yes ○ No ○ N/A

9. Were appropriate bottles/containers and volumes received for the requested tests? ◉ Yes ○ No ○ N/A

10. Did sample labels and tags agree with custody documents? ◉ Yes ○ No ○ N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Notes, Discrepancies, & Resolutions:

Print Form

Reset Form

Service Request Summary

Folder #: **K1107023**
Client Name: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project Number: 506.01

Report To: Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Avenue
Anchorage, AK 99501
Phone Number: 907-276-6178
Cell Number:
Fax Number:
E-mail: glawley@kinneticlabs.com

Project Chemist: Darren Biles
Originating Lab: KELSO
Logged By: SHOPKINS
Date Received: 8/ 2/11
Internal Due Date: 8/19/11
QAP: LAB QAP
Qualifier Set: CAS Standard
Formset: CAS Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: AK11-1002
EDD: BASIC_WQC

9 - 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved

Location: K-Disposed, K-Delilah-54, E-Disposed, In Lab

NPDES

CAS Samp No	Client Samp No.	Matrix	Collected		KELSO 8081B/ Pest OC	KELSO 8141A/ PEST_OP	KELSO 625/ SVO	SVM 8290/ PCDD PCDF
K1107023-001	MOA11ORG003	Water	8/1/11	0910	V	V	V	V
K1107023-002	MOA11ORG004	Water	8/1/11	0910	V	V	V	V

51

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GC	Pest OC/8081B	1-2	608 list + Mirex
Semivoa GC	PEST_OP/8141A	1-2	Demeton,Guthion,Malathion & Parathion only
Semivoa GCMS	PCDD PCDF/8290	1-2	2,3,7,8 TCDD
Semivoa GCMS	SVO/625	1-2	see Form V analyte list

Preparation Information Benchsheet

Prep Run#: 139120
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtDioxAq-30
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/5/11 04:47 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1100789-011	EST-WG-MW10-075	.02	8290/PCDD PCDF		Water	880mL	clear, colorless liquid
2	EQ1100375-01	MB		8290/PCDD PCDF		Liquid	1000mL	
3	EQ1100375-02	LCS		8290/PCDD PCDF		Liquid	1000mL	
4	EQ1100375-03	DLCS		8290/PCDD PCDF		Liquid	1000mL	
5	J1103205-001	A-1	.01	8290/PCDD PCDF SPLP		Soil	970mL	black mud with lots of water and rocks
6	J1103205-002	A-2	.01	8290/PCDD PCDF SPLP		Soil	980mL	black mud with lots of water and rocks
7	J1103205-004	B-1	.01	8290/PCDD PCDF SPLP		Soil	930mL	gray sand with lots of water
8	J1103205-005	B-2	.01	8290/PCDD PCDF SPLP		Soil	940mL	gray sand with lots of water
9	J1103205-007	C-1	.01	8290/PCDD PCDF SPLP		Soil	930mL	black mud with water, roots, and wood chips
10	J1103205-008	C-2	.01	8290/PCDD PCDF SPLP		Soil	930mL	black mud with water and roots
11	K1107023-001	MOA11ORG003	.01	8290/PCDD PCDF		Water	960mL	tan, opaque liquid with debris
12	K1107023-002	MOA11ORG004	.01	8290/PCDD PCDF		Water	820mL	peach, opaque liquid
13	K1107189-002	TW 0316	.06	8290/PCDD PCDF		Water	1080mL	clear, colorless liquid

Spiking Solutions

52

Name: 8290 Matrix Working Standard | Inventory ID 30707 | Logbook Ref: D12-24-4A (30707) | Expires On: 06/06/2012

EQ1100375-02	100.00µL	EQ1100375-03	100.00µL

Name: 8290 Internal Working Standard | Inventory ID 32146 | Logbook Ref: D12-35-3A(32146) | Expires On: 07/15/2012

E1100789-011	100.00µL	EQ1100375-01	100.00µL	EQ1100375-02	100.00µL	EQ1100375-03	100.00µL	J1103205-001	100.00µL	J1103205-002	100.00µL
J1103205-004	100.00µL	J1103205-005	100.00µL	J1103205-007	100.00µL	J1103205-008	100.00µL	K1107023-001	100.00µL	K1107023-002	100.00µL
K1107189-002	100.00µL										

Name: 8290/1613B Cleanup Working Standard | Inventory ID 32421 | Logbook Ref: D12-36-5A/B (32421) | Expires On: 07/26/2012

E1100789-011	100.00µL	EQ1100375-01	100.00µL	EQ1100375-02	100.00µL	EQ1100375-03	100.00µL	J1103205-001	100.00µL	J1103205-002	100.00µL
J1103205-004	100.00µL	J1103205-005	100.00µL	J1103205-007	100.00µL	J1103205-008	100.00µL	K1107023-001	100.00µL	K1107023-002	100.00µL
K1107189-002	100.00µL										

Preparation Materials

Carbon, High Purity	C2-57-7 (30675)	Ethyl Acetate 99.9% Minimum EtOAc	29101 (29101)	Glass Wool	C2-56-2 (29764)
Sulfuric Acid Reagent Grade H2SO4	29341 (29341)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	C2-57-6 (30674)	Sodium Hydroxide Reagent Grade NaOH	C2-53-5 (27837)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	C2-55-5 (29761)	Tridecane (n-Tridecane)	C2-57-3 (30536)	Hexane (n-Hexane) 98.5% Minimum	C2-58-5 (32781)
Nonane (n-Nonane) 99%	C2-33-001 (13944)	Silica Gel Reagent Grade	C2-52-5 (27100)	Toluene 99.9% Minimum	C2-57-5 (30673)

Preparation Information Benchsheet

Prep Run#: 139120
Team: Semivoa GCMS/EBAUCH

Prep WorkFlow: OrgExtDioxAq-30
Prep Method: Method

Status: Prepped
Prep Date/Time: 8/5/11 04:47 PM

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	8/5/11 16:47	Started:	8/5/11 18:53	Started:	8/8/11 09:15	Started:	8/9/11 06:00
Finished:	8/5/11 18:53	Finished:	8/5/11 18:53	Finished:	8/8/11 11:30	Finished:	8/9/11 08:55
By:	EBAUCH	By:	EBAUCH	By:	EBAUCH	By:	EBAUCH

53

Comments:

Reviewed By: EB Date: 8/9/11

Chain of Custody

Relinquished By: Date:

Received By: Date:

Extracts Examined
Yes No

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107029
Project:	Asplund WWTF	**Date Received:**	8/2/11
Sample Matrix:	Sludge		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

One sludge sample was received for analysis at Columbia Analytical Services on 8/2/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Cyanide by EPA Method 9012A:
The control criteria for matrix spike recovery of Total Cyanide for the Batch QC sample were not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery. There was a high RPD between the matrix spike and parent sample, resulting in heterogeneity of the sample.

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

Total Metals

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

Organochlorine Pesticides by EPA Method 8081

Elevated Detection Limits:
The detection limit was elevated for several analytes in this sample. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference.

Matrix Spike Recovery Exceptions:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

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

Approved by _____ **Date** 9-20-11

PCB Aroclors by EPA Method 8082

Elevated Detection Limits:
The detection limit was elevated for all analytes in sample MOA11SLG002. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference.

Matrix Spike Recovery Exceptions:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

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

Organophosphorus Pesticides by EPA Method 8141

Second Source Exceptions:
The analysis of EPA 8141 requires the use of dual column confirmation. When the Initial Calibration Verification (ICV) criteria are met for both columns, the lower of the two sample results is generally reported. The criteria were not met for Fenthion in CAL 10756. The data quality was not affected. No further corrective action was necessary.

Calibration Verification Exceptions:
The analysis of EPA 8141 requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for Azinophos-methyl in 0815F007. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

Surrogate Exceptions:
The control criteria for Triphenyl Phosphate in sample MOA11SLG002 were not applicable. The analysis of the sample required a dilution, which resulted in a surrogate concentration below the reporting limit. No further corrective action was appropriate.

Elevated Detection Limits:
The reporting limit is elevated for all analytes in sample MOA11SLG002. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components which prevented adequate resolution of the internal standard. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. A semiquantitative screen was performed prior to final analysis. The results of the screening indicated the need to perform a dilution. The result is flagged to indicate the matrix interference.

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

Semivolatile Organic Compounds by EPA Method 8270

Surrogate Exceptions:
The control criteria were exceeded for Terphenyl-d14 in sample MOA11SLG002 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.

Elevated Detection Limits:
The detection limits for sample MOA11SLG002 were elevated due to less than optimal sample mass extracted for analysis. The detection limits were further elevated by the sample extract not being able to be concentrated to the final volume necessary to achieve target detection limits.

Approved by Howard Holmes **Date** 9-20-11

Sample Notes and Discussion:
A Matrix Spike/Matrix Spike Duplicate (MS/MSD) was not extracted with this sample batch. A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

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

Approved by Howard Holm **Date** 9-20-11

Chain of Custody

Columbia Analytical Services

Sample Acceptance Policy

This policy outlines the criteria samples must meet to be accepted by CAS/ Houston.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample
- ✓ The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, CAS/Houston will complete a COC, which must be approved by the client, in writing, prior to proceeding with the analysis.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C.
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder.

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: 6020A/Metals T; 6020A/Sb Ag T; 7471B/Hg; 8081B/Pest OC; 8082/PCB; 8141A/PEST_OP; 8270C/SVO; 9012A/CN Tot; TS-MET/Total Solids. Please report in dry weight. Metals to include Ag, As, Be, Cd, Cr, Cu, Mo, Ni, Pb, Sb, Se, Tl, Zn, Hg.

MATRIX: Sludge	**Preservative:** Chilled to 6°C	**Type of Container:** 250-mL glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11SLG002	Sludge	1	8/1/11 0600		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	8/1/11 1100	hand	[signature]	8/1/11 1130
[signature]	8/1/11 1130	Fed-X	[signature]	8/2/11 1000

K1107029

SAMPLED BY (NAME/SIGNATURE)

PC 110

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request K11 7029

Received: 8/2/11 Opened: 8/2/11 By: [illegible] Unloaded: 8/2/11 By: [illegible]

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.0		244		797 3 6538 7144	

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. 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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Kinnetic Laboratories, Incorporated
Project: 506.01
Sample Matrix: Sludge, solid

Service Request: K1107029

Total Solids

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

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Date Collected	Date Received	Date Analyzed	Result	Result Notes
MOA11SLG002	K1107029-001	08/01/2011	08/02/2011	08/08/2011	31.7	

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	8/ 1/11
Sample Matrix:	Sludge, Solid	**Date Received:**	8/ 2/11
Prep Method:	Method	**Units:**	mg/Kg
Analysis Method:	9012A	**Basis:**	Dry

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11SLG002	K1107029-001	**0.34**	J	0.63	0.19	1	8/12/11	8/13/11 15:15	
Method Blank	K1107029-MB	ND	U	0.20	0.06	1	8/12/11	8/13/11 15:15	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, Solid

Service Request: K1107029
Date Collected: NA
Date Received: NA
Date Analyzed: 8/13/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107176-001

Units: mg/Kg
Basis: Dry

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1107176-001DUP Result	Average	RPD	RPD Limit
Cyanide, Total	9012A	6.8	2.1	63.5	56.9	60.2	11	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, Solid

Service Request: K1107029
Date Collected: NA
Date Received: NA
Date Analyzed: 8/13/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107176-001

Units: mg/Kg
Basis: Dry

Analytical Method: 9012A
Prep Method: Method

		Batch QCMS **Matrix Spike** K1107176-001MS			
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Cyanide, Total	63.5	39.6	3.0	-784 #	10 - 165

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, Solid

Service Request: K1107029
Date Analyzed: 8/13/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/Kg
Basis: Dry

		Lab Control Sample K1107029-LCS			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Cyanide, Total	9012A	28.7	28.1	102	78 - 110

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

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

Metals

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project No.: 506.01

Service Request: K1107029

Sample Name:	Lab Code:
MOA11SLG002	**K1107029-001**
Method Blank	**K1107029-MB**
Batch QCD	**K1107284-001D**
Batch QCS	**K1107284-001S**

Comments:

Approved By: _____ **Date:** 9/19/11

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107029
Project No.:	506.01	**Date Collected:**	08/01/11
Project Name:	Asplund WWTF	**Date Received:**	08/02/11
Matrix:	SLUDGE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: MOA11SLG002 **Lab Code:** K1107029-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.05	0.01	5.0	09/12/11	09/15/11	1.470		
Arsenic	6020A	0.53	0.05	5.0	09/12/11	09/15/11	5.78		
Beryllium	6020A	0.021	0.003	5.0	09/12/11	09/15/11	0.081		
Cadmium	6020A	0.021	0.004	5.0	09/12/11	09/15/11	1.710		
Chromium	6020A	0.21	0.02	5.0	09/12/11	09/15/11	12.8		
Copper	6020A	2.12	1.69	100.0	09/12/11	09/15/11	251		
Lead	6020A	0.053	0.006	5.0	09/12/11	09/15/11	18.5		
Mercury	7471B	0.018	0.002	1.0	08/23/11	08/24/11	0.456		
Molybdenum	6020A	0.05	0.02	5.0	09/12/11	09/15/11	5.31		
Nickel	6020A	0.21	0.02	5.0	09/12/11	09/15/11	12.3		
Selenium	6020A	1.1	0.2	5.0	09/12/11	09/15/11	2.6		
Silver	6020A	0.021	0.008	5.0	09/12/11	09/15/11	3.480		
Thallium	6020A	0.021	0.003	5.0	09/12/11	09/15/11	0.035		
Zinc	6020A	10.6	4.2	100.0	09/12/11	09/15/11	730		

% Solids: 31.7

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107029
Project No.:	506.01	**Date Collected:**	
Project Name:	Asplund WWTF	**Date Received:**	
Matrix:	WATER	**Units:**	ug/L
		Basis:	DRY

Sample Name: Method Blank **Lab Code:** K1107029-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.50	0.10	5.0	09/12/11	09/15/11	0.10	U	
Arsenic	6020A	5.00	0.50	5.0	09/12/11	09/15/11	0.50	U	
Beryllium	6020A	0.200	0.030	5.0	09/12/11	09/15/11	0.030	U	
Cadmium	6020A	0.200	0.040	5.0	09/12/11	09/15/11	0.058	J	
Chromium	6020A	2.00	0.15	5.0	09/12/11	09/15/11	0.42	J	
Copper	6020A	1.00	0.80	5.0	09/12/11	09/15/11	0.80	U	
Lead	6020A	0.500	0.060	5.0	09/12/11	09/15/11	0.769		
Mercury	7471B	0.020	0.002	1.0	08/23/11	08/24/11	0.002	U	
Molybdenum	6020A	0.50	0.20	5.0	09/12/11	09/15/11	0.27	J	
Nickel	6020A	2.00	0.20	5.0	09/12/11	09/15/11	0.50	J	
Selenium	6020A	10.0	2.0	5.0	09/12/11	09/15/11	2.0	U	
Silver	6020A	0.200	0.080	5.0	09/12/11	09/15/11	0.080	U	
Thallium	6020A	0.200	0.030	5.0	09/12/11	09/15/11	0.030	U	
Zinc	6020A	5.0	2.0	5.0	09/12/11	09/15/11	2.0	U	

% Solids: 0.0

Comments:

METALS
- 5A -
SPIKE SAMPLE RECOVERY

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107029
Project No.:	506.01	**Units:**	MG/KG
Project Name:	Asplund WWTF	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	99.2

Sample Name: Batch QCS **Lab Code:** K1107284-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	80 - 120	0.345		0.003	J	0.43	80.0		7471B

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

METALS

- 6 -

DUPLICATES

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107029
Project No.:	506.01	**Units:**	MG/KG
Project Name:	Asplund WWTF	**Basis:**	DRY
Matrix:	SEDIMENT	**% Solids:**	99.2

Sample Name: Batch QCD **Lab Code:** K1107284-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.003	J	0.003	J	0.0		7471B

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

METALS

-7-

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1107029

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: CAS MIXED **Solid LCS Source:** ERA D065540

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits		%R
Antimony	5000	4850	97.0						
Arsenic	5000	5420	108.4						
Beryllium	250	280	112.0						
Cadmium	2500	2690	107.6						
Chromium	1000	1010	101.0						
Copper	1250	1280	102.4						
Lead	2500	4840	193.6						
Mercury				6.8	6.90		71	128	101.5
Molybdenum	1000	974	97.4						
Nickel	2500	2500	100.0						
Selenium	5000	5920	118.4						
Silver	1250	1220	97.6						
Thallium	5000	4920	98.4						
Zinc	2500	2820	112.8						

METALS

-7-

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1107029

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: CAS MIXED **Solid LCS Source:** ERA D065540

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Antimony	5000	5130	102.6					
Arsenic	5000	5490	109.8					
Beryllium	250	277	110.8					
Cadmium	2500	2690	107.6					
Chromium	1000	1000	100.0					
Copper	1250	1250	100.0					
Lead	2500	4820	192.8					
Molybdenum	1000	972	97.2					
Nickel	2500	2460	98.4					
Selenium	5000	5990	119.8					
Silver	1250	1230	98.4					
Thallium	5000	4930	98.6					
Zinc	2500	2760	110.4					

Organochlorine Pesticides

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Sludge, solid	**Date Received:**	08/02/2011

Organochlorine Pesticides

Sample Name:	MOA11SLG002	**Units:**	ug/Kg
Lab Code:	K1107029-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	Ui	7.9	7.9	1	08/14/11	08/18/11	KWG1107992	
Heptachlor	ND	Ui	7.9	7.9	1	08/14/11	08/18/11	KWG1107992	
Aldrin	ND	U	7.9	0.54	1	08/14/11	08/18/11	KWG1107992	
Heptachlor Epoxide	ND	Ui	7.9	7.9	1	08/14/11	08/18/11	KWG1107992	
gamma-Chlordane†	ND	U	7.9	0.94	1	08/14/11	08/18/11	KWG1107992	
Endosulfan I	ND	U	7.9	2.7	1	08/14/11	08/18/11	KWG1107992	
alpha-Chlordane	ND	U	7.9	1.9	1	08/14/11	08/18/11	KWG1107992	
Dieldrin	ND	U	7.9	0.76	1	08/14/11	08/18/11	KWG1107992	
4,4'-DDE	ND	U	7.9	2.6	1	08/14/11	08/18/11	KWG1107992	
Endrin	ND	Ui	7.9	3.2	1	08/14/11	08/18/11	KWG1107992	
Endosulfan II	ND	Ui	11	11	1	08/14/11	08/18/11	KWG1107992	
4,4'-DDD	ND	U	7.9	1.6	1	08/14/11	08/18/11	KWG1107992	
Endrin Aldehyde	ND	U	7.9	2.2	1	08/14/11	08/18/11	KWG1107992	
Endosulfan Sulfate	ND	Ui	7.9	7.9	1	08/14/11	08/18/11	KWG1107992	
4,4'-DDT	ND	Ui	250	250	1	08/14/11	08/18/11	KWG1107992	
Endrin Ketone	**3.1**	J	7.9	0.87	1	08/14/11	08/18/11	KWG1107992	
Methoxychlor	ND	U	7.9	0.96	1	08/14/11	08/18/11	KWG1107992	
Toxaphene	ND	Ui	1600	1600	1	08/14/11	08/18/11	KWG1107992	
Chlordane	ND	U	160	35	1	08/14/11	08/18/11	KWG1107992	
Mirex	ND	Ui	7.9	7.9	1	08/14/11	08/18/11	KWG1107992	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	71	21-112	08/18/11	Acceptable
Decachlorobiphenyl	82	15-130	08/18/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Organochlorine Pesticides

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1107992-5	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
gamma-BHC (Lindane)	ND	U	2.5	0.45	1	08/14/11	08/18/11	KWG1107992	
Heptachlor	ND	U	2.5	0.83	1	08/14/11	08/18/11	KWG1107992	
Aldrin	ND	U	2.5	0.34	1	08/14/11	08/18/11	KWG1107992	
Heptachlor Epoxide	ND	U	2.5	0.39	1	08/14/11	08/18/11	KWG1107992	
gamma-Chlordane†	ND	U	2.5	0.60	1	08/14/11	08/18/11	KWG1107992	
Endosulfan I	ND	U	2.5	1.7	1	08/14/11	08/18/11	KWG1107992	
alpha-Chlordane	ND	U	2.5	1.2	1	08/14/11	08/18/11	KWG1107992	
Dieldrin	ND	U	2.5	0.48	1	08/14/11	08/18/11	KWG1107992	
4,4'-DDE	ND	U	2.5	1.6	1	08/14/11	08/18/11	KWG1107992	
Endrin	ND	U	2.5	0.45	1	08/14/11	08/18/11	KWG1107992	
Endosulfan II	ND	U	2.5	0.86	1	08/14/11	08/18/11	KWG1107992	
4,4'-DDD	ND	U	2.5	1.0	1	08/14/11	08/18/11	KWG1107992	
Endrin Aldehyde	ND	U	2.5	1.4	1	08/14/11	08/18/11	KWG1107992	
Endosulfan Sulfate	ND	U	2.5	0.57	1	08/14/11	08/18/11	KWG1107992	
4,4'-DDT	ND	U	2.5	0.85	1	08/14/11	08/18/11	KWG1107992	
Endrin Ketone	ND	U	2.5	0.55	1	08/14/11	08/18/11	KWG1107992	
Methoxychlor	ND	U	2.5	0.61	1	08/14/11	08/18/11	KWG1107992	
Toxaphene	ND	U	130	37	1	08/14/11	08/18/11	KWG1107992	
Chlordane	ND	U	50	22	1	08/14/11	08/18/11	KWG1107992	
Mirex	ND	U	2.5	0.68	1	08/14/11	08/18/11	KWG1107992	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	72	21-112	08/18/11	Acceptable
Decachlorobiphenyl	82	15-130	08/18/11	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1107029

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3541
Analysis Method: 8081B

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
MOA11SLG002	K1107029-001	71	82
Method Blank	KWG1107992-5	72	82
Lab Control Sample	KWG1107992-1	73	76
Duplicate Lab Control Sample	KWG1107992-2	63	76

Surrogate Recovery Control Limits (%)

Sur1 =	Tetrachloro-m-xylene	21-112
Sur2 =	Decachlorobiphenyl	15-130

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Extracted:**	08/14/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	08/18/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8081B	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1107992

	Lab Control Sample KWG1107992-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107992-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
alpha-BHC	76.5	100	77	69.7	100	70	36-139	9	40
beta-BHC	71.7	100	72	65.4	100	65	38-142	9	40
gamma-BHC (Lindane)	79.2	100	79	71.1	100	71	40-142	11	40
delta-BHC	83.7	100	84	76.8	100	77	48-145	9	40
Heptachlor	79.7	100	80	70.5	100	70	39-135	12	40
Aldrin	63.8	100	64	64.0	100	64	37-134	0	40
Heptachlor Epoxide	64.8	100	65	70.6	100	71	45-118	9	40
gamma-Chlordane	70.1	100	70	69.6	100	70	41-135	1	40
Endosulfan I	62.4	100	62	60.3	100	60	35-121	3	40
alpha-Chlordane	69.9	100	70	68.6	100	69	41-134	2	40
Dieldrin	74.1	100	74	73.0	100	73	46-136	2	40
4,4'-DDE	69.0	100	69	72.2	100	72	46-141	5	40
Endrin	72.1	100	72	70.1	100	70	40-152	3	40
Endosulfan II	65.1	100	65	65.2	100	65	39-128	0	40
4,4'-DDD	77.1	100	77	75.9	100	76	46-146	2	40
Endrin Aldehyde	70.0	100	70	65.4	100	65	32-132	7	40
Endosulfan Sulfate	75.1	100	75	72.3	100	72	43-138	4	40
4,4'-DDT	88.4	100	88	85.0	100	85	46-151	4	40
Endrin Ketone	78.7	100	79	78.6	100	79	47-135	0	40
Methoxychlor	71.9	100	72	85.1	100	85	42-147	17	40
Mirex	71.4	100	71	73.1	100	73	38-123	2	40

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

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

Polychlorinated Biphenyls

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Sludge, solid	**Date Received:**	08/02/2011

Polychlorinated Biphenyls (PCBs)

Sample Name:	MOA11SLG002	**Units:**	mg/Kg
Lab Code:	K1107029-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.16	0.032	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1221	ND	Ui	0.32	0.21	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1232	ND	Ui	0.16	0.16	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1242	ND	Ui	0.16	0.093	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1248	ND	Ui	0.16	0.094	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1254	ND	Ui	0.29	0.29	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1260	ND	Ui	0.16	0.15	1	08/14/11	08/18/11	KWG1107993	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	104	35-133	08/18/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1107993-3	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.050	0.019	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1221	ND	U	0.10	0.019	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1232	ND	U	0.050	0.019	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1242	ND	U	0.050	0.019	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1248	ND	U	0.050	0.019	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1254	ND	U	0.050	0.019	1	08/14/11	08/18/11	KWG1107993	
Aroclor 1260	ND	U	0.050	0.019	1	08/14/11	08/18/11	KWG1107993	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	100	35-133	08/18/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1107029

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
MOA11SLG002	K1107029-001	104
Method Blank	KWG1107993-3	100
Lab Control Sample	KWG1107993-1	100
Duplicate Lab Control Sample	KWG1107993-2	95

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 35-133

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Extracted:**	08/14/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	08/18/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3541	**Units:**	mg/Kg
Analysis Method:	8082A	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG1107993

	Lab Control Sample KWG1107993-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107993-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	0.891	1.00	89	0.837	1.00	84	48-121	6	40
Aroclor 1260	1.00	1.00	100	0.924	1.00	92	53-129	8	40

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

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

Organophosphorus Pesticides

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Sludge, solid	**Date Received:**	08/02/2011

Organophosphorus Pesticides

Sample Name:	MOA11SLG002	**Units:**	mg/Kg
Lab Code:	K1107029-001	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8141B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	32	4.0	100	08/02/11	08/15/11	KWG1107752	
Methyl Parathion	ND	U	16	0.91	100	08/02/11	08/15/11	KWG1107752	
Malathion	ND	U	16	0.57	100	08/02/11	08/15/11	KWG1107752	
Ethyl Parathion	ND	U	16	0.63	100	08/02/11	08/15/11	KWG1107752	
Azinphos-methyl (Guthion)	ND	U	16	1.2	100	08/02/11	08/15/11	KWG1107752	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	128	38-158	08/15/11	Acceptable
Triphenyl Phosphate	232	35-163	08/15/11	Outside Control Limits

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA

Organophosphorus Pesticides

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1107752-5	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8141B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Demeton-O,S	ND	U	0.050	0.012	1	08/02/11	08/12/11	KWG1107752	
Methyl Parathion	ND	U	0.025	0.0029	1	08/02/11	08/12/11	KWG1107752	
Malathion	ND	U	0.025	0.0018	1	08/02/11	08/12/11	KWG1107752	
Ethyl Parathion	ND	U	0.025	0.0020	1	08/02/11	08/12/11	KWG1107752	
Azinphos-methyl (Guthion)	ND	U	0.025	0.0036	1	08/02/11	08/12/11	KWG1107752	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tributyl Phosphate	103	38-158	08/12/11	Acceptable
Triphenyl Phosphate	112	35-163	08/12/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1107029

Surrogate Recovery Summary
Organophosphorus Pesticides

Extraction Method: EPA 3540C
Analysis Method: 8141B

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
MOA11SLG002	K1107029-001	128 D #	232 D #
Method Blank	KWG1107752-5	103	112
MOA11SLG002MS	KWG1107752-1	105	108
MOA11SLG002DMS	KWG1107752-2	108	112
Lab Control Sample	KWG1107752-3	97	109

Surrogate Recovery Control Limits (%)

Sur1 =	Tributyl Phosphate	38-158
Sur2 =	Triphenyl Phosphate	35-163

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Extracted:**	08/02/2011
Sample Matrix:	Sludge, solid	**Date Analyzed:**	08/12/2011

Matrix Spike/Duplicate Matrix Spike Summary
Organophosphorus Pesticides

Sample Name:	MOA11SLG002	**Units:**	mg/Kg
Lab Code:	K1107029-001	**Basis:**	Dry
Extraction Method:	EPA 3540C	**Level:**	Low
Analysis Method:	8141B	**Extraction Lot:**	KWG1107752

		MOA11SLG002MS KWG1107752-1 Matrix Spike			MOA11SLG002DMS KWG1107752-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Demeton-O,S	ND	0.294	0.558	53	0.296	0.566	52	10-127	1	40
Methyl Parathion	ND	0.424	0.558	76	0.487	0.566	86	30-162	14	40
Malathion	ND	0.458	0.558	82	0.485	0.566	86	21-140	6	40
Ethyl Parathion	ND	0.415	0.558	74	0.481	0.566	85	23-150	15	40
Azinphos-methyl (Guthion)	ND	0.519	0.558	93	0.580	0.566	103	17-209	11	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: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sediment

Service Request: K1107029
Date Extracted: 08/02/2011
Date Analyzed: 08/12/2011

Lab Control Spike Summary
Organophosphorus Pesticides

Extraction Method: EPA 3540C
Analysis Method: 8141B

Units: mg/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1107752

	Lab Control Sample KWG1107752-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Demeton-O,S	0.144	0.267	54	10-127
Methyl Parathion	0.207	0.267	78	43-142
Malathion	0.196	0.267	74	41-123
Ethyl Parathion	0.202	0.267	76	45-127
Azinphos-methyl (Guthion)	0.233	0.267	87	33-156

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

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

Semi-Volatile Organic Compounds

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Sludge, solid	**Date Received:**	08/02/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11SLG002	**Units:**	mg/Kg
Lab Code:	K1107029-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	56	0.71	1	08/03/11	08/10/11	KWG1107378	
Bis(2-chloroethyl) Ether	ND	U	9.3	0.33	1	08/03/11	08/10/11	KWG1107378	
Phenol	**0.62**	J	9.3	0.55	1	08/03/11	08/10/11	KWG1107378	
2-Chlorophenol	ND	U	9.4	0.28	1	08/03/11	08/10/11	KWG1107378	
Bis(2-chloroisopropyl) Ether	ND	U	9.3	0.40	1	08/03/11	08/10/11	KWG1107378	
Hexachloroethane	ND	U	9.3	0.61	1	08/03/11	08/10/11	KWG1107378	
N-Nitrosodi-n-propylamine	ND	U	9.3	0.54	1	08/03/11	08/10/11	KWG1107378	
4-Methylphenol†	**57**		9.3	0.48	1	08/03/11	08/10/11	KWG1107378	
Nitrobenzene	ND	U	9.3	0.74	1	08/03/11	08/10/11	KWG1107378	
Isophorone	ND	U	9.3	0.40	1	08/03/11	08/10/11	KWG1107378	
2-Nitrophenol	ND	U	9.3	0.39	1	08/03/11	08/10/11	KWG1107378	
2,4-Dimethylphenol	ND	U	9.3	0.43	1	08/03/11	08/10/11	KWG1107378	
Bis(2-chloroethoxy)methane	ND	U	9.3	0.31	1	08/03/11	08/10/11	KWG1107378	
2,4-Dichlorophenol	ND	U	9.3	0.46	1	08/03/11	08/10/11	KWG1107378	
1,2,4-Trichlorobenzene	ND	U	9.3	0.31	1	08/03/11	08/10/11	KWG1107378	
Naphthalene	**0.62**	J	9.3	0.41	1	08/03/11	08/10/11	KWG1107378	
Hexachlorobutadiene	ND	U	9.3	0.40	1	08/03/11	08/10/11	KWG1107378	
4-Chloro-3-methylphenol	ND	U	9.3	0.47	1	08/03/11	08/10/11	KWG1107378	
Hexachlorocyclopentadiene	ND	U	9.4	0.35	1	08/03/11	08/10/11	KWG1107378	
2,4,6-Trichlorophenol	ND	U	9.3	0.41	1	08/03/11	08/10/11	KWG1107378	
2-Chloronaphthalene	ND	U	9.4	0.28	1	08/03/11	08/10/11	KWG1107378	
Acenaphthylene	ND	U	9.3	0.45	1	08/03/11	08/10/11	KWG1107378	
Dimethyl Phthalate	**0.95**	J	9.3	0.46	1	08/03/11	08/10/11	KWG1107378	
2,6-Dinitrotoluene	ND	U	9.3	0.44	1	08/03/11	08/10/11	KWG1107378	
Acenaphthene	ND	U	9.3	0.38	1	08/03/11	08/10/11	KWG1107378	
2,4-Dinitrophenol	ND	U	56	3.2	1	08/03/11	08/10/11	KWG1107378	
4-Nitrophenol	ND	U	56	4.1	1	08/03/11	08/10/11	KWG1107378	
2,4-Dinitrotoluene	ND	U	9.3	0.42	1	08/03/11	08/10/11	KWG1107378	
Fluorene	ND	U	9.3	0.37	1	08/03/11	08/10/11	KWG1107378	
4-Chlorophenyl Phenyl Ether	ND	U	9.4	0.45	1	08/03/11	08/10/11	KWG1107378	
Diethyl Phthalate	ND	U	9.3	0.40	1	08/03/11	08/10/11	KWG1107378	
2-Methyl-4,6-dinitrophenol	ND	U	56	4.1	1	08/03/11	08/10/11	KWG1107378	
N-Nitrosodiphenylamine	ND	U	9.3	0.51	1	08/03/11	08/10/11	KWG1107378	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Sludge, solid	**Date Received:**	08/02/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11SLG002	**Units:**	mg/Kg
Lab Code:	K1107029-001	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Diphenylhydrazine†	ND	U	9.4	0.41	1	08/03/11	08/10/11	KWG1107378	
4-Bromophenyl Phenyl Ether	ND	U	9.4	0.35	1	08/03/11	08/10/11	KWG1107378	
Hexachlorobenzene	ND	U	9.4	0.42	1	08/03/11	08/10/11	KWG1107378	
Pentachlorophenol	ND	U	56	3.5	1	08/03/11	08/10/11	KWG1107378	
Phenanthrene	**2.4**	J	9.3	0.28	1	08/03/11	08/10/11	KWG1107378	
Anthracene	**0.49**	J	9.3	0.39	1	08/03/11	08/10/11	KWG1107378	
Di-n-butyl Phthalate	**3.0**	J	9.3	0.34	1	08/03/11	08/10/11	KWG1107378	
Fluoranthene	**1.8**	J	9.3	0.33	1	08/03/11	08/10/11	KWG1107378	
Benzidine	ND	U	56	12	1	08/03/11	08/10/11	KWG1107378	
Pyrene	**0.59**	J	9.3	0.40	1	08/03/11	08/10/11	KWG1107378	
Butyl Benzyl Phthalate	ND	U	9.3	0.46	1	08/03/11	08/10/11	KWG1107378	
3,3'-Dichlorobenzidine	ND	U	56	0.76	1	08/03/11	08/10/11	KWG1107378	
Benz(a)anthracene	**0.88**	J	9.3	0.35	1	08/03/11	08/10/11	KWG1107378	
Chrysene	**0.78**	J	9.3	0.34	1	08/03/11	08/10/11	KWG1107378	
Bis(2-ethylhexyl) Phthalate	**23**		9.3	0.53	1	08/03/11	08/10/11	KWG1107378	
Di-n-octyl Phthalate	ND	U	9.3	0.68	1	08/03/11	08/10/11	KWG1107378	
Benzo(b)fluoranthene	ND	U	9.3	0.49	1	08/03/11	08/10/11	KWG1107378	
Benzo(k)fluoranthene	ND	U	9.3	0.55	1	08/03/11	08/10/11	KWG1107378	
Benzo(a)pyrene	ND	U	9.3	0.56	1	08/03/11	08/10/11	KWG1107378	
Indeno(1,2,3-cd)pyrene	ND	U	9.3	1.1	1	08/03/11	08/10/11	KWG1107378	
Dibenz(a,h)anthracene	ND	U	9.3	0.77	1	08/03/11	08/10/11	KWG1107378	
Benzo(g,h,i)perylene	ND	U	9.3	0.57	1	08/03/11	08/10/11	KWG1107378	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	65	20-83	08/10/11	Acceptable
Phenol-d6	82	23-90	08/10/11	Acceptable
Nitrobenzene-d5	91	29-100	08/10/11	Acceptable
2-Fluorobiphenyl	99	32-104	08/10/11	Acceptable
2,4,6-Tribromophenol	121	20-123	08/10/11	Acceptable
Terphenyl-d14	8	37-133	08/10/11	Outside Control Limits

Comments:

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	08/01/2011
Sample Matrix:	Sludge, solid	**Date Received:**	08/02/2011

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MOA11SLG002	**Units:**	mg/Kg
Lab Code:	K1107029-001	**Basis:**	Dry

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.
1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1107378-3	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	0.026	1	08/03/11	08/10/11	KWG1107378	
Bis(2-chloroethyl) Ether	ND	U	0.34	0.012	1	08/03/11	08/10/11	KWG1107378	
Phenol	ND	U	0.34	0.020	1	08/03/11	08/10/11	KWG1107378	
2-Chlorophenol	ND	U	0.34	0.0099	1	08/03/11	08/10/11	KWG1107378	
Bis(2-chloroisopropyl) Ether	ND	U	0.34	0.015	1	08/03/11	08/10/11	KWG1107378	
Hexachloroethane	ND	U	0.34	0.022	1	08/03/11	08/10/11	KWG1107378	
N-Nitrosodi-n-propylamine	ND	U	0.34	0.020	1	08/03/11	08/10/11	KWG1107378	
4-Methylphenol†	ND	U	0.34	0.017	1	08/03/11	08/10/11	KWG1107378	
Nitrobenzene	ND	U	0.34	0.027	1	08/03/11	08/10/11	KWG1107378	
Isophorone	ND	U	0.34	0.014	1	08/03/11	08/10/11	KWG1107378	
2-Nitrophenol	ND	U	0.34	0.014	1	08/03/11	08/10/11	KWG1107378	
2,4-Dimethylphenol	ND	U	0.34	0.016	1	08/03/11	08/10/11	KWG1107378	
Bis(2-chloroethoxy)methane	ND	U	0.34	0.011	1	08/03/11	08/10/11	KWG1107378	
2,4-Dichlorophenol	ND	U	0.34	0.017	1	08/03/11	08/10/11	KWG1107378	
1,2,4-Trichlorobenzene	ND	U	0.34	0.011	1	08/03/11	08/10/11	KWG1107378	
Naphthalene	ND	U	0.34	0.015	1	08/03/11	08/10/11	KWG1107378	
Hexachlorobutadiene	ND	U	0.34	0.015	1	08/03/11	08/10/11	KWG1107378	
4-Chloro-3-methylphenol	ND	U	0.34	0.017	1	08/03/11	08/10/11	KWG1107378	
Hexachlorocyclopentadiene	ND	U	0.34	0.013	1	08/03/11	08/10/11	KWG1107378	
2,4,6-Trichlorophenol	ND	U	0.34	0.015	1	08/03/11	08/10/11	KWG1107378	
2-Chloronaphthalene	ND	U	0.34	0.010	1	08/03/11	08/10/11	KWG1107378	
Acenaphthylene	ND	U	0.34	0.016	1	08/03/11	08/10/11	KWG1107378	
Dimethyl Phthalate	ND	U	0.34	0.017	1	08/03/11	08/10/11	KWG1107378	
2,6-Dinitrotoluene	ND	U	0.34	0.016	1	08/03/11	08/10/11	KWG1107378	
Acenaphthene	ND	U	0.34	0.014	1	08/03/11	08/10/11	KWG1107378	
2,4-Dinitrophenol	ND	U	2.0	0.12	1	08/03/11	08/10/11	KWG1107378	
4-Nitrophenol	ND	U	2.0	0.15	1	08/03/11	08/10/11	KWG1107378	
2,4-Dinitrotoluene	ND	U	0.34	0.015	1	08/03/11	08/10/11	KWG1107378	
Fluorene	ND	U	0.34	0.013	1	08/03/11	08/10/11	KWG1107378	
4-Chlorophenyl Phenyl Ether	ND	U	0.34	0.016	1	08/03/11	08/10/11	KWG1107378	
Diethyl Phthalate	ND	U	0.34	0.015	1	08/03/11	08/10/11	KWG1107378	
2-Methyl-4,6-dinitrophenol	ND	U	2.0	0.15	1	08/03/11	08/10/11	KWG1107378	
N-Nitrosodiphenylamine	ND	U	0.34	0.018	1	08/03/11	08/10/11	KWG1107378	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1107378-3	**Basis:**	Dry
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270C		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Diphenylhydrazine†	ND	U	0.34	0.015	1	08/03/11	08/10/11	KWG1107378	
4-Bromophenyl Phenyl Ether	ND	U	0.34	0.013	1	08/03/11	08/10/11	KWG1107378	
Hexachlorobenzene	ND	U	0.34	0.015	1	08/03/11	08/10/11	KWG1107378	
Pentachlorophenol	ND	U	2.0	0.13	1	08/03/11	08/10/11	KWG1107378	
Phenanthrene	ND	U	0.34	0.010	1	08/03/11	08/10/11	KWG1107378	
Anthracene	ND	U	0.34	0.014	1	08/03/11	08/10/11	KWG1107378	
Di-n-butyl Phthalate	ND	U	0.34	0.013	1	08/03/11	08/10/11	KWG1107378	
Fluoranthene	ND	U	0.34	0.012	1	08/03/11	08/10/11	KWG1107378	
Benzidine	ND	U	2.0	0.42	1	08/03/11	08/10/11	KWG1107378	
Pyrene	ND	U	0.34	0.014	1	08/03/11	08/10/11	KWG1107378	
Butyl Benzyl Phthalate	ND	U	0.34	0.017	1	08/03/11	08/10/11	KWG1107378	
3,3'-Dichlorobenzidine	ND	U	2.0	0.027	1	08/03/11	08/10/11	KWG1107378	
Benz(a)anthracene	ND	U	0.34	0.013	1	08/03/11	08/10/11	KWG1107378	
Chrysene	ND	U	0.34	0.012	1	08/03/11	08/10/11	KWG1107378	
Bis(2-ethylhexyl) Phthalate	ND	U	0.34	0.019	1	08/03/11	08/10/11	KWG1107378	
Di-n-octyl Phthalate	ND	U	0.34	0.024	1	08/03/11	08/10/11	KWG1107378	
Benzo(b)fluoranthene	ND	U	0.34	0.018	1	08/03/11	08/10/11	KWG1107378	
Benzo(k)fluoranthene	ND	U	0.34	0.020	1	08/03/11	08/10/11	KWG1107378	
Benzo(a)pyrene	ND	U	0.34	0.020	1	08/03/11	08/10/11	KWG1107378	
Indeno(1,2,3-cd)pyrene	ND	U	0.34	0.039	1	08/03/11	08/10/11	KWG1107378	
Dibenz(a,h)anthracene	ND	U	0.34	0.028	1	08/03/11	08/10/11	KWG1107378	
Benzo(g,h,i)perylene	ND	U	0.34	0.021	1	08/03/11	08/10/11	KWG1107378	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	46	20-83	08/10/11	Acceptable
Phenol-d6	54	23-90	08/10/11	Acceptable
Nitrobenzene-d5	60	29-100	08/10/11	Acceptable
2-Fluorobiphenyl	63	32-104	08/10/11	Acceptable
2,4,6-Tribromophenol	67	20-123	08/10/11	Acceptable
Terphenyl-d14	80	37-133	08/10/11	Acceptable

Comments:

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107029
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Sludge, solid	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG1107378-3	**Basis:**	Dry

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.
1,2-Diphenylhydrazine	This compound is quantitated as Azobenzene.

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1107029

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

Extraction Method: EPA 3541
Analysis Method: 8270C

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	Sur5	Sur6	
MOA11SLG002	K1107029-001	65	82	91	99	121	8	*
Method Blank	KWG1107378-3	46	54	60	63	67	80	
Lab Control Sample	KWG1107378-1	61	60	68	78	79	93	
Duplicate Lab Control Sample	KWG1107378-2	58	59	68	78	81	94	

Surrogate Recovery Control Limits (%)

Sur1 =	2-Fluorophenol	20-83	Sur5 =	2,4,6-Tribromophenol	20-123
Sur2 =	Phenol-d6	23-90	Sur6 =	Terphenyl-d14	37-133
Sur3 =	Nitrobenzene-d5	29-100			
Sur4 =	2-Fluorobiphenyl	32-104			

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

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1107029
Date Extracted: 08/03/2011
Date Analyzed: 08/10/2011

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

Extraction Method: EPA 3541
Analysis Method: 8270C

Units: mg/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1107378

	Lab Control Sample KWG1107378-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107378-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
N-Nitrosodimethylamine	2.30	3.33	69	2.30	3.33	69	34-93	0	40
Bis(2-chloroethyl) Ether	1.92	3.33	57	1.85	3.33	55	42-88	4	40
Phenol	2.08	3.33	62	2.01	3.33	60	40-87	4	40
2-Chlorophenol	2.13	3.33	64	2.14	3.33	64	42-86	1	40
Bis(2-chloroisopropyl) Ether	2.10	3.33	63	2.09	3.33	63	39-94	0	40
Hexachloroethane	2.02	3.33	61	2.05	3.33	62	40-87	2	40
N-Nitrosodi-n-propylamine	2.30	3.33	69	2.25	3.33	67	41-96	2	40
4-Methylphenol	2.21	3.33	66	2.20	3.33	66	38-94	1	40
Nitrobenzene	2.21	3.33	66	2.17	3.33	65	44-92	2	40
Isophorone	2.41	3.33	72	2.45	3.33	74	42-93	2	40
2-Nitrophenol	2.48	3.33	74	2.56	3.33	77	44-95	3	40
2,4-Dimethylphenol	1.82	3.33	55	1.86	3.33	56	16-89	2	40
Bis(2-chloroethoxy)methane	2.32	3.33	70	2.35	3.33	71	45-93	1	40
2,4-Dichlorophenol	2.38	3.33	71	2.38	3.33	71	43-94	0	40
1,2,4-Trichlorobenzene	2.05	3.33	61	2.03	3.33	61	42-91	1	40
Naphthalene	2.24	3.33	67	2.22	3.33	67	44-92	1	40
Hexachlorobutadiene	2.07	3.33	62	2.11	3.33	63	42-91	2	40
4-Chloro-3-methylphenol	2.60	3.33	78	2.69	3.33	81	44-101	3	40
Hexachlorocyclopentadiene	1.68	3.33	50	1.70	3.33	51	10-68	1	40
2,4,6-Trichlorophenol	2.92	3.33	88	2.92	3.33	88	46-101	0	40
2-Chloronaphthalene	2.43	3.33	73	2.48	3.33	74	44-95	2	40
Acenaphthylene	2.50	3.33	75	2.44	3.33	73	46-99	2	40
Dimethyl Phthalate	2.74	3.33	82	2.75	3.33	83	48-113	1	40
2,6-Dinitrotoluene	2.92	3.33	88	2.93	3.33	88	49-114	0	40
Acenaphthene	2.60	3.33	78	2.55	3.33	77	49-97	2	40
2,4-Dinitrophenol	2.82	3.33	85	3.01	3.33	90	28-116	6	40
4-Nitrophenol	2.67	3.33	80	2.77	3.33	83	41-121	4	40
2,4-Dinitrotoluene	2.99	3.33	90	3.01	3.33	90	48-119	1	40
Fluorene	2.59	3.33	78	2.55	3.33	76	46-103	2	40
4-Chlorophenyl Phenyl Ether	2.34	3.33	70	2.40	3.33	72	46-105	3	40
Diethyl Phthalate	2.78	3.33	83	2.84	3.33	85	45-121	2	40
2-Methyl-4,6-dinitrophenol	2.83	3.33	85	2.84	3.33	85	41-119	0	40
N-Nitrosodiphenylamine	2.58	3.33	77	2.62	3.33	79	44-113	2	40
1,2-Diphenylhydrazine	2.54	3.33	76	2.60	3.33	78	45-111	2	40
4-Bromophenyl Phenyl Ether	2.61	3.33	78	2.64	3.33	79	49-110	1	40

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

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

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Sludge, solid

Service Request: K1107029
Date Extracted: 08/03/2011
Date Analyzed: 08/10/2011

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

Extraction Method: EPA 3541
Analysis Method: 8270C

Units: mg/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG1107378

	Lab Control Sample KWG1107378-1 Lab Control Spike			Duplicate Lab Control Sample KWG1107378-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Hexachlorobenzene	2.46	3.33	74	2.59	3.33	78	50-109	5	40
Pentachlorophenol	2.46	3.33	74	2.63	3.33	79	39-112	7	40
Phenanthrene	2.73	3.33	82	2.88	3.33	86	52-108	5	40
Anthracene	2.62	3.33	79	2.86	3.33	86	50-108	8	40
Di-n-butyl Phthalate	2.77	3.33	83	2.85	3.33	85	50-124	3	40
Fluoranthene	2.67	3.33	80	2.77	3.33	83	48-116	4	40
Benzidine	1.75	6.67	26	1.87	6.67	28	10-81	7	40
Pyrene	2.72	3.33	82	2.79	3.33	84	45-116	2	40
Butyl Benzyl Phthalate	2.72	3.33	82	2.90	3.33	87	51-114	6	40
3,3'-Dichlorobenzidine	2.50	3.33	75	2.75	3.33	82	38-116	9	40
Benz(a)anthracene	2.67	3.33	80	2.84	3.33	85	54-109	6	40
Chrysene	2.64	3.33	79	2.82	3.33	85	53-109	7	40
Bis(2-ethylhexyl) Phthalate	2.73	3.33	82	2.88	3.33	86	51-115	6	40
Di-n-octyl Phthalate	3.03	3.33	91	3.21	3.33	96	51-121	6	40
Benzo(b)fluoranthene	2.63	3.33	79	2.83	3.33	85	53-110	7	40
Benzo(k)fluoranthene	2.61	3.33	78	2.74	3.33	82	52-112	5	40
Benzo(a)pyrene	2.62	3.33	79	2.82	3.33	85	51-114	7	40
Indeno(1,2,3-cd)pyrene	2.84	3.33	85	2.94	3.33	88	53-112	4	40
Dibenz(a,h)anthracene	2.82	3.33	85	2.92	3.33	87	53-114	3	40
Benzo(g,h,i)perylene	2.79	3.33	84	2.94	3.33	88	50-110	5	40

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

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

Columbia Analytical Services INC
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

September 19, 2011 Analytical Report for Service Request No: K1107025

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Avenue
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107025.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107025
Project:	Asplund WWTF	**Date Received:**	8/2/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

Four water samples were received for analysis at Columbia Analytical Services on 8/2/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Total & Dissolved Metals

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for the replicate analysis of Cadmium in sample MOA11MET015 was outside the normal CAS control limits (32% RPD versus a control limit of 20%). However, the concentration of Cadmium in the sample was relatively low compared to the sensitivity of the analytical procedure. The associated QA/QC results (e.g. control sample, matrix spike, method blank, calibration standards, etc.) indicate the analysis was in control. No further corrective action was appropriate.

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

Approved by Richard Holm **Date** 9-20-11

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: : (By EPA 200.8/245.1) Ag, As, Be, Cd, Cr, Cu, Mo, Ni, Pb, Sb, Se, Tl, Zn, Hg

MATRIX: Water	**Preservative:** 6°C, HNO3	**Type of Container:** 250ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11MET013	Influent	1	8/1/11 0910		For total metals
MOA11MET014	Influent	1	0910		Prefiltered for dissolved metals
MOA11MET015	Effluent	1	0910		For total metals
MOA11MET016	Effluent	1	0910		Prefiltered for dissolved metals

K110705

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
NJS	8/1/11 1100	hand	M Jones	8/1/11 1100
M Jones	8/1/11 1130	FedEx	[illegible]	8/2/11 1000

SAMPLED BY (NAME/SIGNATURE): _____

PC H2

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request K11 7025

Received: 8/2/11 Opened: 8/2/11 By: [illegible] Unloaded: 8/2/11 By: [illegible]

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.0		244		797 3 6538 7144	

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

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project No.: 506.01

Service Request: K1107025

Sample Name:	Lab Code:
MOA11MET013	K1107025-001
MOA11MET014	K1107025-002DISS
MOA11MET015	K1107025-003
MOA11MET015D	K1107025-003D
MOA11MET015S	K1107025-003S
MOA11MET016	K1107025-004DISS
Method Blank	K1107025-MB
Batch QCD	K1107308-001D
Batch QCS	K1107308-001S

Comments:

Approved By: _____ **Date:** 9/19/11

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107025
Project No.:	506.01	**Date Collected:**	08/01/11
Project Name:	Asplund WWTF	**Date Received:**	08/02/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET013 **Lab Code:** K1107025-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	2.0	09/12/11	09/13/11	0.46		
Arsenic	200.8	1.00	0.14	2.0	09/12/11	09/13/11	2.15		
Beryllium	200.8	0.040	0.006	2.0	09/12/11	09/13/11	0.012	J	
Cadmium	200.8	0.040	0.006	2.0	09/12/11	09/13/11	0.226		*
Chromium	200.8	0.40	0.08	2.0	09/12/11	09/13/11	1.95		
Copper	200.8	0.20	0.04	2.0	09/12/11	09/13/11	51.0		
Lead	200.8	0.040	0.010	2.0	09/12/11	09/13/11	1.940		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.21		
Molybdenum	200.8	0.100	0.016	2.0	09/12/11	09/13/11	1.72		
Nickel	200.8	0.40	0.06	2.0	09/12/11	09/13/11	4.11		
Selenium	200.8	2.0	0.6	2.0	09/12/11	09/13/11	1.2	J	
Silver	200.8	0.040	0.008	2.0	09/12/11	09/14/11	0.263		
Thallium	200.8	0.040	0.004	2.0	09/12/11	09/13/11	0.006	J	
Zinc	200.8	1.00	0.40	2.0	09/12/11	09/13/11	122		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	Service Request:	K1107025
Project No.:	506.01	Date Collected:	08/01/11
Project Name:	Asplund WWTF	Date Received:	08/02/11
Matrix:	WATER	Units:	ug/L
		Basis:	NA

Sample Name: MOA11MET014 Lab Code: K1107025-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	09/12/11	09/13/11	0.53		
Arsenic	200.8	0.50	0.07	1.0	09/12/11	09/13/11	1.42		
Beryllium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.004	J	
Cadmium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.034		*
Chromium	200.8	0.20	0.04	1.0	09/12/11	09/13/11	0.68		
Copper	200.8	0.10	0.02	1.0	09/12/11	09/13/11	9.16		
Lead	200.8	0.020	0.005	1.0	09/12/11	09/13/11	0.289		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.06	J	
Molybdenum	200.8	0.050	0.008	1.0	09/12/11	09/13/11	1.28		
Nickel	200.8	0.20	0.03	1.0	09/12/11	09/13/11	2.56		
Selenium	200.8	1.0	0.3	1.0	09/12/11	09/13/11	0.7	J	
Silver	200.8	0.020	0.004	1.0	09/12/11	09/14/11	0.024		
Thallium	200.8	0.020	0.002	1.0	09/12/11	09/13/11	0.003	J	
Zinc	200.8	0.50	0.20	1.0	09/12/11	09/13/11	24.3		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	Service Request:	K1107025
Project No.:	506.01	Date Collected:	08/01/11
Project Name:	Asplund WWTF	Date Received:	08/02/11
Matrix:	WATER	Units:	ug/L
		Basis:	NA

Sample Name: MOA11MET015 Lab Code: K1107025-003

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	2.0	09/12/11	09/14/11	0.66		
Arsenic	200.8	1.00	0.14	2.0	09/12/11	09/13/11	2.79		
Beryllium	200.8	0.040	0.006	2.0	09/12/11	09/14/11	0.017	J	
Cadmium	200.8	0.040	0.006	2.0	09/12/11	09/14/11	0.296		*
Chromium	200.8	0.40	0.08	2.0	09/12/11	09/13/11	1.22		
Copper	200.8	0.20	0.04	2.0	09/12/11	09/13/11	30.5		
Lead	200.8	0.040	0.010	2.0	09/12/11	09/14/11	1.400		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.07	J	
Molybdenum	200.8	0.100	0.016	2.0	09/12/11	09/13/11	1.91		
Nickel	200.8	0.40	0.06	2.0	09/12/11	09/13/11	3.02		
Selenium	200.8	2.0	0.6	2.0	09/12/11	09/13/11	2.0	J	
Silver	200.8	0.040	0.008	2.0	09/12/11	09/14/11	0.298		
Thallium	200.8	0.040	0.004	2.0	09/12/11	09/14/11	0.206		
Zinc	200.8	1.00	0.40	2.0	09/12/11	09/13/11	65.4		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	Service Request:	K1107025
Project No.:	506.01	Date Collected:	08/01/11
Project Name:	Asplund WWTF	Date Received:	08/02/11
Matrix:	WATER	Units:	ug/L
		Basis:	NA

Sample Name: MOA11MET016 Lab Code: K1107025-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	09/12/11	09/14/11	0.65		
Arsenic	200.8	0.50	0.07	1.0	09/12/11	09/13/11	2.19		
Beryllium	200.8	0.020	0.003	1.0	09/12/11	09/14/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	09/12/11	09/14/11	0.086		*
Chromium	200.8	0.20	0.04	1.0	09/12/11	09/13/11	0.64		
Copper	200.8	0.10	0.02	1.0	09/12/11	09/13/11	17.3		
Lead	200.8	0.020	0.005	1.0	09/12/11	09/14/11	0.340		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	09/12/11	09/13/11	1.78		
Nickel	200.8	0.20	0.03	1.0	09/12/11	09/13/11	2.59		
Selenium	200.8	1.0	0.3	1.0	09/12/11	09/13/11	1.4		
Silver	200.8	0.020	0.004	1.0	09/12/11	09/14/11	0.054		
Thallium	200.8	0.020	0.002	1.0	09/12/11	09/14/11	0.009	J	
Zinc	200.8	0.50	0.20	1.0	09/12/11	09/13/11	33.4		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107025
Project No.:	506.01	**Date Collected:**	
Project Name:	Asplund WWTF	**Date Received:**	
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: Method Blank **Lab Code:** K1107025-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	09/12/11	09/13/11	0.02	U	
Arsenic	200.8	0.50	0.07	1.0	09/12/11	09/13/11	0.07	U	
Beryllium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.004	J	*
Chromium	200.8	0.20	0.04	1.0	09/12/11	09/13/11	0.04	U	
Copper	200.8	0.10	0.02	1.0	09/12/11	09/13/11	0.02	U	
Lead	200.8	0.020	0.005	1.0	09/12/11	09/13/11	0.005	U	
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	09/12/11	09/13/11	0.008	U	
Nickel	200.8	0.20	0.03	1.0	09/12/11	09/13/11	0.03	U	
Selenium	200.8	1.0	0.3	1.0	09/12/11	09/13/11	0.3	U	
Silver	200.8	0.020	0.004	1.0	09/12/11	09/13/11	0.004	U	
Thallium	200.8	0.020	0.002	1.0	09/12/11	09/13/11	0.002	J	
Zinc	200.8	0.50	0.20	1.0	09/12/11	09/13/11	0.20	U	

% Solids: 0.0

Comments:

METALS
- 5A -
SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora
Service Request: K1107025
Project No.: 506.01
Units: UG/L
Project Name: Asplund WWTF
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: MOA11MET015S
Lab Code: K1107025-003S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	50.6		0.66		50.00	99.9		200.8
Arsenic	70 - 130	55.9		2.79		50.00	106.2		200.8
Beryllium	70 - 130	2.660		0.017	J	2.50	105.7		200.8
Cadmium	70 - 130	26.0		0.296		25.00	102.8		200.8
Chromium	70 - 130	11.1		1.22		10.00	98.8		200.8
Copper	70 - 130	41.9		30.5		12.50	91.2		200.8
Lead	70 - 130	47.8		1.400		50.00	92.8		200.8
Molybdenum	70 - 130	21.4		1.91		20.00	97.4		200.8
Nickel	70 - 130	27.1		3.02		25.00	96.3		200.8
Selenium	70 - 130	54.8		2.0	J	50.00	105.6		200.8
Silver	70 - 130	12.7		0.298		12.50	99.2		200.8
Thallium	70 - 130	47.3		0.206		50.00	94.2		200.8
Zinc	70 - 130	87.8		65.4		25.00	89.6		200.8

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

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107025
Project No.:	506.01	**Units:**	UG/L
Project Name:	Asplund WWTF	**Basis:**	NA
Matrix:	WATER	**% Solids:**	0.0

Sample Name: Batch QCS **Lab Code:** K1107308-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.08		0.02	U	1.00	108.0		245.1

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

METALS

- 6 -

DUPLICATES

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107025
Project No.:	506.01	**Units:**	UG/L
Project Name:	Asplund WWTF	**Basis:**	NA
Matrix:	WATER	**% Solids:**	0.0

Sample Name: MOA11MET015D **Lab Code:** K1107025-003D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.66		0.44		40.0		200.8
Arsenic		2.79		2.56		8.6		200.8
Beryllium		0.017	J	0.006	U	200.0		200.8
Cadmium	20	0.296		0.214		32.2	*	200.8
Chromium		1.22		1.14		6.8		200.8
Copper	20	30.5		30.3		0.7		200.8
Lead	20	1.400		1.230		12.9		200.8
Molybdenum	20	1.91		1.68		12.8		200.8
Nickel	20	3.02		2.90		4.1		200.8
Selenium		2.0	J	1.7	J	16.2		200.8
Silver		0.298		0.197		40.8		200.8
Thallium		0.206		0.017	J	169.5		200.8
Zinc	20	65.4		64.6		1.2		200.8

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

METALS

- 6 -

DUPLICATES

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107025
Project No.:	506.01	**Units:**	UG/L
Project Name:	Asplund WWTF	**Basis:**	NA
Matrix:	WATER	**% Solids:**	0.0

Sample Name: Batch QCD **Lab Code:** K1107308-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.02	U	0.02	U			245.1

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

METALS

-7-

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1107025

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Antimony	50	49.8	99.6					
Arsenic	50	50.9	101.8					
Beryllium	2.5	2.640	105.6					
Cadmium	25	25.8	103.2					
Chromium	10	10.4	104.0					
Copper	12.5	13.1	104.8					
Lead	50	50.0	100.0					
Mercury	5	5.35	107.0					
Molybdenum	20	19.1	95.5					
Nickel	25	25.7	102.8					
Selenium	50	50.8	101.6					
Silver	12.5	13.0	104.0					
Thallium	50	50.6	101.2					
Zinc	25	25.9	103.6					

Columbia Analytical Services INC
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

September 20, 2011 Analytical Report for Service Request No: K1107104

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Avenue
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 03, 2011. For your reference, these analyses have been assigned our service request number K1107104.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/ln

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1107104

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: : (By EPA 200.8/245.1) Ag, As, Be, Cd, Cr, Cu, Mo, Ni, Pb, Sb, Se, Tl, Zn, Hg

MATRIX: Water	**Preservative:** 6°C, HNO3	**Type of Container:** 250ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11MET017	Influent	1	8/2/11 1002		For total metals
MOA11MET018	Influent	1	8/2/11 1002		Prefiltered for dissolved metals
MOA11MET019	Effluent	1	8/2/11 0858		For total metals
MOA11MET020	Effluent	1	8/2/11 0858		Prefiltered for dissolved metals

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	8/2/11 1200	hand	[signature]	8/2/11 1200
[signature]	8/2/11 1300	FedEx	[signature]	8/3/11 0915

SAMPLED BY (NAME/SIGNATURE): _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC 12

Client / Project: Kinnetic Service Request *K11* 7104

Received: 8/3/11 Opened: 8/3/11 By: SX Unloaded: 8/3/11 By: SX

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.8	—	282		7950 3800 3841	

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

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project No.: 506.01

Service Request: K1107104

Sample Name:	Lab Code:
MOA11MET017	K1107104-001
MOA11MET018	K1107104-002DISS
MOA11MET019	K1107104-003
MOA11MET020	K1107104-004DISS
Method Blank	K1107104-MB
Batch QCD1	K1107308-001D
Batch QCS1	K1107308-001S
Batch QCD2	K1108468-001D
Batch QCS2	K1108468-001S

Comments:

Approved By: _____ **Date:** 9/19/11

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107104
Project No.:	506.01	**Date Collected:**	08/02/11
Project Name:	Asplund WWTF	**Date Received:**	08/03/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET017 **Lab Code:** K1107104-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	2.0	09/12/11	09/13/11	0.61		
Arsenic	200.8	1.00	0.14	2.0	09/12/11	09/13/11	2.85		
Beryllium	200.8	0.040	0.006	2.0	09/12/11	09/13/11	0.014	J	
Cadmium	200.8	0.040	0.006	2.0	09/12/11	09/13/11	0.368		
Chromium	200.8	0.40	0.08	2.0	09/12/11	09/13/11	4.01		
Copper	200.8	0.20	0.04	2.0	09/12/11	09/13/11	60.6		
Lead	200.8	0.040	0.010	2.0	09/12/11	09/13/11	3.960		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.28		
Molybdenum	200.8	0.100	0.016	2.0	09/12/11	09/13/11	4.06		
Nickel	200.8	0.40	0.06	2.0	09/12/11	09/13/11	10.2		
Selenium	200.8	2.0	0.6	2.0	09/12/11	09/13/11	1.4	J	
Silver	200.8	0.040	0.008	2.0	09/12/11	09/14/11	2.520		
Thallium	200.8	0.040	0.004	2.0	09/12/11	09/13/11	0.012	J	
Zinc	200.8	1.00	0.40	2.0	09/12/11	09/13/11	181		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107104
Project No.:	506.01	**Date Collected:**	08/02/11
Project Name:	Asplund WWTF	**Date Received:**	08/03/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET018 **Lab Code:** K1107104-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	09/12/11	09/13/11	0.61		
Arsenic	200.8	0.50	0.07	1.0	09/12/11	09/13/11	1.52		
Beryllium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.040		
Chromium	200.8	0.20	0.04	1.0	09/12/11	09/13/11	0.72		
Copper	200.8	0.10	0.02	1.0	09/12/11	09/13/11	8.35		
Lead	200.8	0.020	0.005	1.0	09/12/11	09/13/11	0.372		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.03	J	
Molybdenum	200.8	0.050	0.008	1.0	09/12/11	09/13/11	2.37		
Nickel	200.8	0.20	0.03	1.0	09/12/11	09/13/11	2.80		
Selenium	200.8	1.0	0.3	1.0	09/12/11	09/13/11	0.9	J	
Silver	200.8	0.020	0.004	1.0	09/12/11	09/14/11	0.489		
Thallium	200.8	0.020	0.002	1.0	09/12/11	09/13/11	0.004	J	
Zinc	200.8	0.50	0.20	1.0	09/12/11	09/13/11	21.4		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	Service Request:	K1107104
Project No.:	506.01	Date Collected:	08/02/11
Project Name:	Asplund WWTF	Date Received:	08/03/11
Matrix:	WATER	Units:	ug/L
		Basis:	NA

Sample Name: MOA11MET019 Lab Code: K1107104-003

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	2.0	09/12/11	09/13/11	0.47		
Arsenic	200.8	1.00	0.14	2.0	09/12/11	09/13/11	2.48		
Beryllium	200.8	0.040	0.006	2.0	09/12/11	09/13/11	0.008	J	
Cadmium	200.8	0.040	0.006	2.0	09/12/11	09/13/11	0.222		
Chromium	200.8	0.40	0.08	2.0	09/12/11	09/13/11	1.47		
Copper	200.8	0.20	0.04	2.0	09/12/11	09/13/11	32.2		
Lead	200.8	0.040	0.010	2.0	09/12/11	09/13/11	1.890		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.15	J	
Molybdenum	200.8	0.100	0.016	2.0	09/12/11	09/13/11	2.68		
Nickel	200.8	0.40	0.06	2.0	09/12/11	09/13/11	3.22		
Selenium	200.8	2.0	0.6	2.0	09/12/11	09/13/11	1.4	J	
Silver	200.8	0.040	0.008	2.0	09/12/11	09/14/11	1.130		
Thallium	200.8	0.040	0.004	2.0	09/12/11	09/13/11	0.006	J	
Zinc	200.8	1.00	0.40	2.0	09/12/11	09/13/11	76.3		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107104
Project No.:	506.01	**Date Collected:**	08/02/11
Project Name:	Asplund WWTF	**Date Received:**	08/03/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET020 **Lab Code:** K1107104-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	09/12/11	09/13/11	0.63		
Arsenic	200.8	0.50	0.07	1.0	09/12/11	09/13/11	2.06		
Beryllium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.129		
Chromium	200.8	0.20	0.04	1.0	09/12/11	09/13/11	0.69		
Copper	200.8	0.10	0.02	1.0	09/12/11	09/13/11	20.1		
Lead	200.8	0.020	0.005	1.0	09/12/11	09/13/11	0.655		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.09	J	
Molybdenum	200.8	0.050	0.008	1.0	09/12/11	09/13/11	2.37		
Nickel	200.8	0.20	0.03	1.0	09/12/11	09/13/11	2.74		
Selenium	200.8	1.0	0.3	1.0	09/12/11	09/13/11	1.1		
Silver	200.8	0.020	0.004	1.0	09/12/11	09/14/11	0.152		
Thallium	200.8	0.020	0.002	1.0	09/12/11	09/13/11	0.005	J	
Zinc	200.8	0.50	0.20	1.0	09/12/11	09/13/11	42.3		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107104
Project No.:	506.01	**Date Collected:**	
Project Name:	Asplund WWTF	**Date Received:**	
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: Method Blank **Lab Code:** K1107104-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	09/12/11	09/13/11	0.02	U	
Arsenic	200.8	0.50	0.07	1.0	09/12/11	09/13/11	0.07	U	
Beryllium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.004	J	
Chromium	200.8	0.20	0.04	1.0	09/12/11	09/13/11	0.04	U	
Copper	200.8	0.10	0.02	1.0	09/12/11	09/13/11	0.02	U	
Lead	200.8	0.020	0.005	1.0	09/12/11	09/13/11	0.005	U	
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	09/12/11	09/13/11	0.008	U	
Nickel	200.8	0.20	0.03	1.0	09/12/11	09/13/11	0.03	U	
Selenium	200.8	1.0	0.3	1.0	09/12/11	09/13/11	0.3	U	
Silver	200.8	0.020	0.004	1.0	09/12/11	09/13/11	0.004	U	
Thallium	200.8	0.020	0.002	1.0	09/12/11	09/13/11	0.002	J	
Zinc	200.8	0.50	0.20	1.0	09/12/11	09/13/11	0.20	U	

% Solids: 0.0

Comments:

METALS
- 5A -
SPIKE SAMPLE RECOVERY

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107104
Project No.:	506.01	**Units:**	UG/L
Project Name:	Asplund WWTF	**Basis:**	NA
Matrix:	WATER	**% Solids:**	0.0

Sample Name: Batch QCS1 **Lab Code:** K1107308-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.08		0.02	U	1.00	108.0		245.1

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

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora
Service Request: K1107104
Project No.: 506.01
Units: UG/L
Project Name: Asplund WWTF
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: Batch QCS2
Lab Code: K1108468-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	50.4		0.03	J	50.00	100.7		200.8
Arsenic	70 - 130	52.1		0.07	U	50.00	104.2		200.8
Beryllium	70 - 130	2.620		0.003	U	2.50	104.8		200.8
Cadmium	70 - 130	26.1		0.005	J	25.00	104.4		200.8
Chromium	70 - 130	10.1		0.09	J	10.00	100.1		200.8
Copper	70 - 130	16.6		3.86		12.50	101.9		200.8
Lead	70 - 130	50.2		0.109		50.00	100.2		200.8
Molybdenum	70 - 130	19.8		0.016	J	20.00	98.9		200.8
Nickel	70 - 130	25.4		0.10	J	25.00	101.2		200.8
Selenium	70 - 130	51.2		0.3	U	50.00	102.4		200.8
Silver	70 - 130	13.1		0.004	U	12.50	104.8		200.8
Thallium	70 - 130	50.8		0.010	J	50.00	101.6		200.8
Zinc	70 - 130	32.8		7.29		25.00	102.0		200.8

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

METALS

- 6 -

DUPLICATES

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107104
Project No.:	506.01	**Units:**	UG/L
Project Name:	Asplund WWTF	**Basis:**	NA
Matrix:	WATER	**% Solids:**	0.0

Sample Name: Batch QCD1 **Lab Code:** K1107308-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.02	U	0.02	U			245.1

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

METALS

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora
Service Request: K1107104
Project No.: 506.01
Units: UG/L
Project Name: Asplund WWTF
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: Batch QCD2
Lab Code: K1108468-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.03	J	0.02	U	200.0		200.8
Arsenic		0.07	U	0.07	U			200.8
Beryllium		0.003	U	0.003	U			200.8
Cadmium		0.005	J	0.004	J	22.2		200.8
Chromium		0.09	J	0.07	J	25.0		200.8
Copper	20	3.86		3.92		1.5		200.8
Lead	20	0.109		0.101		7.6		200.8
Molybdenum		0.016	J	0.015	J	6.5		200.8
Nickel		0.10	J	0.10	J	0.0		200.8
Selenium		0.3	U	0.3	U			200.8
Silver		0.004	U	0.004	U			200.8
Thallium		0.010	J	0.006	J	50.0		200.8
Zinc	20	7.29		7.33		0.5		200.8

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

METALS

-7-

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1107104

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Antimony	50	49.8	99.6					
Arsenic	50	50.9	101.8					
Beryllium	2.5	2.640	105.6					
Cadmium	25	25.8	103.2					
Chromium	10	10.4	104.0					
Copper	12.5	13.1	104.8					
Lead	50	50.0	100.0					
Mercury	5	5.35	107.0					
Molybdenum	20	19.1	95.5					
Nickel	25	25.7	102.8					
Selenium	50	50.8	101.6					
Silver	12.5	13.0	104.0					
Thallium	50	50.6	101.2					
Zinc	25	25.9	103.6					

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

September 19, 2011 Analytical Report for Service Request No: K1107180

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Avenue
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 04, 2011. For your reference, these analyses have been assigned our service request number K1107180.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

K1107180

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: : (By EPA 200.8/245.1) Ag, As, Be, Cd, Cr, Cu, Mo, Ni, Pb, Sb, Se, Tl, Zn, Hg

MATRIX: Water	**Preservative:** 6°C, HNO3	**Type of Container:** 250ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11MET021	Influent	1	8/3/11 0957		For total metals
MOA11MET022	Influent	1	8/3/11 0957		Prefiltered for dissolved metals
MOA11MET023	Effluent	1	8/3/11 0851		For total metals
MOA11MET024	Effluent	1	8/3/11 0851		Prefiltered for dissolved metals

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	8/3/11 1230	hand	[signature]	8/3/11 12:30
[signature]	8/3/11 1300	FedEx	[signature] CAS	8/4/11 0850

SAMPLED BY (NAME/SIGNATURE): _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC HK

Client / Project: Kinetic Service Request *K11* 7180

Received: 8/4/11 Opened: 8/4/11 By: AJ Unloaded: 8/4/11 By: AJ

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.9	—	245			X

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

Page 1 *of*____

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Kinnetic Laboratories, Incorporated
Project Name: Asplund WWTF
Project No.: 506.01

Service Request: K1107180

Sample Name:	Lab Code:
MOA11MET021	K1107180-001
MOA11MET022	K1107180-002DISS
MOA11MET023	K1107180-003
MOA11MET024	K1107180-004DISS
Method Blank	K1107180-MB
Batch QCD1	K1107308-001D
Batch QCS1	K1107308-001S
Batch QCD2	K1108468-001D
Batch QCS2	K1108468-001S

Comments:

Approved By: _____ **Date:** 9/19/11

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	Service Request:	K1107180
Project No.:	506.01	Date Collected:	08/03/11
Project Name:	Asplund WWTF	Date Received:	08/04/11
Matrix:	WATER	Units:	ug/L
		Basis:	NA

Sample Name: MOA11MET021 Lab Code: K1107180-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	2.0	09/12/11	09/14/11	0.73		
Arsenic	200.8	1.00	0.14	2.0	09/12/11	09/13/11	3.46		
Beryllium	200.8	0.040	0.006	2.0	09/12/11	09/14/11	0.021	J	
Cadmium	200.8	0.040	0.006	2.0	09/12/11	09/14/11	0.354		
Chromium	200.8	0.40	0.08	2.0	09/12/11	09/13/11	3.60		
Copper	200.8	0.20	0.04	2.0	09/12/11	09/13/11	71.5		
Lead	200.8	0.040	0.010	2.0	09/12/11	09/14/11	4.090		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.22		
Molybdenum	200.8	0.100	0.016	2.0	09/12/11	09/13/11	3.70		
Nickel	200.8	0.40	0.06	2.0	09/12/11	09/13/11	6.33		
Selenium	200.8	2.0	0.6	2.0	09/12/11	09/13/11	1.8	J	
Silver	200.8	0.040	0.008	2.0	09/12/11	09/14/11	1.300		
Thallium	200.8	0.040	0.004	2.0	09/12/11	09/14/11	0.022	J	
Zinc	200.8	1.00	0.40	2.0	09/12/11	09/13/11	186		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107180
Project No.:	506.01	**Date Collected:**	08/03/11
Project Name:	Asplund WWTF	**Date Received:**	08/04/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET022 **Lab Code:** K1107180-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	09/12/11	09/14/11	0.63		
Arsenic	200.8	0.50	0.07	1.0	09/12/11	09/13/11	1.45		
Beryllium	200.8	0.020	0.003	1.0	09/12/11	09/14/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	09/12/11	09/14/11	0.041		
Chromium	200.8	0.20	0.04	1.0	09/12/11	09/13/11	0.69		
Copper	200.8	0.10	0.02	1.0	09/12/11	09/13/11	10.2		
Lead	200.8	0.020	0.005	1.0	09/12/11	09/14/11	0.352		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	09/12/11	09/13/11	2.13		
Nickel	200.8	0.20	0.03	1.0	09/12/11	09/13/11	2.96		
Selenium	200.8	1.0	0.3	1.0	09/12/11	09/13/11	0.5	J	
Silver	200.8	0.020	0.004	1.0	09/12/11	09/14/11	0.258		
Thallium	200.8	0.020	0.002	1.0	09/12/11	09/14/11	0.004	J	
Zinc	200.8	0.50	0.20	1.0	09/12/11	09/13/11	16.2		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107180
Project No.:	506.01	**Date Collected:**	08/03/11
Project Name:	Asplund WWTF	**Date Received:**	08/04/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET023 **Lab Code:** K1107180-003

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.10	0.04	2.0	09/12/11	09/14/11	0.53		
Arsenic	200.8	1.00	0.14	2.0	09/12/11	09/13/11	2.72		
Beryllium	200.8	0.040	0.006	2.0	09/12/11	09/14/11	0.006	U	
Cadmium	200.8	0.040	0.006	2.0	09/12/11	09/14/11	0.196		
Chromium	200.8	0.40	0.08	2.0	09/12/11	09/13/11	1.67		
Copper	200.8	0.20	0.04	2.0	09/12/11	09/13/11	34.9		
Lead	200.8	0.040	0.010	2.0	09/12/11	09/14/11	1.830		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.08	J	
Molybdenum	200.8	0.100	0.016	2.0	09/12/11	09/13/11	2.88		
Nickel	200.8	0.40	0.06	2.0	09/12/11	09/13/11	3.90		
Selenium	200.8	2.0	0.6	2.0	09/12/11	09/13/11	1.4	J	
Silver	200.8	0.040	0.008	2.0	09/12/11	09/14/11	0.909		
Thallium	200.8	0.040	0.004	2.0	09/12/11	09/14/11	0.007	J	
Zinc	200.8	1.00	0.40	2.0	09/12/11	09/13/11	81.5		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107180
Project No.:	506.01	**Date Collected:**	08/03/11
Project Name:	Asplund WWTF	**Date Received:**	08/04/11
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: MOA11MET024 **Lab Code:** K1107180-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	09/12/11	09/14/11	0.63		
Arsenic	200.8	0.50	0.07	1.0	09/12/11	09/13/11	2.23		
Beryllium	200.8	0.020	0.003	1.0	09/12/11	09/14/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	09/12/11	09/14/11	0.092		
Chromium	200.8	0.20	0.04	1.0	09/12/11	09/13/11	0.57		
Copper	200.8	0.10	0.02	1.0	09/12/11	09/13/11	16.6		
Lead	200.8	0.020	0.005	1.0	09/12/11	09/14/11	0.408		
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	09/12/11	09/13/11	2.68		
Nickel	200.8	0.20	0.03	1.0	09/12/11	09/13/11	2.96		
Selenium	200.8	1.0	0.3	1.0	09/12/11	09/13/11	1.2		
Silver	200.8	0.020	0.004	1.0	09/12/11	09/14/11	0.168		
Thallium	200.8	0.020	0.002	1.0	09/12/11	09/14/11	0.004	J	
Zinc	200.8	0.50	0.20	1.0	09/12/11	09/13/11	37.9		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Kinnetic Laboratories, Incorpora	**Service Request:**	K1107180
Project No.:	506.01	**Date Collected:**	
Project Name:	Asplund WWTF	**Date Received:**	
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: Method Blank **Lab Code:** K1107180-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Antimony	200.8	0.05	0.02	1.0	09/12/11	09/13/11	0.02	U	
Arsenic	200.8	0.50	0.07	1.0	09/12/11	09/13/11	0.07	U	
Beryllium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.003	U	
Cadmium	200.8	0.020	0.003	1.0	09/12/11	09/13/11	0.004	J	
Chromium	200.8	0.20	0.04	1.0	09/12/11	09/13/11	0.04	U	
Copper	200.8	0.10	0.02	1.0	09/12/11	09/13/11	0.02	U	
Lead	200.8	0.020	0.005	1.0	09/12/11	09/13/11	0.005	U	
Mercury	245.1	0.20	0.02	1.0	08/25/11	08/26/11	0.02	U	
Molybdenum	200.8	0.050	0.008	1.0	09/12/11	09/13/11	0.008	U	
Nickel	200.8	0.20	0.03	1.0	09/12/11	09/13/11	0.03	U	
Selenium	200.8	1.0	0.3	1.0	09/12/11	09/13/11	0.3	U	
Silver	200.8	0.020	0.004	1.0	09/12/11	09/13/11	0.004	U	
Thallium	200.8	0.020	0.002	1.0	09/12/11	09/13/11	0.002	J	
Zinc	200.8	0.50	0.20	1.0	09/12/11	09/13/11	0.20	U	

% Solids: 0.0

Comments:

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1107180

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QCS1 **Lab Code:** K1107308-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	70 - 130	1.08		0.02	U	1.00	108.0		245.1

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

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client: Kinnetic Laboratories, Incorpora
Service Request: K1107180
Project No.: 506.01
Units: UG/L
Project Name: Asplund WWTF
Basis: NA
Matrix: WATER
% Solids: 0.0

Sample Name: Batch QCS2
Lab Code: K1108468-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	70 - 130	50.4		0.03	J	50.00	100.7		200.8
Arsenic	70 - 130	52.1		0.07	U	50.00	104.2		200.8
Beryllium	70 - 130	2.620		0.003	U	2.50	104.8		200.8
Cadmium	70 - 130	26.1		0.005	J	25.00	104.4		200.8
Chromium	70 - 130	10.1		0.09	J	10.00	100.1		200.8
Copper	70 - 130	16.6		3.86		12.50	101.9		200.8
Lead	70 - 130	50.2		0.109		50.00	100.2		200.8
Molybdenum	70 - 130	19.8		0.016	J	20.00	98.9		200.8
Nickel	70 - 130	25.4		0.10	J	25.00	101.2		200.8
Selenium	70 - 130	51.2		0.3	U	50.00	102.4		200.8
Silver	70 - 130	13.1		0.004	U	12.50	104.8		200.8
Thallium	70 - 130	50.8		0.010	J	50.00	101.6		200.8
Zinc	70 - 130	32.8		7.29		25.00	102.0		200.8

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

METALS

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1107180

Project No.: 506.01 **Units:** UG/L

Project Name: Asplund WWTF **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QCD1 **Lab Code:** K1107308-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.02	U	0.02	U			245.1

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

METALS

- 6 -

DUPLICATES

Client: Kinnetic Laboratories, Incorpora Service Request: K1107180

Project No.: 506.01 Units: UG/L

Project Name: Asplund WWTF Basis: NA

Matrix: WATER % Solids: 0.0

Sample Name: Batch QCD2 Lab Code: K1108468-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony		0.03	J	0.02	U	200.0		200.8
Arsenic		0.07	U	0.07	U			200.8
Beryllium		0.003	U	0.003	U			200.8
Cadmium		0.005	J	0.004	J	22.2		200.8
Chromium		0.09	J	0.07	J	25.0		200.8
Copper	20	3.86		3.92		1.5		200.8
Lead	20	0.109		0.101		7.6		200.8
Molybdenum		0.016	J	0.015	J	6.5		200.8
Nickel		0.10	J	0.10	J	0.0		200.8
Selenium		0.3	U	0.3	U			200.8
Silver		0.004	U	0.004	U			200.8
Thallium		0.010	J	0.006	J	50.0		200.8
Zinc	20	7.29		7.33		0.5		200.8

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

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: Kinnetic Laboratories, Incorpora **Service Request:** K1107180

Project No.: 506.01

Project Name: Asplund WWTF

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous: ug/L True	Found	%R	Solid: mg/kg True	Found	C	Limits	%R
Antimony	50	49.8	99.6					
Arsenic	50	50.9	101.8					
Beryllium	2.5	2.640	105.6					
Cadmium	25	25.8	103.2					
Chromium	10	10.4	104.0					
Copper	12.5	13.1	104.8					
Lead	50	50.0	100.0					
Mercury	5	5.35	107.0					
Molybdenum	20	19.1	95.5					
Nickel	25	25.7	102.8					
Selenium	50	50.8	101.6					
Silver	12.5	13.0	104.0					
Thallium	50	50.6	101.2					
Zinc	25	25.9	103.6					

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 17, 2011 Analytical Report for Service Request No: K1107027

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 02, 2011. For your reference, these analyses have been assigned our service request number K1107027.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/ln

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: Total Cyanide (SM 4500-CN E Mod)

MATRIX: Water	**Preservative:** NaOH, Effluent sample contains ascorbic acid, 6°C	**Type of Container:** 250 ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11TCN015	Influent	1	8/1/11 0910		
MOA11TCN016	Effluent	1	8/1/11 0910		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[illegible]	8/1/11 11:00	hand	[illegible] 11	8/1/11 1100
[illegible]	8/1/11 1130	FedEx	[illegible]	8/2/11 1000

K1107027

SAMPLED BY (NAME/SIGNATURE): _____

PC 110

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request K11 7027

Received: 8/2/11 Opened: 8/2/11 By: [illegible] Unloaded: 8/2/11 By: [illegible]

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
1.4		244		797 3 6538 7144	

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

Page 1 *of* _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107027
Project:	Asplund WWTF/506.01	**Date Collected:**	8/ 1/11
Sample Matrix:	Water	**Date Received:**	8/ 2/11
Prep Method:	SM 4500-CN-C	**Units:**	mg/L
Analysis Method:	SM 4500-CN- E	**Basis:**	NA

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11TCN015	K1107027-001	ND	U	0.010	0.003	1	8/ 3/11	8/3/11 14:00	
MOA11TCN016	K1107027-002	**0.008**	J	0.010	0.003	1	8/ 3/11	8/3/11 14:00	
Method Blank	K1107027-MB	ND	U	0.0047	0.0030	1	8/ 3/11	8/3/11 14:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107027
Date Collected: 8/1/11
Date Received: 8/2/11
Date Analyzed: 8/ 3/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MOA11TCN015
Lab Code: K1107027-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	MOA11TCN015DUP Duplicate Sample K1107027-001DUP Result	Average	RPD	RPD Limit
Cyanide, Total	SM 4500-CN-E	0.010	0.003	ND U	ND U	NC	NC	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107027
Date Collected: 8/1/11
Date Received: 8/2/11
Date Analyzed: 8/ 3/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: MOA11TCN015
Lab Code: K1107027-001

Units: mg/L
Basis: NA

Analytical Method: SM 4500-CN- E
Prep Method: SM 4500-CN-C

		MOA11TCN015MS Matrix Spike K1107027-001MS			MOA11TCN015DMS Duplicate Matrix Spike K1107027-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND	0.0923	0.100	92	0.0911	0.100	91	23 - 148	1	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107027
Date Analyzed: 8/ 3/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1107027-LCS Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	SM 4500-CN-E	0.679	0.73	93	84 - 115

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 15, 2011 Analytical Report for Service Request No: K1107103

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 03, 2011. For your reference, these analyses have been assigned our service request number K1107103.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107103
Project:	Asplund WWTF	**Date Received:**	8/3/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 8/3/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Cyanide by Standard Method 4500-CN-C:
The Relative Percent Difference (RPD) criterion for the replicate analysis of Total Cyanide in sample Batch QC was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

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

Approved by Heather Holmes **Date** 8-17-11

Kinnetic Laboratories, Inc. Chain of Custody Record K1107103

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: Total Cyanide (SM 4500-CN E Mod)

MATRIX: Water	**Preservative:** NaOH, Effluent sample contains ascorbic acid, 6°C	**Type of Container:** 250 ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11TCN017	Influent	1	8/2/11 1002		
MOA11TCN018	Effluent	1	8/2/11 0858		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	8/2/11 1200	hand	[signature]	8/2/11 1200
[signature]	8/2/11 1300	Fedex	[signature]	8/3/11 0915

SAMPLED BY (NAME/SIGNATURE): _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC #2

Client / Project: Kinnetic Service Request *K11* 7103

Received: 8/3/11 Opened: 8/3/11 By: SX Unloaded: 8/3/11 By: SX

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.8	—	282		7950 3800 2841	

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107103
Project:	Asplund WWTF/506.01	**Date Collected:**	8/ 2/11
Sample Matrix:	Water	**Date Received:**	8/ 3/11
Prep Method:	SM 4500-CN-C	**Units:**	mg/L
Analysis Method:	SM 4500-CN- E	**Basis:**	NA

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11TCN017	K1107103-001	ND	U	0.010	0.003	1	8/ 9/11	8/9/11 15:30	
MOA11TCN018	K1107103-002	**0.004**	J	0.010	0.003	1	8/ 9/11	8/9/11 15:30	
Method Blank	K1107103-MB	ND	U	0.010	0.003	1	8/ 9/11	8/9/11 15:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107103
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1107215-003	**Basis:**	NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1107215-003DUP Result	Average	RPD		RPD Limit
Cyanide, Total	SM 4500-CN-E	0.010	0.003	0.016	0.011	0.0136	35	*	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107103
Date Collected: NA
Date Received: NA
Date Analyzed: 8/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107215-003

Units: mg/L
Basis: NA

Analytical Method: SM 4500-CN- E
Prep Method: SM 4500-CN-C

		Batch QCMS **Matrix Spike** K1107215-003MS				Batch QCDMS **Duplicate Matrix Spike** K1107215-003DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	0.016	0.0842	0.100	68		0.0897	0.100	74	23 - 148	6	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107103
Date Analyzed: 8/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1107103-LCS Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	SM 4500-CN-E	0.687	0.73	94	84 - 115

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

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

Columbia Analytical Services INC
1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 16, 2011 Analytical Report for Service Request No: K1107179

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.01

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on August 04, 2011. For your reference, these analyses have been assigned our service request number K1107179.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Kinnetic Laboratories	**Service Request No.:**	K1107179
Project:	Asplund WWTF	**Date Received:**	8/4/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), and Laboratory Control Sample (LCS).

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 8/4/11. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Total Cyanide by Standard Method 4500-CN-E:
The Relative Percent Difference (RPD) criterion for the replicate analysis of Total Cyanide in sample Batch QC was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

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

Approved by Howard Holmes **Date** 8-12-11

K1107179

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.01

ANALYSIS TYPE: Total Cyanide (SM 4500-CN E Mod)

MATRIX: Water	**Preservative:** NaOH, Effluent sample contains ascorbic acid, 6°C	**Type of Container:** 250 ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11TCN019	Influent	1	8/3/11 0957		
MOA11TCN020	Effluent	1	8/3/11 0851		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	8/3/11 1230	hand	[signature]	8/3/11 1230
[signature]	8/3/11 1300	FedEx	[signature] CAS	8/4/11 0850

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC H'V

Client / Project: Kinetic Service Request *K11* 7179

Received: 8/4/11 Opened: 8/4/11 By: AJ Unloaded: 8/4/11 By: AJ

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

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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.9	—	7495			X

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

Page 1 of _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107179
Project:	Asplund WWTF/506.01	**Date Collected:**	8/ 3/11
Sample Matrix:	Water	**Date Received:**	8/ 4/11
Prep Method:	SM 4500-CN-C	**Units:**	mg/L
Analysis Method:	SM 4500-CN- E	**Basis:**	NA

Cyanide, Total

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
MOA11TCN019	K1107179-001	ND	U	0.010	0.003	1	8/ 9/11	8/9/11 15:30	
MOA11TCN020	K1107179-002	**0.004**	J	0.010	0.003	1	8/ 9/11	8/9/11 15:30	
Method Blank	K1107179-MB	ND	U	0.010	0.003	1	8/ 9/11	8/9/11 15:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1107179
Project:	Asplund WWTF/506.01	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	8/ 9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1107215-003	**Basis:**	NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1107215-003DUP Result	Average	RPD		RPD Limit
Cyanide, Total	SM 4500-CN-E	0.010	0.003	0.016	0.011	0.0136	35	*	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107179
Date Collected: NA
Date Received: NA
Date Analyzed: 8/ 9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107215-003

Units: mg/L
Basis: NA

Analytical Method: SM 4500-CN- E
Prep Method: SM 4500-CN-C

		Batch QCMS **Matrix Spike** K1107215-003MS			Batch QCDMS **Duplicate Matrix Spike** K1107215-003DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	0.016	0.0842	0.100	68	0.0897	0.100	74	23 - 148	6	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.01
Sample Matrix: Water

Service Request: K1107179
Date Analyzed: 8/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1107179-LCS Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	SM 4500-CN-E	0.687	0.73	94	84 - 115

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

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

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Solar Environmental Services
7401 Meadow St.
Anchorage AK 99507

Report Date: 8/15/2011
Report No.: 249607
Project:
Project No.: 506.01

TEM WATER SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location	Total Asbestos Concentration	Asbestos Concentration Fibers > 10 Microns	Asbestos Types
4395065	MOA11A5B004	Sampled-8-11-11 Analyzed-8-15-11	<18.50 Million Fibers/Liter	<18.50 Million Fibers/Liter	None Detected
4395066	MOA11A5B005	Sampled-8-11-11 Analyzed-8-15-11	<9.25 Million Fibers/Liter	<9.25 Million Fibers/Liter	None Detected

NJ DEP 03863 NYS-DOH No. 11021 PA 68-03378

Methodology: EPA Method For Determining Asbestos In Drinking Water (EPA 600/4-83-043) and EPA Method 100.1 and 100.2
NYSDOH Method For Waterborne Asbestos (ELAP 198.2)

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client. Samples are not blank corrected.
This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government

Minimum detection limit dependant upon turbidity of sample and volume filtered. National Primary Drinking Water Regulations under EPA's Safe Drinking Water Act dictates maximum contaminant levels for asbestos at 7.0 million fibers per liter. EPA and NYS-DOH regulations require segregation of overall fiber concentration, total asbestos concentration and asbestos concentration of fibers > 10 microns in length.

Analysis Performed By: R. Shumate

Approved By:

Date: 8/15/2011

Frank E. Ehrenfeld, III
Laboratory Director

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

Transmission Electron Microscopy - Sample Data

Client: Solar Environmental Services
7401 Meadow St.
Anchorage AK 99507

Report Date: 8/15/2011
Project:
Project No.: 506.01

IATL No.: 4395065
Client Sample No.: MOA11A5B004

Description/ Location: Sampled-8-11-11
Analyzed-8-15-11

Volume Filtered:	0.50 Milliliters
Filter Type:	MCE
Filter Size:	962 mm²
Pore Size:	0.45 µm
ANALYSIS RESULTS:	
Grid Openings:	8
Opening Area:	0.013 mm²
Area Analyzed:	0.104 mm²
Detection Limit:	18.500 Million Fibers/Liter
Sensitivity:	9.6 Fibers/mm²
ASBESTOS FIBERS:	
> 0.5 Microns:	None Detected
Concentration:	<18.50 Million Fibers/Liter
> 10 Microns:	None Detected
Concentration:	<18.50 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
NON-ASBESTOS FIBERS:	None Detected
Concentration:	<18.50 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
Type 4:	
Micrograph Number:	
X-Ray Spectrum Number:	

Methodology: EPA Method For Determining Asbestos In Drinking Water (EPA 600/4-83-043) and EPA Method 100.1 and 100.2. NYSDOH Method For Waterborne Asbestos (ELAP 198.2)

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government.

Analysis Performed By: R. Shumate

Date: 8/15/2011

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

Transmission Electron Microscopy - Sample Data

Client: Solar Environmental Services
7401 Meadow St.
Anchorage AK 99507

Report Date: 8/15/2011
Project:
Project No.: 506.01

IATL No.: 4395066
Client Sample No.: MOA11A5B005

Description/ Location: Sampled-8-11-11
Analyzed-8-15-11

Volume Filtered:	1.0 Milliliters
Filter Type:	MCE
Filter Size:	962 mm²
Pore Size:	0.45 µm
ANALYSIS RESULTS:	
Grid Openings:	8
Opening Area:	0.013 mm²
Area Analyzed:	0.104 mm²
Detection Limit:	9.250 Million Fibers/Liter
Sensitivity:	9.6 Fibers/mm²
ASBESTOS FIBERS:	
> 0.5 Microns:	None Detected
Concentration:	<9.25 Million Fibers/Liter
> 10 Microns:	None Detected
Concentration:	<9.25 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
NON-ASBESTOS FIBERS:	None Detected
Concentration:	<9.25 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
Type 4:	
Micrograph Number:	
X-Ray Spectrum Number:	

Methodology: EPA Method For Determining Asbestos In Drinking Water (EPA 600/4-83-043) and EPA Method 100.1 and 100.2. NYSDOH Method For Waterborne Asbestos (ELAP 198.2)

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government.

Analysis Performed By: R. Shumate

Date: 8/15/2011

APPENDIX B

Toxic Pollutant and Pesticide Monitoring, August Sampling

B2 Asbestos

Solar Environmental Services, &
International Asbestos Testing Labs

IATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: Solar Environmental Services
7401 Meadow St.
Anchorage AK 99507

Report Date: 8/15/2011
Report No.: 249607
Project:
Project No.: 506.01

TEM WATER SAMPLE ANALYSIS SUMMARY

Lab No.	Client No.	Location	Total Asbestos Concentration	Asbestos Concentration Fibers > 10 Microns	Asbestos Types
4395065	MOA11A5B004	Sampled-8-11-11 Analyzed-8-15-11	<18.50 Million Fibers/Liter	<18.50 Million Fibers/Liter	None Detected
4395066	MOA11A5B005	Sampled-8-11-11 Analyzed-8-15-11	<9.25 Million Fibers/Liter	<9.25 Million Fibers/Liter	None Detected

NJ DEP 03863 NYS-DOH No. 11021 PA 68-03378

Methodology: EPA Method For Determining Asbestos In Drinking Water (EPA 600/4-83-043) and EPA Method 100.1 and 100.2
NYSDOH Method For Waterborne Asbestos (ELAP 198.2)

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client. Samples are not blank corrected.
This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government

Minimum detection limit dependant upon turbidity of sample and volume filtered. National Primary Drinking Water Regulations under EPA's Safe Drinking Water Act dictates maximum contaminant levels for asbestos at 7.0 million fibers per liter. EPA and NYS-DOH regulations require segregation of overall fiber concentration, total asbestos concentration and asbestos concentration of fibers > 10 microns in length.

Analysis Performed By: R. Shumate

Approved By:

Date: 8/15/2011

Frank E. Ehrenfeld, III
Laboratory Director

IATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

Transmission Electron Microscopy - Sample Data

Client: Solar Environmental Services
7401 Meadow St.
Anchorage AK 99507

Report Date: 8/15/2011
Project:
Project No.: 506.01

IATL No.: 4395065
Client Sample No.: MOA11A5B004

Description/ Location: Sampled-8-11-11
Analyzed-8-15-11

Volume Filtered:	0.50 Milliliters
Filter Type:	MCE
Filter Size:	962 mm²
Pore Size:	0.45 µm
ANALYSIS RESULTS:	
Grid Openings:	8
Opening Area:	0.013 mm²
Area Analyzed:	0.104 mm²
Detection Limit:	18.500 Million Fibers/Liter
Sensitivity:	9.6 Fibers/mm²
ASBESTOS FIBERS:	
> 0.5 Microns:	None Detected
Concentration:	<18.50 Million Fibers/Liter
> 10 Microns:	None Detected
Concentration:	<18.50 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
NON-ASBESTOS FIBERS:	None Detected
Concentration:	<18.50 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
Type 4:	
Micrograph Number:	
X-Ray Spectrum Number:	

Methodology: EPA Method For Determining Asbestos In Drinking Water (EPA 600/4-83-043) and EPA Method 100.1 and 100.2. NYSDOH Method For Waterborne Asbestos (ELAP 198.2)

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government.

Analysis Performed By: R. Shumate

Date: 8/15/2011

iATL INTERNATIONAL
ASBESTOS TESTING LABORATORIES

9000 Commerce Parkway Suite B
Mount Laurel, NJ 08054
Toll Free 877-428-4285
Local: 856-231-9449
Fax: 856-231-9818

Transmission Electron Microscopy - Sample Data

Client: Solar Environmental Services
7401 Meadow St.
Anchorage AK 99507

Report Date: 8/15/2011
Project:
Project No.: 506.01

IATL No.: 4395066
Client Sample No.: MOA11A5B005

Description/ Location: Sampled-8-11-11
Analyzed-8-15-11

Volume Filtered:	1.0 Milliliters
Filter Type:	MCE
Filter Size:	962 mm²
Pore Size:	0.45 µm
ANALYSIS RESULTS:	
Grid Openings:	8
Opening Area:	0.013 mm²
Area Analyzed:	0.104 mm²
Detection Limit:	9.250 Million Fibers/Liter
Sensitivity:	9.6 Fibers/mm²
ASBESTOS FIBERS:	
> 0.5 Microns:	None Detected
Concentration:	<9.25 Million Fibers/Liter
> 10 Microns:	None Detected
Concentration:	<9.25 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
NON-ASBESTOS FIBERS:	None Detected
Concentration:	<9.25 Million Fibers/Liter
Types Identified:	None Detected
Type 2:	
Type 3:	
Type 4:	
Micrograph Number:	
X-Ray Spectrum Number:	

Methodology: EPA Method For Determining Asbestos In Drinking Water (EPA 600/4-83-043) and EPA Method 100.1 and 100.2. NYSDOH Method For Waterborne Asbestos (ELAP 198.2)

IATL assumes that all sampling methods and data upon which these results are based have been accurately supplied by the client.
This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government.

Analysis Performed By: R. Shumate

Date: 8/15/2011

Solar Environmental Services, Inc.

7401 Meadow Street
Anchorage, AK 99507
Home Page: www.solar-environmental.com

Phone: (907) 349-7705
Fax: (907) 349-7944
E-mail: sesenvir@alaska.net

CERTIFICATE OF ANALYSIS

CLIENT:	Kinnetic Laboratories, Inc.	**CLIENT ORDER #:**	194019
ATTN:	Gary Lawley 1102 West 7th Avenue Anchorage, Alaska 99501	**PROJECT NAME:**	506.01
		PROJECT #:	AK11-1103
		REPORT #:	145
		REPORT DATE:	August 18, 2011
		COLLECTED BY:	Client
		DATE SAMPLED:	August 1, 2011
		DATE RECEIVED:	August 1, 2011
		DATE ANALYZED:	August 18, 2011
		ANALYZED BY:	Grace T.
PAGE:	1of 1		

ASBESTOS QUALITATIVE DUST ANALYSIS SUMMARY

POLARIZED LIGHT MICROSCOPY (PLM) WITH DISPERSION STAINING

Lab.#	Client#	Location/ Description (color)	Asbestos Present	Notes
1125	MOA11ASB006	Sludge (Gray)	None Detected	

End of Report

Test report relates only to the items tested and must not be used by client to claim product endorsement by NVLAP or any Agency of the U.S. Government. Test Report must not be reproduced except in full without the approval of SES and subject to SES general terms and conditions. Small fibers may be missed by PLM Method due to resolution limitations of the optical microscope. Therefore, None Detected results cannot be guaranteed. Electron Microscopy is recommended for confirmation. This is not covered by NVLAP.

REVIEWED AND APPROVED BY: Gracita O. Torrijos, Chemist – I.H.

Date: August 18, 2011

FORM# SES 1031-REVISED 08/07/96

EPA Lead •AIHA •AAR• PAT Certified

APPENDIX B

Toxic Pollutant and Pesticide Monitoring, August Sampling

B3 Enterococci

Anchorage Water & Wastewater Utility

Anchorage Water and Wastewater Utility
Water Quality Section
AK 00017

Method: Standard Methods 20th ed. 9223B Enzyme Substrate
(Idexx Colilert Quanti-tray)

Enterococci

Sample Location: PWFE
Sample Type: GRAB
Thiosulfate Added: Yes ✓ No
EDTA Added: Yes No ✓
Chlorine Residual, mg/L: 1.12
Collected By: PWS

Date & Time Collected: 8/1/11 / 1506
Date & Time set: 8/1/11 / 1600
Analyst: PWS
Date & Time read (24 hours): 8/2/11 / 1600
Analyst: PWS

Sample I.D. MOA11ENT001
AA83622

Enterococci (Blue Fluorescence)

Replicate	Dilution (mls. of sample)	Positive Small Wells	Positive Large Wells	MPN Table	Result (MPN Table x Dilution factor) Cfu / 100 ml.
1.	100ml	45	47	616.7	616.7
2.	10ml (10x)	1	1	2	20
3.	1ml (100x)	Ø	Ø	<1	<100
4.					

RESULT: 20 **Enterococci cfu / 100 ml.**

Comments:

Analyst's Review: 8/9/11

Supervisor's Review:

QC ✓ AJ 8/22/11

\\Awwuptw\waterquality\LaboratoryServices\Forms_and_Benchsheets\Enterococci.doc
10/06 mk

DUPLICATE

Anchorage Water and Wastewater Utility
Water Quality Section
AK 00017

Method: Standard Methods 20th ed. 9223B Enzyme Substrate
(Idexx Colilert Quanti-tray)
Enterococci

Sample Location: PW PE
Sample Type: GRAB DUP
Thiosulfate Added: Yes X No
EDTA Added: Yes No X
Chlorine Residual, mg/L: 1.12
Collected By: ~~MOA11 ENT002~~ PW

Date & Time Collected: 8/1/11 1130
Date & Time set: 8/1/11 1600
Analyst: PW
Date & Time read (24 hours): 8/2/11 1600
Analyst: PW

Sample I.D. MOA 11 ENT 002

AA 83630

Enterococci (Blue Fluorescence)

Replicate	Dilution (mls. of sample)	Positive Small Wells	Positive Large Wells	MPN Table	Result (MPN Table x Dilution factor) Cfu / 100 ml.
1.	100 ml	48	49	>2419.6	>2419.6
2.	10 ml (10x)	1	7	8.5	85
3.	1 ml (100x)	Ø	Ø	<1	<100
4.					

RESULT: 85 **Enterococci cfu / 100 ml.**

Comments:

Analyst's Review: 8/9/11

Supervisor's Review:

QC/AJ 8/22/11

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY: To be run in house by AWWU.	**FROM:** Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. NA	KLI Proj. #:506.01

ANALYSIS TYPE: Enterococci by MPN (SM 9230B)

MATRIX: Water	**Preservative:** 6°C Effluent samples contain $Na_2S_2O_3$	**Type of Container:** 125-mL Bac-T bottles

SAMPLE IDENTIFICATION	SAMPLE NUMBER	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11ENT003	Effluent-1	2	8/1/11 1506		
MOA11ENT004	Effluent-2	2	8/1/11 1506		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME

APPENDIX C

Receiving Water Quality Monitoring

C1 Total Suspended Solids and Cyanide

Soil Control Lab

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

TEL: 831-724-5422
FAX: 831-724-3188

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

July 09, 2011

RE: None / 506.02
Workorder: 1060621

Dear Gary Lawley,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on .

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Mike Galloway

Mike Galloway
Lab Director

Enclosure(s)

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060621
Reporting Date: July 9, 2011

SAMPLE SUMMARY

Laboratory ID	Client ID	Station ID	Matrix	Sampled	Received
1060621-01	MOA11TCN001	F1-1S	Water	06/14/11 13:46	06/17/11 10:12
1060621-02	MOA11TCN002	F1-2S	Water	06/14/11 14:18	06/17/11 10:12
1060621-03	MOA11TCN003	F1-3S	Water	06/14/11 14:34	06/17/11 10:12
1060621-04	MOA11TCN004	C1-1S	Water	06/15/11 14:52	06/17/11 10:12
1060621-05	MOA11TCN005	C1-2S	Water	06/15/11 15:10	06/17/11 10:12
1060621-06	MOA11TCN006	C1-2S	Water	06/15/11 15:10	06/17/11 10:12
1060621-07	MOA11TCN007	C1-3S	Water	06/15/11 15:25	06/17/11 10:12

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060621
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TCN001
Matrix: Water
Laboratory #: 1060621-01

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Cyanide (total)	0.61	ug/L	1.0	0.10	1	EPA 335.2	07/07/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060621
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TCN002
Matrix: Water
Laboratory #: 1060621-02

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Cyanide (total)	0.44	ug/L	1.0	0.10	1	EPA 335.2	07/07/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060621
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TCN003
Matrix: Water
Laboratory #: 1060621-03

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Cyanide (total)	0.39	ug/L	1.0	0.10	1	EPA 335.2	07/07/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060621
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TCN004
Matrix: Water
Laboratory #: 1060621-04

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Cyanide (total)	0.54	ug/L	1.0	0.10	1	EPA 335.2	07/07/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060621
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TCN005
Matrix: Water
Laboratory #: 1060621-05

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Cyanide (total)	0.44	ug/L	1.0	0.10	1	EPA 335.2	07/07/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060621
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TCN006
Matrix: Water
Laboratory #: 1060621-06

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Cyanide (total)	0.57	ug/L	1.0	0.10	1	EPA 335.2	07/07/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060621
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TCN007
Matrix: Water
Laboratory #: 1060621-07

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Cyanide (total)	0.57	ug/L	1.0	0.10	1	EPA 335.2	07/07/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060621
Reporting Date: July 9, 2011

Classical Chemistry Parameters - Quality Control
Soil Control Lab

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch PG10062 - Default Prep GenChem											
Blank (PG10062-BLK1)					Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	ND	0.10	1.0	ug/L							
Duplicate (PG10062-DUP1)		**Source: 1060621-07**			Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	0.4767	0.10	1.0	ug/L		0.5733			18.4	20	
Matrix Spike (PG10062-MS1)		**Source: 1060621-07**			Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	32.40	1.0	10	ug/L	33.3	0.5733	95.5	70-130			
Matrix Spike Dup (PG10062-MSD1)		**Source: 1060621-07**			Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	31.27	1.0	10	ug/L	33.3	0.5733	92.1	70-130	3.56	20	
Reference (PG10062-SRM1)					Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	12.27	1.0	10	ug/L	13.8		88.8	70-130			

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

TEL: 831-724-5422
FAX: 831-724-3188

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

July 09, 2011

RE: None / 506.02
Workorder: 1060622

Dear Gary Lawley,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on .

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Mike Galloway

Mike Galloway
Lab Director

Enclosure(s)

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060622
Reporting Date: July 9, 2011

SAMPLE SUMMARY

Laboratory ID	Client ID	Station ID	Matrix	Sampled	Received
1060622-01	MOA11TSS001	F1-1S	Water	06/14/11 13:46	06/17/11 10:12
1060622-02	MOA11TSS002	F1-2S	Water	06/14/11 14:18	06/17/11 10:12
1060622-03	MOA11TSS003	F1-3S	Water	06/14/11 14:34	06/17/11 10:12
1060622-04	MOA11TSS004	C1-1S	Water	06/15/11 14:55	06/17/11 10:12
1060622-05	MOA11TSS005	C1-2S	Water	06/15/11 15:10	06/17/11 10:12
1060622-06	MOA11TSS006	C1-2S	Water	06/15/11 15:10	06/17/11 10:12
1060622-07	MOA11TSS007	C1-3S	Water	06/15/11 15:25	06/17/11 10:12

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060622
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TSS001
Matrix: Water
Laboratory #: 1060622-01

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Total Suspended Solids	240	mg/L	5.3	1.6	5.32	SM 2540D	06/23/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060622
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TSS002
Matrix: Water
Laboratory #: 1060622-02

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Total Suspended Solids	260	mg/L	6.7	2.0	6.67	SM 2540D	06/23/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060622
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TSS003
Matrix: Water
Laboratory #: 1060622-03

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Total Suspended Solids	240	mg/L	7.5	2.2	7.46	SM 2540D	06/23/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060622
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TSS004
Matrix: Water
Laboratory #: 1060622-04

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Total Suspended Solids	160	mg/L	7.7	2.3	7.69	SM 2540D	06/23/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060622
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TSS005
Matrix: Water
Laboratory #: 1060622-05

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Total Suspended Solids	170	mg/L	7.6	2.3	7.58	SM 2540D	06/23/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060622
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TSS006
Matrix: Water
Laboratory #: 1060622-06

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Total Suspended Solids	210	mg/L	7.6	2.3	7.63	SM 2540D	06/23/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060622
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TSS007
Matrix: Water
Laboratory #: 1060622-07

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Total Suspended Solids	250	mg/L	7.9	2.4	7.94	SM 2540D	06/23/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060622
Reporting Date: July 9, 2011

Classical Chemistry Parameters - Quality Control
Soil Control Lab

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch PF10226 - Default Prep GenChem											
Blank (PF10226-BLK1)					Prepared & Analyzed: 23-Jun-11						
Total Suspended Solids	ND		2.0	mg/L							
Duplicate (PF10226-Dup1)		**Source: 1060620-02**			Prepared & Analyzed: 23-Jun-11						
Total Suspended Solids	34.76		4.8	mg/L		34.39			1.08	20	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

TEL: 831-724-5422
FAX: 831-724-3188

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

July 09, 2011

RE: None / 506.02
Workorder: 1060620

Dear Gary Lawley,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on .

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Mike Galloway

Mike Galloway
Lab Director

Enclosure(s)

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060620
Reporting Date: July 9, 2011

SAMPLE SUMMARY

Laboratory ID	Client ID	Station ID	Matrix	Sampled	Received
1060620-01	MOA11TCN008	Effluent	Water	06/14/11 13:30	06/17/11 10:12
1060620-02	MOA11TSS008	Effluent	Water	06/14/11 13:30	06/17/11 10:12

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060620
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TCN008
Matrix: Water
Laboratory #: 1060620-01

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Cyanide (total)	2.4	ug/L	5.0	0.50	5	EPA 335.2	07/07/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060620
Reporting Date: July 9, 2011

Date Received: June 17, 2011
Project # / Name: None / 506.02
Sample Identification: MOA11TSS008
Matrix: Water
Laboratory #: 1060620-02

	Results	Units	RL	MDL	Dilution Factor	Analysis Method	Date Analyzed	Flags
Total Suspended Solids	34	mg/L	4.5	1.4	4.52	SM 2540D	06/23/11	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

Kinnetic Laboratories - Anchorage
1102 West 7th Avenue
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: 1060620
Reporting Date: July 9, 2011

Classical Chemistry Parameters - Quality Control
Soil Control Lab

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch PF10226 - Default Prep GenChem											
Blank (PF10226-BLK1)					Prepared & Analyzed: 23-Jun-11						
Total Suspended Solids	ND		2.0	mg/L							
Duplicate (PF10226-Dup1)		**Source: 1060620-02**			Prepared & Analyzed: 23-Jun-11						
Total Suspended Solids	34.76		4.8	mg/L		34.39			1.08	20	
Batch PG10062 - Default Prep GenChem											
Blank (PG10062-BLK1)					Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	ND	0.10	1.0	ug/L							
Duplicate (PG10062-DUP1)		**Source: 1060621-07**			Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	0.4767	0.10	1.0	ug/L		0.5733			18.4	20	
Matrix Spike (PG10062-MS1)		**Source: 1060621-07**			Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	32.40	1.0	10	ug/L	33.3	0.5733	95.5	70-130			
Matrix Spike Dup (PG10062-MSD1)		**Source: 1060621-07**			Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	31.27	1.0	10	ug/L	33.3	0.5733	92.1	70-130	3.56	20	
Reference (PG10062-SRM1)					Prepared: 27-Jun-11 Analyzed: 07-Jul-11						
Cyanide (total)	12.27	1.0	10	ug/L	13.8		88.8	70-130			

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.

APPENDIX C

Receiving Water Quality Monitoring

C2 Aromatic Hydrocarbons and Color

Columbia Analytical Services,
Analytica, Inc.

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105467

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.02

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105467.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/lg

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record K1105467

LABORATORY:	**FROM:**	
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1002	KLI Proj. #:506.02

ANALYSIS TYPE: : EPA 624, report EPA 602 list plus xylenes. Detection limit 0.5 µg/L.

MATRIX: Water	**Preservative:** HCL, Flood samples contain ascorbic acid. 6°C	**Type of Container:** 40 ml glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOA001	F1-1S	3	6/14/11 1346		
MOA11VOA002	F1-2S	3	1418		
MOA11VOA003	F1-2S	3	1418		
MOA11VOA004	F1-3S	3	1434		
MOA11VOA005	C1-1S	MA ~~6~~ 3	6/15/11 1455		
MOA11VOA006	C1-2S	3	1510		
MOA11VOA007	C1-3S	3	1525		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
Gary Gillingham	6/16/11 1400	FEDX		
			[signature]	6/17/11 910

SAMPLED BY IN ORIGINATURE

PC H2

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request *K11* 5467

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*

. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*

. 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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.6	289			X

. Packing material used. (*Inserts*) *Baggies* (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Sleeves* *Other* _____

. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N

. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N

0. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N

1. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N

2. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N

3. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N

4. Were VOA vials received without headspace? *Indicate in the table below.* NA (Y) N

5. 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: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA001	**Units:**	ug/L
Lab Code:	K1105467-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	**0.080**	J	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	**1.4**		0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	**0.10**	J	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	**0.19**	J	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	**0.090**	J	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	98	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	91	70-120	06/22/11	Acceptable
Dibromofluoromethane	109	61-121	06/22/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA002	**Units:**	ug/L
Lab Code:	K1105467-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	**0.080**	J	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.24**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	**0.040**	J	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	98	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	90	70-120	06/22/11	Acceptable
Dibromofluoromethane	107	61-121	06/22/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Collected:**	06/14/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA003	**Units:**	ug/L
Lab Code:	K1105467-003	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	**0.070**	J	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.24**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	**0.040**	J	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	97	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	89	70-120	06/22/11	Acceptable
Dibromofluoromethane	107	61-121	06/22/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	Service Request:	K1105467
Project:	Asplund WWTF/506.02	Date Collected:	06/14/2011
Sample Matrix:	Water	Date Received:	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA004	Units:	ug/L
Lab Code:	K1105467-004	Basis:	NA
Extraction Method:	METHOD	Level:	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.070**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	97	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	91	70-120	06/22/11	Acceptable
Dibromofluoromethane	108	61-121	06/22/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	Service Request:	K1105467
Project:	Asplund WWTF/506.02	Date Collected:	06/15/2011
Sample Matrix:	Water	Date Received:	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA005	Units:	ug/L
Lab Code:	K1105467-005	Basis:	NA
Extraction Method:	METHOD	Level:	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	**0.88**		0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
Toluene	**1.6**		0.50	0.039	1	06/23/11	06/23/11	KWG1105760	
Ethylbenzene	**0.18**	J	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
m,p-Xylenes	**0.53**	J	1.0	0.14	1	06/23/11	06/23/11	KWG1105760	
o-Xylene	**0.25**	J	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	97	72-122	06/23/11	Acceptable
4-Bromofluorobenzene	91	70-120	06/23/11	Acceptable
Dibromofluoromethane	108	61-121	06/23/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Collected:**	06/15/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA006	**Units:**	ug/L
Lab Code:	K1105467-006	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
Toluene	ND	U	0.50	0.039	1	06/23/11	06/23/11	KWG1105760	
Ethylbenzene	ND	U	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
m,p-Xylenes	ND	U	1.0	0.14	1	06/23/11	06/23/11	KWG1105760	
o-Xylene	ND	U	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	99	72-122	06/23/11	Acceptable
4-Bromofluorobenzene	89	70-120	06/23/11	Acceptable
Dibromofluoromethane	110	61-121	06/23/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Collected:**	06/15/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA007	**Units:**	ug/L
Lab Code:	K1105467-007	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
Toluene	ND	U	0.50	0.039	1	06/23/11	06/23/11	KWG1105760	
Ethylbenzene	ND	U	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
m,p-Xylenes	ND	U	1.0	0.14	1	06/23/11	06/23/11	KWG1105760	
o-Xylene	ND	U	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	99	72-122	06/23/11	Acceptable
4-Bromofluorobenzene	89	70-120	06/23/11	Acceptable
Dibromofluoromethane	109	61-121	06/23/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1105698-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.050**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	99	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	89	70-120	06/22/11	Acceptable
Dibromofluoromethane	106	61-121	06/22/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1105760-2	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
Toluene	ND	U	0.50	0.039	1	06/23/11	06/23/11	KWG1105760	
Ethylbenzene	ND	U	0.50	0.040	1	06/23/11	06/23/11	KWG1105760	
m,p-Xylenes	ND	U	1.0	0.14	1	06/23/11	06/23/11	KWG1105760	
o-Xylene	ND	U	0.50	0.035	1	06/23/11	06/23/11	KWG1105760	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	97	72-122	06/23/11	Acceptable
4-Bromofluorobenzene	88	70-120	06/23/11	Acceptable
Dibromofluoromethane	106	61-121	06/23/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.02
Sample Matrix: Water

Service Request: K1105467

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MOA11VOA001	K1105467-001	98	91	109
MOA11VOA002	K1105467-002	98	90	107
MOA11VOA003	K1105467-003	97	89	107
MOA11VOA004	K1105467-004	97	91	108
MOA11VOA005	K1105467-005	97	91	108
MOA11VOA006	K1105467-006	99	89	110
MOA11VOA007	K1105467-007	99	89	109
Method Blank	KWG1105698-4	99	89	106
Method Blank	KWG1105760-2	97	88	106
MOA11VOA005MS	KWG1105760-3	106	96	107
MOA11VOA005DMS	KWG1105760-4	105	97	106
Lab Control Sample	KWG1105698-3	105	98	108
Lab Control Sample	KWG1105760-1	106	97	106

Surrogate Recovery Control Limits (%)

Sur1 =	Toluene-d8	72-122
Sur2 =	4-Bromofluorobenzene	70-120
Sur3 =	Dibromofluoromethane	61-121

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Extracted:**	06/23/2011
Sample Matrix:	Water	**Date Analyzed:**	06/23/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	MOA11VOA005	**Units:**	ug/L
Lab Code:	K1105467-005	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624	**Extraction Lot:**	KWG1105760

		MOA11VOA005MS KWG1105760-3 Matrix Spike			MOA11VOA005DMS KWG1105760-4 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Benzene	0.88	11.5	10.0	106	10.6	10.0	97	61-145	8	30
Toluene	1.6	11.7	10.0	101	10.9	10.0	93	69-137	7	30
Ethylbenzene	0.18	10.9	10.0	107	10.2	10.0	100	74-131	7	30
m,p-Xylenes	0.53	22.1	20.0	108	20.5	20.0	100	85-129	8	30
o-Xylene	0.25	10.2	10.0	99	9.74	10.0	95	89-125	4	30

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Extracted:**	06/22/2011
Sample Matrix:	Water	**Date Analyzed:**	06/22/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	624	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105698

	Lab Control Sample KWG1105698-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Benzene	10.9	10.0	109	81-140
Toluene	10.9	10.0	109	80-139
Ethylbenzene	10.8	10.0	108	86-128
m,p-Xylenes	21.1	20.0	106	85-129
o-Xylene	9.92	10.0	99	89-125

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105467
Project:	Asplund WWTF/506.02	**Date Extracted:**	06/23/2011
Sample Matrix:	Water	**Date Analyzed:**	06/23/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	624	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105760

	Lab Control Sample KWG1105760-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Benzene	11.1	10.0	111	81-140
Toluene	11.1	10.0	111	80-139
Ethylbenzene	10.9	10.0	109	86-128
m,p-Xylenes	21.5	20.0	108	85-129
o-Xylene	9.96	10.0	100	89-125

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

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

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 | 360.577.7222 360.636.1068 (fax) www.caslab.com

August 2, 2011 Analytical Report for Service Request No: K1105466

Gary Lawley
Kinnetic Laboratories, Incorporated
1102 W. 7th Ave
Anchorage, AK 99501

RE: Asplund WWTF/506.02

Dear Gary:

Enclosed are the results of the samples submitted to our laboratory on June 17, 2011. For your reference, these analyses have been assigned our service request number K1105466.

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.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at HHolmes@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes
Project Chemist

HH/jw

100% Recycled Paper

Acronyms

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

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 4.1 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 4.1 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 4.1 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.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

Kinnetic Laboratories, Inc. Chain of Custody Record KI105466

LABORATORY:	**FROM:**
Columbia Analytical Services Inc. 1317 South 13th Ave. Kelso, Washington 98626 Attn: Howard Holmes Ph: 1-360-577-7222	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax
Required Completion Date: 30 days.	P.O. #: AK10-1005 / KLI Proj. #:506.02

ANALYSIS TYPE: : EPA 624 report EPA 602 list plus xylenes. Detection limit 0.5 µg/L.

MATRIX: Water | **Preservative:** None, 6°C | **Type of Container:** 40 ml VOA Vial

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11VOA009	C-STATION	3	6/15/11 1610		
MOA11VOA010	TRIP BLANK	3	6/15/11 0600		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
Gary Lellington	6/16/11 1400	FEDX		
			[illegible]	6/17/11 950

SAMPLED BY (NAME/SIGNATURE):

PC H2

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

Client / Project: Kinnetic Service Request K11 5464

Received: 6/17/11 Opened: 6/17/11 By: BT Unloaded: 6/17/11 By: BT

. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*

. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*

. 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

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	N/A	297			X
5.6	1.0	299			X
3.8	2.4	289			X

. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____

. Were custody papers properly filled out (ink, signed, etc.)? NA Y N

. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N

0. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N

1. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N

2. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N

3. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N

4. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N

5. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:
TB2	MOA11VOA010	

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

Notes, Discrepancies, & Resolutions: *Only Recd 2 trips, not 3 like COC says.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105466
Project:	Asplund WWTF/506.02	**Date Collected:**	06/15/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA009	**Units:**	ug/L
Lab Code:	K1105466-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	ND	U	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	**0.090**	J	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	99	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	88	70-120	06/22/11	Acceptable
Dibromofluoromethane	109	61-121	06/22/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105466
Project:	Asplund WWTF/506.02	**Date Collected:**	06/15/2011
Sample Matrix:	Water	**Date Received:**	06/17/2011

Volatile Organic Compounds

Sample Name:	MOA11VOA010	**Units:**	ug/L
Lab Code:	K1105466-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.080**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	98	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	89	70-120	06/22/11	Acceptable
Dibromofluoromethane	113	61-121	06/22/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105466
Project:	Asplund WWTF/506.02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Volatile Organic Compounds

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1105698-4	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Benzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
Toluene	**0.050**	J	0.50	0.039	1	06/22/11	06/22/11	KWG1105698	
Ethylbenzene	ND	U	0.50	0.040	1	06/22/11	06/22/11	KWG1105698	
m,p-Xylenes	ND	U	1.0	0.14	1	06/22/11	06/22/11	KWG1105698	
o-Xylene	ND	U	0.50	0.035	1	06/22/11	06/22/11	KWG1105698	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	99	72-122	06/22/11	Acceptable
4-Bromofluorobenzene	89	70-120	06/22/11	Acceptable
Dibromofluoromethane	106	61-121	06/22/11	Acceptable

Comments:

Client: Kinnetic Laboratories, Incorporated
Project: Asplund WWTF/506.02
Sample Matrix: Water

Service Request: K1105466

Surrogate Recovery Summary
Volatile Organic Compounds

Extraction Method: METHOD
Analysis Method: 624

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MOA11VOA009	K1105466-001	99	88	109
MOA11VOA010	K1105466-002	98	89	113
Batch QC	K1105468-009	95	95	105
Method Blank	KWG1105698-4	99	89	106
Batch QCMS	KWG1105698-1	104	95	103
Batch QCDMS	KWG1105698-2	103	96	102
Lab Control Sample	KWG1105698-3	105	98	108

Surrogate Recovery Control Limits (%)

Sur1 =	Toluene-d8	72-122
Sur2 =	4-Bromofluorobenzene	70-120
Sur3 =	Dibromofluoromethane	61-121

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105466
Project:	Asplund WWTF/506.02	**Date Extracted:**	06/22/2011
Sample Matrix:	Water	**Date Analyzed:**	06/22/2011

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1105468-009	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	624	**Extraction Lot:**	KWG1105698

		Batch QCMS KWG1105698-1 Matrix Spike			Batch QCDMS KWG1105698-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Benzene	0.10	11.8	10.0	117	10.7	10.0	106	61-145	9	30
Toluene	8.1	19.0	10.0	109	17.2	10.0	91	69-137	10	30
Ethylbenzene	0.47	11.8	10.0	113	11.1	10.0	107	74-131	6	30
m,p-Xylenes	1.1	24.0	20.0	115	22.5	20.0	107	85-129	6	30
o-Xylene	0.41	11.1	10.0	107	10.4	10.0	100	89-125	7	30

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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Kinnetic Laboratories, Incorporated	**Service Request:**	K1105466
Project:	Asplund WWTF/506.02	**Date Extracted:**	06/22/2011
Sample Matrix:	Water	**Date Analyzed:**	06/22/2011

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	624	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1105698

	Lab Control Sample KWG1105698-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Benzene	10.9	10.0	109	81-140
Toluene	10.9	10.0	109	80-139
Ethylbenzene	10.8	10.0	108	86-128
m,p-Xylenes	21.1	20.0	106	85-129
o-Xylene	9.92	10.0	99	89-125

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

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

Analytica Alaska Incorporated
website:
www.analyticagroup.com

ANALYTICA
Environmental Laboratories

6/24/2011

Kinnetic Laboratories
1102 W. 7th
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: A1106223
Date: 6/24/2011
Work ID: MOA Sampling Program
Date Received: 6/15/2011

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A1106223-01	E1-1S	A1106223-02	E1-2S
A1106223-03	E1-3S	A1106223-04	E1-4S
A1106223-05	E2-1S	A1106223-06	E2-2S
A1106223-07	E2-3S	A1106223-08	E2-4S
A1106223-09	E3-1S	A1106223-10	E3-2S
A1106223-11	E3-3S	A1106223-12	E3-4S
A1106223-13	F1-1S	A1106223-14	F1-2S
A1106223-15	F1-3S	A1106223-16	F1-4S
A1106223-17	F2-1S	A1106223-18	F2-2S
A1106223-19	F2-3S	A1106223-20	F2-4S
A1106223-21	F3-1S	A1106223-22	F3-2S
A1106223-23	F3-3S	A1106223-24	F3-4S

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

Claire K. Toon

Claire Toon
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

Analytica Alaska Inc.

Work Order: A1106223

Samples were prepared and analyzed according to EPA or equivalent methods outlined in the following references:

Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998.

SAMPLE RECEIPT:
Twenty-four (24) samples were received on 6/15/2011 9:39:00 AM, at a temperature of 6°C, at Analytica-Anchorage. The samples were received in good condition and in order per chain of custody.

REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN
A summary of our review is shown below.

All analytical results contained in this report have been reviewed under Analytica's internal quality assurance and quality control program. Any deviations in quality control parameters for specific analyses are noted in the following text. All method specifications were met for the following tests, unless otherwise noted:

Test Method: SM2120B - Color, Visual Comparison Method - True Color - Ocean Water

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E1-1S**

Matrix: Ocean Water

Collection Date: 6/14/2011 6:43:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-01A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E1-2S**

Matrix: Ocean Water

Collection Date: 6/14/2011 6:55:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-02A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E1-3S**

Matrix: Ocean Water

Collection Date: 6/14/2011 7:08:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-03A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E1-4S**

Matrix: Ocean Water

Collection Date: 6/14/2011 7:23:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-04A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E2-1S**

Matrix: Ocean Water

Collection Date: 6/14/2011 8:30:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-05A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E2-2S**

Matrix: Ocean Water

Collection Date: 6/14/2011 8:35:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-06A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E2-3S**

Matrix: Ocean Water

Collection Date: 6/14/2011 8:41:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-07A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E2-4S**

Matrix: Ocean Water

Collection Date: 6/14/2011 8:50:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-08A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E3-1S**

Matrix: Ocean Water

Collection Date: 6/14/2011 11:00:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-09A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E3-2S**

Matrix: Ocean Water

Collection Date: 6/14/2011 11:12:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-10A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E3-3S**

Matrix: Ocean Water

Collection Date: 6/14/2011 11:26:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-11A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **E3-4S**

Matrix: Ocean Water

Collection Date: 6/14/2011 11:50:00AM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-12A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F1-1S**

Matrix: Ocean Water

Collection Date: 6/14/2011 1:48:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-13A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**20**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F1-2S**

Matrix: Ocean Water

Collection Date: 6/14/2011 2:18:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-14A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F1-3S**

Matrix: Ocean Water

Collection Date: 6/14/2011 2:34:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-15A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F1-4S**

Matrix: Ocean Water

Collection Date: 6/14/2011 3:03:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-16A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F2-1S**

Matrix: Ocean Water

Collection Date: 6/14/2011 3:57:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-17A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F2-2S**

Matrix: Ocean Water

Collection Date: 6/14/2011 4:05:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-18A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F2-3S**

Matrix: Ocean Water

Collection Date: 6/14/2011 4:14:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-19A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F2-4S**

Matrix: Ocean Water

Collection Date: 6/14/2011 4:30:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-20A	Analysis Date:	6/15/2011 10:00:00AM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621006		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F3-1S**

Matrix: Ocean Water

Collection Date: 6/14/2011 5:23:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-21A	Analysis Date:	6/15/2011 4:00:00PM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621007		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F3-2S**

Matrix: Ocean Water

Collection Date: 6/14/2011 5:29:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-22A	Analysis Date:	6/15/2011 4:00:00PM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621007		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F3-3S**

Matrix: Ocean Water

Collection Date: 6/14/2011 5:36:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-23A	Analysis Date:	6/15/2011 4:00:00PM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621007		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **F3-4S**

Matrix: Ocean Water

Collection Date: 6/14/2011 5:58:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106223-24A	Analysis Date:	6/15/2011 4:00:00PM
Prep Date:	6/15/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621007		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Tests Run at: Analytica Environmental Laboratories - Anchorage, Alaska

Workorder (SDG): A1106223

Project: MOA Sampling Program

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **A110621006**

SAMPLE DUPLICATE REPORT

Analysis: SM2120B - Color, Visual Comparison Method - True Color

Base Sample: A1106223-10A
Prep Date: 6/15/2011

Samp. Anal. Date: 6/15/2011 10:00:00AM

DUP Anal. Date: 6/15/2011 10:00:00AM

Units: Color Unit

Matrix: Ocean Water

Analyte Name	SampResult	DUPRes.	RPD	RPDLim	Flag
Color, true	ND	ND	0.0	0	

Prep Batch: **A110621007**

SAMPLE DUPLICATE REPORT

Analysis: SM2120B - Color, Visual Comparison Method - True Color

Base Sample: A1106223-24A
Prep Date: 6/15/2011

Samp. Anal. Date: 6/15/2011 4:00:00PM

DUP Anal. Date: 6/15/2011 4:00:00PM

Units: Color Unit

Matrix: Ocean Water

Analyte Name	SampResult	DUPRes.	RPD	RPDLim	Flag
Color, true	ND	ND	0.0	0	

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **Lab Project Number:**

Prep Date:

Lab Method Blank Id:

Prep Batch ID:

Method:

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

SampleNum	ClientSampleName	DataFile	AnalysisDate

DATA FLAGS AND DEFINITIONS

The PQL is the Method Quantitation Limit as defined by USACE.
Reporting Limit: Limit below which results are shown as "ND". This may be the PQL, MDL, or a value between. See the report conventions below.

Result Field:

ND = Not Detected at or above the Reporting Limit
NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Lower Control Limit
HIGH = Recovery , RPD, or other parameter is above Upper Control Limit
E = Reported concentration is above the instrument calibration upper range

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank
J = Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Inorganic Analysis Flags:

J = Analyte was detected above the Reporting Limit but below the Quant Limit (PQL)
W = Post digestion spike did not meet criteria
S = Reported value determined by the Method of Standard Additions (MSA)

Other Flags may be applied. See Case Narrative for Description

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106223

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

REPORTING CONVENTIONS FOR THIS REPORT

A1106223

Test Pkg Name	Basis	# Sig Figs	Reporting Limit
2120B/2120B (Aqueous) - True Color	As Received		Report to PQL

Kinnetic Laboratories, Inc. Chain of Custody Record A1106223

LABORATORY:	**FROM:**
Analytica Alaska Incorporated Analytica International Incorporated 4307 Arctic Blvd. Anchorage, AK 99503 (907) 258-2155	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax
Required Completion Date: 30 days.	P.O. #: AK11-007 / KLI Proj. #:506.02

ANALYSIS TYPE: Color determination (SM 2120B).

MATRIX: Water | **Preservative:** None, 6°C | **Type of Container:** 250 ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
E1-1S	MOA11CLR001	1	6/14/11 0643		
E1-2S	MOA11CLR002	1	0655		
E1-3S	MOA11CLR003	1	0708		
E1-4S	MOA11CLR004	1	0723		
E2-1S	MOA11CLR005	1	0830		
E2-2S	MOA11CLR006	1	0835		
E2-3S	MOA11CLR007	1	0841		
E2-4S	MOA11CLR008	1	0850		
E3-1S	MOA11CLR009	1	11:00		
E3-2S	MOA11CLR010	1	1112		
E3-3S	MOA11CLR011	1	1126		
E3-4S	MOA11CLR012	1	1150		

One in ten color samples should also be run in duplicate. Please report duplicates with a "D" or "DUP" appended to the SAMPLE ID.

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15 0937	hand	[signature]	6/15/11 9:39am

SAMPLED BY (NAME/SIGNATURE): [signature]

COC Seal Absent Temp 6°C IR - SS23 Delivered by Client (temp blank)

C:\Projects\MOA\MOA11\COC's RW\MOA11_RW_COC.doc

Kinnetic Laboratories, Inc. Chain of Custody Record A1106223

LABORATORY:	FROM:
Analytica Alaska Incorporated Analytica International Incorporated 4307 Arctic Blvd. Anchorage, AK 99503 (907) 258-2155	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax
Required Completion Date: 30 days.	P.O. #: AK11.1007 — KLI Proj. #:506.02

ANALYSIS TYPE: Color determination (SM 2120B).

MATRIX: Water — **Preservative:** None, 6°C — **Type of Container:** 250 ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
F1-1S	MOA11CLR013	1	6/14/11 1346		
F1-2S	MOA11CLR014	1	1418		
F1-3S	MOA11CLR015	1	1434		
F1-4S	MOA11CLR016	1	1503		
F2-1S	MOA11CLR017	1	1557		
F2-2S	MOA11CLR018	1	1605		
F2-3S	MOA11CLR019	1	1614		
F2-4S	MOA11CLR020	1	1630		
F3-1S	MOA11CLR021	1	1723		
F3-2S	MOA11CLR022	1	1729		
F3-3S	MOA11CLR023	1	1736		
F3-4S	MOA11CLR024	1	1758		

One in ten color samples should also be run in duplicate. Please report duplicates with a "D" or "DUP" appended to the SAMPLE ID.

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15 0930	hand	MStreemane	6/15/11 9:39 am

SAMPLED BY (NAME/SIGNATURE): [signature]

COC Seal Absent Temp 6°C IR - SS23 Delivered by Client

C:\Projects\MOA\MOA11\COC's RW\MOA11_RW_COC.doc (temp blank)

Analytica Alaska Incorporated
website:
www.analyticagroup.com

ANALYTICA
Environmental Laboratories

6/24/2011

Kinnetic Laboratories
1102 W. 7th
Anchorage, AK 99501
Attn: Gary Lawley

Work Order #: A1106224
Date: 6/24/2011
Work ID: MOA Sampling Program
Date Received: 6/16/2011

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A1106224-01	C1-1S	A1106224-02	C1-2S
A1106224-03	C1-3S	A1106224-04	C1-4S
A1106224-05	C2-1S	A1106224-06	C2-2S(A)
A1106224-07	C2-2S(B)	A1106224-08	C2-2S(C)
A1106224-09	C2-3S	A1106224-10	C2-4S
A1106224-11	C3-1S(A)	A1106224-12	C3-1S(B)
A1106224-13	C3-1S(C)	A1106224-14	C3-2S
A1106224-15	C3-3S	A1106224-16	C3-4S

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

Claire K. Toon

Claire Toon
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

Analytica Alaska Inc.

Work Order: A1106224

Samples were prepared and analyzed according to EPA or equivalent methods outlined in the following references:

Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998.

SAMPLE RECEIPT:
Sixteen (16) samples were received on 6/16/2011 11:35:00 AM, at a temperature of 5.7°C, at Analytica-Anchorage. The samples were received in good condition and in order per chain of custody.

REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN
A summary of our review is shown below.

All analytical results contained in this report have been reviewed under Analytica's internal quality assurance and quality control program. Any deviations in quality control parameters for specific analyses are noted in the following text. All method specifications were met for the following tests, unless otherwise noted:

Test Method: SM2120B - Color, Visual Comparison Method - True Color - Ocean Water

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C1-1S**

Matrix: Ocean Water

Collection Date: 6/15/2011 2:55:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-01A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C1-2S**

Matrix: Ocean Water

Collection Date: 6/15/2011 3:10:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-02A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C1-3S**

Matrix: Ocean Water

Collection Date: 6/15/2011 3:25:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-03A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C1-4S**

Matrix: Ocean Water

Collection Date: 6/15/2011 3:33:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-04A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C2-1S**

Matrix: Ocean Water

Collection Date: 6/15/2011 4:43:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-05A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C2-2S(A)**

Matrix: Ocean Water

Collection Date: 6/15/2011 4:54:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-06A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C2-2S(B)**

Matrix: Ocean Water

Collection Date: 6/15/2011 4:54:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-07A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C2-2S(C)**

Matrix: Ocean Water

Collection Date: 6/15/2011 4:54:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-08A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C2-3S**

Matrix: Ocean Water

Collection Date: 6/15/2011 5:07:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-09A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C2-4S**

Matrix: Ocean Water

Collection Date: 6/15/2011 5:17:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-10A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		ND		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C3-1S(A)**

Matrix: Ocean Water

Collection Date: 6/15/2011 6:13:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-11A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C3-1S(B)**

Matrix: Ocean Water

Collection Date: 6/15/2011 6:13:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-12A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C3-1S(C)**

Matrix: Ocean Water

Collection Date: 6/15/2011 6:13:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-13A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C3-2S**

Matrix: Ocean Water

Collection Date: 6/15/2011 6:22:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-14A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C3-3S**

Matrix: Ocean Water

Collection Date: 6/15/2011 6:34:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-15A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Report Section: Client Sample Report

Client Sample Name: **C3-4S**

Matrix: Ocean Water

Collection Date: 6/15/2011 6:53:00PM

The following test was conducted by: Analytica - Anchorage

Lab Sample Number:	A1106224-16A	Analysis Date:	6/17/2011 11:00:00AM
Prep Date:	6/17/2011	Instrument:	Visual Analysi
Analytical Method ID:	SM2120B - Color, Visual Comparison Method - True Color	File Name:	
Prep Method ID:	Color	Dilution Factor:	1
Prep Batch Number:	A110621008		
Report Basis:	As Received	Analyst Initials:	KM
Sample prep wt./vol:	50.00 ml	Prep Extract Vol:	50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Rerun #:
Color, true		**5.0**		Color Unit	5.0	5.0	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

Tests Run at: Analytica Environmental Laboratories - Anchorage, Alaska

Workorder (SDG): A1106224

Project: MOA Sampling Program

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **A110621008**

SAMPLE DUPLICATE REPORT

Analysis: SM2120B - Color, Visual Comparison Method - True Color

Base Sample: A1106224-16A
Prep Date: 6/17/2011

Samp. Anal. Date: 6/17/2011 11:00:00AM

DUP Anal. Date: 6/17/2011 11:00:00AM

Units: Color Unit

Matrix: Ocean Water

Analyte Name	SampResult	DUPRes.	RPD	RPDLim	Flag
Color, true	5.00	5.00	0.0	0	

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **Lab Project Number:**

Prep Date:

Lab Method Blank Id:

Prep Batch ID:

Method:

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

SampleNum	ClientSampleName	DataFile	AnalysisDate

DATA FLAGS AND DEFINITIONS

The PQL is the Method Quantitation Limit as defined by USACE.
Reporting Limit: Limit below which results are shown as "ND". This may be the PQL, MDL, or a value between. See the report conventions below.

Result Field:

ND = Not Detected at or above the Reporting Limit
NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Lower Control Limit
HIGH = Recovery , RPD, or other parameter is above Upper Control Limit
E = Reported concentration is above the instrument calibration upper range

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank
J = Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Inorganic Analysis Flags:

J = Analyte was detected above the Reporting Limit but below the Quant Limit (PQL)
W = Post digestion spike did not meet criteria
S = Reported value determined by the Method of Standard Additions (MSA)

Other Flags may be applied. See Case Narrative for Description

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A1106224

Project: **MOA Sampling Program**

Client: **Kinnetic Laboratories**

Client Project Number: **KLI Proj. # 506.02**

REPORTING CONVENTIONS FOR THIS REPORT

A1106224

Test Pkg Name	Basis	# Sig Figs	Reporting Limit
2120B/2120B (Aqueous) - True Color	As Received		Report to PQL

Kinnetic Laboratories, Inc. Chain of Custody Record A1106224

LABORATORY:	FROM:
Analytica Alaska Incorporated Analytica International Incorporated 4307 Arctic Blvd. Anchorage, AK 99503 (907) 258-2155	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax
Required Completion Date: 30 days.	P.O. #: AK11.1007 — KLI Proj. #:506.02

ANALYSIS TYPE: Color determination (SM 2120B).

MATRIX: Water | **Preservative:** None, 6°C | **Type of Container:** 250 ml HDPE

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
C1-1S	MOA11CLR025	1	6/15/11 1455		
C1-2S	MOA11CLR026	1	1510		
C1-3S	MOA11CLR027	1	1525		
C1-4S	MOA11CLR028	1	1533		
C2-1S	MOA11CLR029	1	1643		
C2-2S(A)	MOA11CLR030	1	1654		
C2-2S(B)	MOA11CLR031	1	1654		
C2-2S(C)	MOA11CLR032	1	1654		
C2-3S	MOA11CLR033	1	1707		
C2-4S	MOA11CLR034	1	1717		
C3-1S(A)	MOA11CLR035	1	1813		
C3-1S(B)	MOA11CLR036	1	1813		
C3-1S(C)	MOA11CLR037	1	1813		
C3-2S	MOA11CLR038	1	1822		
C3-3S	MOA11CLR039	1	1834		
C3-4S	MOA11CLR040	1	1853		

One in ten color samples should also be run in duplicate. Please report duplicates with a "D" or "DUP" appended to the SAMPLE ID.

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[illegible]	6/16 1131	hand	[illegible]	6/16/11 @ 11:35a.

SAMPLED BY (NAME/SIGNATURE): [illegible]

COC Seal - ABSent
Temp Rcvd. - 5.7°C
Temp ID # 5523

C:\Projects\MOA\MOA11\COC's RW\MOA11_RW_COC.doc

APPENDIX C

Receiving Water Quality Monitoring

C3 Polycyclic Aromatic Hydrocarbons

Texas A&M GERG

Geochemical and Environmental Research Group (GERG)
833 Graham Rd.
College Station, Texas 77845, U.S.A.
Tel. 979.862.2323
http://gerg.tamu.edu

TEXAS A&M UNIVERSITY

Kinnetic Laboratories
Municipality of Anchorage 2011 Sampling
Case Narrative: PAH
Analytical Report L6898

I. Background

Seven water samples were received in duplicate under chain of custody in one sample delivery group on June 17, 2011. Samples were logged in under chain of custody as SDG L6898 and stored at 4°C. One water sample of each duplicate pair was extracted and analyzed for polynuclear aromatic hydrocarbons (PAHs) as requested.

II. Analysis Request

A. Standard Operating Procedures

The water samples were extracted and analyzed following the protocol contained in the following SOP used at GERG:

SOP-0001

Extracting of Water Samples for the Analysis of Organic Compounds Using the Separatory Funnel Technique. Rev. 1 as of March 1, 2000.

SOP-9733

Quantitative Determination Of Polynuclear Aromatic Hydrocarbons By Gas Chromatography/Mass Spectrometry Using The Selected Ion Monitoring Mode. Rev. 3 As of October 16, 1998.

B. SOP Modifications

None needed

II. Quality Control

Calibrations for Aromatic Hydrocarbons

The analytes are calculated using an average response factor based on the form:

$$RRF(n) = \frac{Ax * Cqs}{Aqs * Cx}$$

The deuterated surrogates are calculated using an average response factor based on the form:

$$RRF(m) = \frac{Aqs * Cis}{Ais * Cqs}$$

where:

Ax = sum of the integrated ion abundances of the quantitation ions for unlabeled PAHs,

Aqs = sum of the integrated ion abundances of the quantitation ions for the deuterated quantitation standards,

Ais = sum of the integrated ion abundances of the quantitation ions for the deuterated internal standards,

Cx = concentration of the unlabeled PAH analyte in the calibration solution (ng/mL),

Cqs = concentration of the deuterated quantitation standard in the calibration solution, and

Cqs = concentration of the deuterated internal standard in the calibration solution

Calibration data used in the quantitation of detected analytes met the calibration criteria; no deviations beyond the control limits were observed. All of the calibration standards had average percent deviations less than 15%, and no analyte was greater than 25% deviation.

Example Calculations for Aromatic Hydrocarbons

A. Sample Concentration

The concentration of the target analytes and the recovery of the deuterated quantitation standards are calculated using the following equations:

$$Cx = \frac{Ax * Cqs}{Aqs * \overline{RRF(n)}}$$

$$\% \text{ Recovery} = \frac{Ax * Cis * 100}{Ais * Cqs * \overline{RRF(m)}}$$

where:

Ax = sum of the integrated ion abundances of the quantitation ions for PAHs,

Aqs = sum of the integrated ion abundances of the quantitation ions for the deuterated quantitation standards,

Ais = sum of the integrated ion abundances of the quantitation ions for the deuterated internal standards,

Cx = concentration of the unlabeled PAHs in ng/mL

Cqs = concentration of the deuterated quantitation standard in the calibration solution,

Cis = concentration of the deuterated internal standard in the calibration solution,

$\overline{RRF(n)}$ = mean relative response factor for the unlabeled target analyte relative to its deuterated quantitation, and

$\overline{RRF(m)}$ = mean relative response factor for deuterated quantitation standard relative to its deuterated internal standard.

The sample concentration is calculated using the equation:

$$conc = x * df / wt$$

where:

conc = the concentration of the analyte of the analyte (ng/g);

x = amount of the analyte as found from solving the quadratic equation;

df = dilution factor;

wt = the sample weight in grams wet tissue.

Laboratory Qualifiers

The PAH concentrations are reported in nanograms per liter (ng/L), or parts per trillion. All of the analytical data have been qualified based on the most recent method detection limits determined (Spring 2006). A value of two times the MDL for the parent compound was used for multi-peak concentrations (i.e., MDL for C1-fluorenes is 7.3 ng/L from an MDL of 3.7 ng/L for fluorene based on a 1.0 liter water sample). Concentrations that were less than the MDL are adjusted for sample size and dilution and are qualified "J" and those analytes not detected are qualified "ND". Concentrations that exceeded the calibration limits are qualified "EC". The concentrations that are determined by analyses of a diluted aliquot are qualified "D". If the quantification of an analyte is interfered with by another analyte due to its high concentration the data will be left blank and qualified "I" to denote this interference. Analytes may be found above the three times the detection limits in the blank. These may cause possible contamination in samples that are less than ten times the observed level in the blank. These data are qualified "B" to denote this possible contamination. Measurements that are out of QA limits are qualified as "Q".

The GERG STD Check (REF Oil) is run on the instrument prior to each analytical batch. The sample is a solution of petroleum oil in methylene chloride with a concentration of about 800 mg/milliliter of solution. The GERG STD Check is used to define the retention time windows for the alkylated PAH homologue clusters; it is not a certified reference material.

The PAH concentrations are reported in nanograms per liter (ng/L), or parts per trillion. Analytes that are below the MDL are qualified in the tables as "J". Those analytes

not detected during the analysis are qualified as "ND". Measurements that are out of QA limits are qualified as "Q".

Analytical Difficulties

The recoveries of all surrogates were within the acceptance criteria except for d8 napthalene and d10 acenaphthlene. These there was sufficient peak response to quantitate analytes using these surrogates which compensate for the low recoveries. The surrogate d12 Perylene was low in the LBS and LBSD, but the recovery of perylene determind using this surrogate was acceptable (102.8 and 104.0 %, respectively). No further action was taken. No analytes were detected greater than 3 times the MDL in the procedural blank. No further action was required. The recoveries for the spike blank and spike blank duplicate for the PAH analysis were within the QC limits. The average recoveries were 93.4% and 104.4%. The average RPD was 12.0. The overall QA objectives were met. No further action was required.

Reviewed and Approved: Terry L. Wade 11/3/11

Terry L. Wade Ph.D.
Interim Director

Sample Integrity Report
& Chains of Custody

Storage Location: _____

GERG SAMPLE RECEIVING/ INTEGRITY REPORT

Date / Time Received: 6/17/11 930

Project Name / F&W Catalog # Kinnetics

SDG#: L6898

Sender:

P.I. : _____ **Notif. by (Name/Date):**

1. Number of Shipping Containers:

List of Broken Sample Containers:

2. Airbill Present?
No **Yes**

Shipping Company:
Fedex **UPS** **DHL** **Other**

Airbill Number:

3. Custody Seals on Container?
No **Yes** **Intact** **Not Intact**

Comments:

4. Chain of Custody Records?
No **Yes**

Comments:

5. General Sample Condition:
Frozen **Cool** **Unrefrigerated**
Dry Ice **Blue Ice** **Ice**

Temperature(s):
5°C 6°C

6. Comments:

45 day Turn around time

7. Number of Waters: 7x2 **Number of Tissues:**_____ **Number of Sediments:**_____
Number of Other:_____ **Total Number of Samples Received:** 7

8. Problems/ Discrepancies:

9. Resolutions:

10. Checked in by: Cindy Stass **Date:** 6/17/11

From: (907) 276-6178
KINNETIC LABORATORIES, INC
KINNETIC LABORATORIES, INC
1102 WEST 7TH AVENUE

ANCHORAGE, AK 99501

Origin ID: CYMA

FedEx. Express

J11201104290225

Ship Date: 16JUN11
ActWgt: 48.0 LB
CAD: 3116229/INET3180

Delivery Address Bar Code

SHIP TO: (979) 862-2323 BILL SENDER

Dr. Terry Wade
Texas A&M GERG
833 Graham Road

College Station, TX 77845

Ref # MOA 516.02
Invoice #
PO #
Dept #

2 of 2

FRI - 17 JUN A4
PRIORITY OVERNIGHT

MPS# 7972 1534 2406
0263

Mstr# 7972 1534 2288 0201

AB CLLA

77845
TX-US
IAH

50FG1/0CB0/F5F4

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic valueof the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

From: (907) 276-6178
KINNETIC LABORATORIES, INC
KINNETIC LABORATORIES, INC
1102 WEST 7TH AVENUE

ANCHORAGE, AK 99501

Origin ID: CYMA

FedEx Express

J11201104290225

Ship Date: 16JUN11
ActWgt: 48.0 LB
CAD: 3116229/INET3180

Delivery Address Bar Code

SHIP TO: (979) 862-2323 BILL SENDER

Dr. Terry Wade
Texas A&M GERG
833 Graham Road

College Station, TX 77845

Ref # MOA 516.02
Invoice #
PO #
Dept #

1 of 2

FRI - 17 JUN A4
PRIORITY OVERNIGHT

TRK# 7972 1534 2288
0201

MASTER

AB CLLA

77845
TX-US
IAH

50FG1/0CB0/F5F4

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic valueof the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**
Texas A & M GERG 833 Graham Road College Station, TX 77845 Attn: Terry Wade (979) 862-2323 ext 115	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 45 days.	P.O. #: AK11-1005	KLI Proj. #:506.02

ANALYSIS TYPE: Extraction of water for hydrocarbon analysis (GERG SOP-8901); determination of PAH and their alkylated homologues (GERG SOP-9733).

MATRIX: Water	**Preservative:** HCl, 6°C; Station F1 samples contain L-Ascorbic Acid	**Type of Container:** 1L amber nm glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11PAH001	F1-1S	2	6/14/11 1346		
MOA11PAH002	F1-2S	2	6/14/11 1418		
MOA11PAH003	F1-3S	2	6/14/11 1434		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
Gary Gillingham	6/16/11 14:00	FEDX		

SAMPLED BY (NAME/SIGNATURE): _____

C:\Projects\MOA\MOA11\COC's RW\MOA11_RW_COC.doc

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**
Texas A & M GERG 833 Graham Road College Station, TX 77845 Attn: Terry Wade (979) 862-2323 ext 115	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 45 days.	P.O. #: AK11-1005	KLI Proj. #:506.02

ANALYSIS TYPE: Extraction of water for hydrocarbon analysis (GERG SOP-8901); determination of PAH and their alkylated homologues (GERG SOP-9733).

MATRIX: Water	**Preservative:** HCl, 6°C.	**Type of Container:** 1L amber nm glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11PAH004	C1-1S	2	6/15/11 1455		
MOA11PAH005	C1-2S	2	1510		
MOA11PAH006	C1-3S	2	1525		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/16/11 14:00	FEDX		

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	**FROM:**
Texas A & M GERG 833 Graham Road College Station, TX 77845 Attn: Dr. Guy Denoux (979) 862-2323 ext 115	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

Required Completion Date: 30 days.	P.O. #: AK11-1005	KLI Proj. #:506.02

ANALYSIS TYPE: Extraction of water for hydrocarbon analysis (GERG SOP-8901); determination of PAH and their alkylated homologues (GERG SOP-9733).

MATRIX: Water	**Preservative:** [redacted], 6°C; Station F1 samples contain L-Ascorbic Acid	**Type of Container:** 1L amber nm glass

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11PAH007	Effluent	2	6/14/11 1330		SWG

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	hand	[signature]	6/15 1015

SAMPLED BY (NAME/SIGNATURE): _____

C:\Projects\MOA\MOA11\COC's RW\MOA11_RW_COC.doc

Sample Identification Sheet

Subproject Name : Unknown
Client Name : Kinnetics Laboratories Inc.
Subproject ID : 20110508
Receive Date :
Project No:
Due Date: 8/31/2011
PO A :
PO B :
PO C :
PO D :

Gerg ID	Client ID	SDG	Matrix	Sample Description
C68953	MOA11PAH001	L6898		13:46
C68954	MOA11PAH002	L6898		14:18
C68955	MOA11PAH003	L6898		14:34
C68956	MOA11PAH004	L6898		14:55
C68957	MOA11PAH005	L6898		15:10
C68958	MOA11PAH006	L6898		15:25
C68959	MOA11PAH007	L6898		13:30

Total Samples 7

Sample Information Sheet

Subproject Name : Unknown
Client Name : Kinnetics Laboratories Inc.
Subproject ID : 20110508
Recieve Date :

Project No:
Due Date: 8/31/2011

PO A :
PO B :
PO C :
PO D :

			FID					ECD			MS				HRMS		LABORATORY									AA				Other				
Gerg ID	Client ID	SDG	TP	AL	CF	WO	HS	OC	AC	TB	AR	VO	BS	BA	CP	DF	SP	DW	PL	OG	GS	AV	TV	CN	CV	AM	PM	FM	IS	BM	FL	TC	UL
C68953	MOA11PAH001	L6898									A						A																
C68954	MOA11PAH002	L6898									A						A																
C68955	MOA11PAH003	L6898									A						A																
C68956	MOA11PAH004	L6898									A						A																
C68957	MOA11PAH005	L6898									A						A																
C68958	MOA11PAH006	L6898									A						A																
C68959	MOA11PAH007	L6898									A						A																
Total Samples	7		0	0	0	0	0	0	0	0	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Aromatic Hydrocarbon

Data

M3763

Kinnetics: Municipality of Anchorage Waters

Client Sample ID	MOA11PAH001	MOA11PAH002	MOA11PAH003		MOA11PAH004
Sample Descriptor	13:46	14:18	14:34		14:55
Original Sample					
GERG ID	C68953	C68954	C68955		C68956
Sample Type	SAMP	SAMP	SAMP		SAMP
SDG	L6898	L6898	L6898		L6898
Dry Weight					
Wet Weight	0.92	1.02	1.03		1.04
Sample Size Units	Grams	Grams	Grams		Grams
Matrix	Water	Water	Water		Water
% solid					
% Lipid					
Reporting Units	ng/L	ng/L	ng/L		ng/L
Calculation Basis (dry/wet)	Wet	Wet	Wet		Wet
QC Batch ID	M3763	M3763	M3763		M3763
Method	GCMS	GCMS	GCMS		GCMS
Collection Date	06/14/11	06/14/11	06/14/11		06/15/11
Receive Date					
Extraction Date	07/07/11	07/07/11	07/07/11		07/07/11
Analysis Date	10/25/11	10/26/11	10/26/11		10/26/11
Surrogate Compounds	**%Recovery**	**%Recovery**	**%Recovery**		**%Recovery**
d8-Naphthalene	73.9	74.1	4.1	Q	70.6
d10-Acenaphthene	72.0	73.8	15.6	Q	70.2
d10-Phenanthrene	64.9	64.6	91.2		61.5
d12-Chrysene	56.4	58.0	40.1		44.7
d12-Perylene	89.2	89.1	82.6		42.5
Total PAHs	**Concentration**	**Concentration**	**Concentration**		**Concentration**
Total PAHs with Perylene	341.2	69.9	135.5		231.3
Total PAHs without Perylene	341.2	69.9	135.5		231.3
Total NS&T PAHs	196.8	46.2	91.0		161.9

ND Not Detected
J <MDL
NA Not Applicable
Q Results Outside QC
I Interference
B Blank Contamination >3xMDL
D Dilution

Kinnetics: Municipality of Anchorage Waters

Client Sample ID	MOA11PAH001		MOA11PAH002		MOA11PAH003		MOA11PAH004	
Sample Descriptor	13:46		14:18		14:34		14:55	
Original Sample								
GERG ID	C68953		C68954		C68955		C68956	
Sample Type	SAMP		SAMP		SAMP		SAMP	
SDG	L6898		L6898		L6898		L6898	
PAH Compounds	**Concentration**		**Concentration**		**Concentration**		**Concentration**	
Naphthalene	32.7		9.9		44.7		100.9	
C1-Naphthalenes	30.9		13.5		27.6		29.9	
C2-Naphthalenes	23.2		11.4		20.4		13.1	
C3-Naphthalenes	30.2		5.6	J	13.9		7.4	
C4-Naphthalenes	10.8			ND		ND	2.2	J
Biphenyl	5.1		3.5		7.2		6.6	
Acenaphthylene	1.4	J		ND		ND	37.4	
Acenaphthene	6.1	J		ND		ND		ND
Fluorene	9.6		2.1	J		ND	5.6	
C1-Fluorenes	7.6	J		ND		ND		ND
C2-Fluorenes	9.7			ND		ND		ND
C3-Fluorenes	4.8	J		ND		ND		ND
Phenanthrene	50.6		7.7		6.1		9.3	
Anthracene	2.6	J		ND		ND		ND
C1-Phenanthrenes/Anthracenes	15.6		5.3		4.1	J	5.1	
C2-Phenanthrenes/Anthracenes	12.0		4.4	J	4.4	J	5.2	
C3-Phenanthrenes/Anthracenes	6.7		2.7	J	3.3	J	2.9	J
C4-Phenanthrenes/Anthracenes	3.7	J		ND		ND	1.9	J
Dibenzothiophene	4.6			ND		ND		ND
C1-Dibenzothiophenes	4.1			ND		ND		ND
C2-Dibenzothiophenes		ND		ND		ND		ND
C3-Dibenzothiophenes		ND		ND		ND		ND
Fluoranthene	20.8		1.8	J	2.1	J	1.8	J
Pyrene	16.2		2.1	J	1.7	J	2.2	J
C1-Fluoranthenes/Pyrenes	5.5	J		ND		ND		ND
C2-Fluoranthenes/Pyrenes	4.1	J		ND		ND		ND
C3-Fluoranthenes/Pyrenes		ND		ND		ND		ND
Benzo(a)anthracene	3.7			ND		ND		ND
Chrysene	6.0			ND		ND		ND
C1-Chrysenes	2.6	J		ND		ND		ND
C2-Chrysenes	8.2			ND		ND		ND
C3-Chrysenes		ND		ND		ND		ND
C4-Chrysenes		ND		ND		ND		ND
Benzo(b)fluoranthene	1.8	J		ND		ND		ND
Benzo(k)fluoranthene		ND		ND		ND		ND
Benzo(e)pyrene		ND		ND		ND		ND
Benzo(a)pyrene		ND		ND		ND		ND
Perylene		ND		ND		ND		ND
Indeno(1,2,3-c,d)pyrene		ND		ND		ND		ND
Dibenzo(a,h)anthracene		ND		ND		ND		ND
Benzo(g,h,i)perylene		ND		ND		ND		ND
2-Methylnaphthalene	17.0		7.7		15.8		17.8	
1-Methylnaphthalene	13.8		5.8		11.8		12.1	
2,6-Dimethylnaphthalene	8.2		3.8	J		ND	4.6	J
1,6,7-Trimethylnaphthalene	2.7	J	1.7	J		ND	1.6	J
1-Methylphenanthrene	4.2		1.9	J	1.6	J	1.0	J

ND Not Detected
J <MDL
NA Not Applicable
Q Results Outside QC
I Interference
B Blank Contamination >3xMDL
D Dilution

Kinnetics: Municipality of Anchorage Waters

Client Sample ID	MOA11PAH005	MOA11PAH006	MOA11PAH007
Sample Descriptor	15:10	15:25	13:30
Original Sample			
GERG ID	C68957	C68958	C68959
Sample Type	SAMP	SAMP	SAMP
SDG	L6898	L6898	L6898
Dry Weight			
Wet Weight	1.06	1.04	1.02
Sample Size Units	Grams	Grams	Grams
Matrix	Water	Water	Water
% solid			
% Lipid			
Reporting Units	ng/L	ng/L	ng/L
Calculation Basis (dry/wet)	Wet	Wet	Wet
QC Batch ID	M3763	M3763	M3763
Method	GCMS	GCMS	GCMS
Collection Date	06/15/11	06/15/11	06/14/11
Receive Date			
Extraction Date	07/07/11	07/07/11	07/07/11
Analysis Date	10/26/11	10/26/11	10/26/11
Surrogate Compounds	**%Recovery**	**%Recovery**	**%Recovery**
d8-Naphthalene	75.4	82.8	87.6
d10-Acenaphthene	74.5	77.5	78.1
d10-Phenanthrene	66.7	66.0	65.3
d12-Chrysene	48.2	41.7	41.6
d12-Perylene	108.8	91.3	98.0
Total PAHs	**Concentration**	**Concentration**	**Concentration**
Total PAHs with Perylene	53.6	59.7	2498.4
Total PAHs without Perylene	53.6	59.7	2498.4
Total NS&T PAHs	31.0	33.9	1556.7

ND Not Detected
J <MDL
NA Not Applicable
Q Results Outside QC
I Interference
B Blank Contamination >3xMDL
D Dilution

Kinnetics: Municipality of Anchorage Waters

Client Sample ID	MOA11PAH005		MOA11PAH006		MOA11PAH007	
Sample Descriptor	15:10		15:25		13:30	
Original Sample						
GERG ID	C68957		C68958		C68959	
Sample Type	SAMP		SAMP		SAMP	
SDG	L6898		L6898		L6898	
PAH Compounds	**Concentration**		**Concentration**		**Concentration**	
Naphthalene	8.0		6.5		216.3	
C1-Naphthalenes	9.6		10.8		146.9	
C2-Naphthalenes	7.3	J	7.3	J	86.0	
C3-Naphthalenes	4.6	J	4.4	J	81.8	
C4-Naphthalenes	1.3	J	2.9	J	28.9	
Biphenyl	2.3	J	4.8		21.3	
Acenaphthylene	0.9	J		ND	5.3	
Acenaphthene		ND		ND	48.9	
Fluorene	1.4	J	1.4	J	73.2	
C1-Fluorenes		ND		ND	44.2	
C2-Fluorenes		ND		ND	75.8	
C3-Fluorenes		ND		ND	21.8	
Phenanthrene	4.3		4.3		430.7	
Anthracene		ND		ND	20.0	
C1-Phenanthrenes/Anthracenes	4.0	J	5.1		101.9	
C2-Phenanthrenes/Anthracenes	3.7	J	5.0		57.7	
C3-Phenanthrenes/Anthracenes	2.4	J	2.8	J	42.1	
C4-Phenanthrenes/Anthracenes	1.9	J	2.4	J	16.3	
Dibenzothiophene		ND		ND	34.2	
C1-Dibenzothiophenes		ND		ND	21.1	
C2-Dibenzothiophenes		ND		ND	25.4	
C3-Dibenzothiophenes		ND		ND	10.2	
Fluoranthene	0.8	J	1.0	J	207.9	
Pyrene	0.9	J	1.0	J	155.7	
C1-Fluoranthenes/Pyrenes		ND		ND	73.2	
C2-Fluoranthenes/Pyrenes		ND		ND	28.0	
C3-Fluoranthenes/Pyrenes		ND		ND	12.1	
Benzo(a)anthracene		ND		ND	43.8	
Chrysene		ND		ND	62.2	
C1-Chrysenes		ND		ND	19.3	
C2-Chrysenes		ND		ND	32.3	
C3-Chrysenes		ND		ND	14.6	
C4-Chrysenes		ND		ND	14.0	
Benzo(b)fluoranthene		ND		ND	70.9	
Benzo(k)fluoranthene		ND		ND	21.7	
Benzo(e)pyrene		ND		ND	51.0	
Benzo(a)pyrene		ND		ND	16.6	
Perylene		ND		ND		ND
Indeno(1,2,3-c,d)pyrene		ND		ND	34.4	
Dibenzo(a,h)anthracene		ND		ND		ND
Benzo(g,h,i)perylene		ND		ND	30.9	
2-Methylnaphthalene	5.7		6.4		79.2	
1-Methylnaphthalene	3.9	J	4.4		67.7	
2,6-Dimethylnaphthalene	2.3	J	3.1	J	39.2	
1,6,7-Trimethylnaphthalene	1.1	J		ND	14.5	
1-Methylphenanthrene	1.3	J	1.0	J	23.2	

ND Not Detected
J <MDL
NA Not Applicable
Q Results Outside QC
I Interference
B Blank Contamination >3xMDL
D Dilution

Aromatic Hydrocarbon

QC Data

M3763

Kinnetics: Municipality of Anchorage Waters

Client Sample ID						
Sample Descriptor	Proc Blank		Blank Spike		Blank Spike Dup	
Original Sample						
GERG ID	Q25969		Q25970		Q25971	
Sample Type	BLANK		LBS		LBSD	MSDRPD
SDG						
Dry Weight						
Wet Weight	1.00		1.00		1.00	
Sample Size Units	Grams		Grams		Grams	
Matrix	Water		Water		Water	**%RPD**
% solid						
% Lipid						
Reporting Units	ng/L		%		%	
Calculation Basis (dry/wet)	Wet		Wet		Wet	
QC Batch ID	M3763		M3763		M3763	
Method	GCMS		GCMS		GCMS	
Collection Date						
Receive Date						
Extraction Date	07/07/11		07/07/11		07/07/11	
Analysis Date	10/25/11		10/25/11		10/25/11	
Surrogate Compounds	**% Recovery**		**% Recovery**		**% Recovery**	
d8-Naphthalene	77.7		80.2		73.7	
d10-Acenaphthene	76.9		77.2		71.8	
d10-Phenanthrene	70.2		75.9		71.8	
d12-Chrysene	78.6		55.0		49.8	
d12-Perylene	89.2		16.4	Q	27.3	Q
Total PAHs	**Concentration**		**Concentration**		**Concentration**	
Total PAHs with Perylene	22.4		NA		NA	
Total PAHs without Perylene	21.6		NA		NA	
Total NS&T PAHs	23.0		NA		NA	

ND Not Detected
J <MDL
NA Not Applicable
Q Results Outside QC
I Interference
B Blank Contamination >3xMDL
D Dilution

Kinnetics: Municipality of Anchorage Waters

Client Sample ID					
Sample Descriptor	Proc Blank		Blank Spike	Blank Spike Dup	
Original Sample					
GERG ID	Q25969		Q25970	Q25971	
Sample Type	BLANK		LBS	LBSD	MSDRPD
SDG					
PAH Compounds	**Concentration**		**% Recovery**	**% Recovery**	**RPD**
Naphthalene	2.6	J			
C1-Naphthalenes	0.9	J			
C2-Naphthalenes		ND			
C3-Naphthalenes		ND			
C4-Naphthalenes		ND			
Biphenyl	1.5	J	94.6	110.8	15.8
Acenaphthylene		ND	81.9	100.3	20.2
Acenaphthene		ND	83.7	101.1	18.8
Fluorene	0.8	J	87.9	103.2	16.0
C1-Fluorenes		ND			
C2-Fluorenes		ND			
C3-Fluorenes		ND			
Phenanthrene	3.8	<3xMDL	94.4	107.4	12.9
Anthracene	2.0	J	76.0	88.1	14.8
C1-Phenanthrenes/Anthracenes		ND			
C2-Phenanthrenes/Anthracenes		ND			
C3-Phenanthrenes/Anthracenes		ND			
C4-Phenanthrenes/Anthracenes		ND			
Dibenzothiophene		ND	89.8	103.5	14.1
C1-Dibenzothiophenes		ND			
C2-Dibenzothiophenes		ND			
C3-Dibenzothiophenes		ND			
Fluoranthene	1.6	J	89.6	100.0	11.0
Pyrene	1.8	J	83.5	94.5	12.3
C1-Fluoranthenes/Pyrenes		ND			
C2-Fluoranthenes/Pyrenes		ND			
C3-Fluoranthenes/Pyrenes		ND			
Benzo(a)anthracene	2.8	<3xMDL	88.0	95.7	8.5
Chrysene	3.3	<3xMDL	111.0	113.5	2.2
C1-Chrysenes		ND			
C2-Chrysenes		ND			
C3-Chrysenes		ND			
C4-Chrysenes		ND			
Benzo(b)fluoranthene	0.5	J	108.8	111.2	2.1
Benzo(k)fluoranthene		ND	107.5	115.1	6.8
Benzo(e)pyrene		ND	103.4	109.6	5.8
Benzo(a)pyrene		ND	68.3	88.6	25.9
Perylene	0.8	J	102.8	104.0	1.2
Indeno(1,2,3-c,d)pyrene		ND	105.6	109.7	3.8
Dibenzo(a,h)anthracene		ND	105.0	115.6	9.6
Benzo(g,h,i)perylene		ND	113.7	110.1	3.3
2-Methylnaphthalene	0.9	J	89.1	107.4	18.7
1-Methylnaphthalene		ND	95.6	112.3	16.0
2,6-Dimethylnaphthalene		ND	87.8	101.4	14.3
1,6,7-Trimethylnaphthalene		ND	85.3	99.7	15.6
1-Methylphenanthrene	1.2	J	87.3	104.0	17.4
	Average		**93.4**	**104.4**	**12.0**

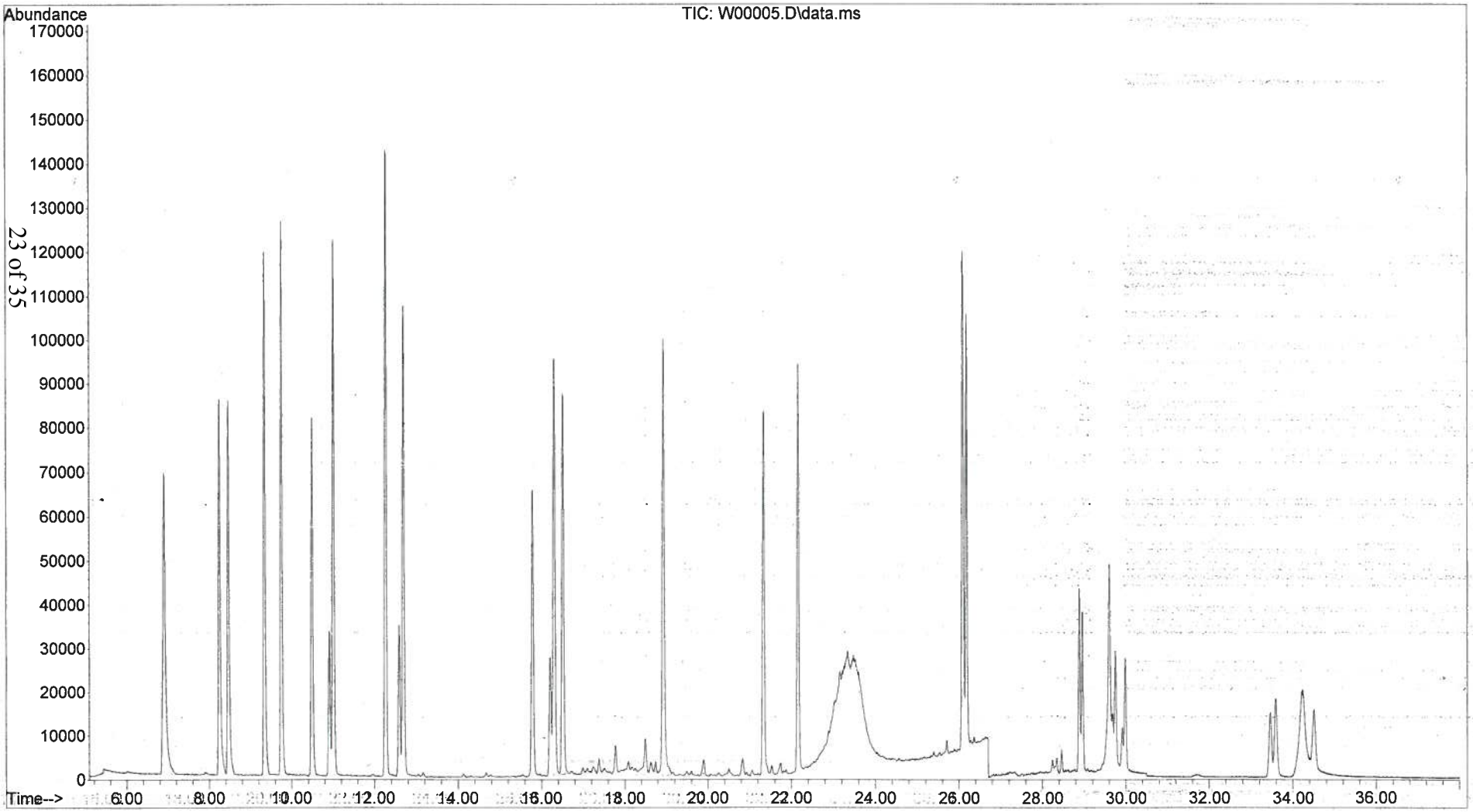
ND Not Detected
J <MDL
NA Not Applicable
Q Results Outside QC
I Interference
B Blank Contamination >3xMDL
D Dilution

Total Ion Chromatograms
For PAH Analyses

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : W00005.D
Acq On : 25 Oct 2011 19:37
Operator : Mackan/TLW
Sample : CAL 250
Misc :
ALS Vial : 5 Sample Multiplier: 1

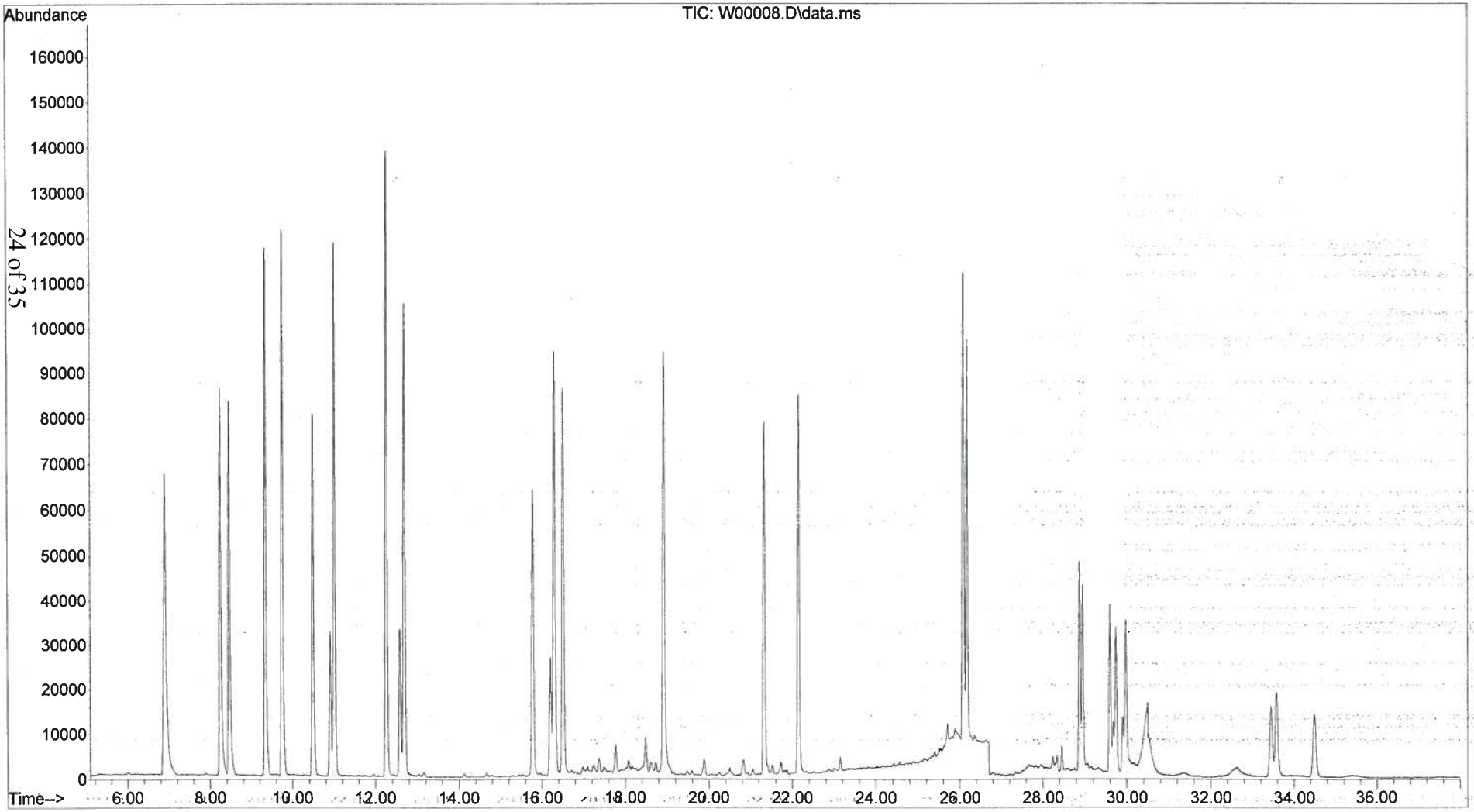
Quant Time: Nov 02 14:13:11 2011
Quant Method : C:\MSDCHEM\1\METHODS\AR4261M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 13:52:26 2011
QLast Update : Wed Nov 02 13:52:26 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : W00008.D
Acq On : 26 Oct 2011 5:39 am
Operator : Mackan/TLW
Sample : CAL 250
Misc :
ALS Vial : 5 Sample Multiplier: 1

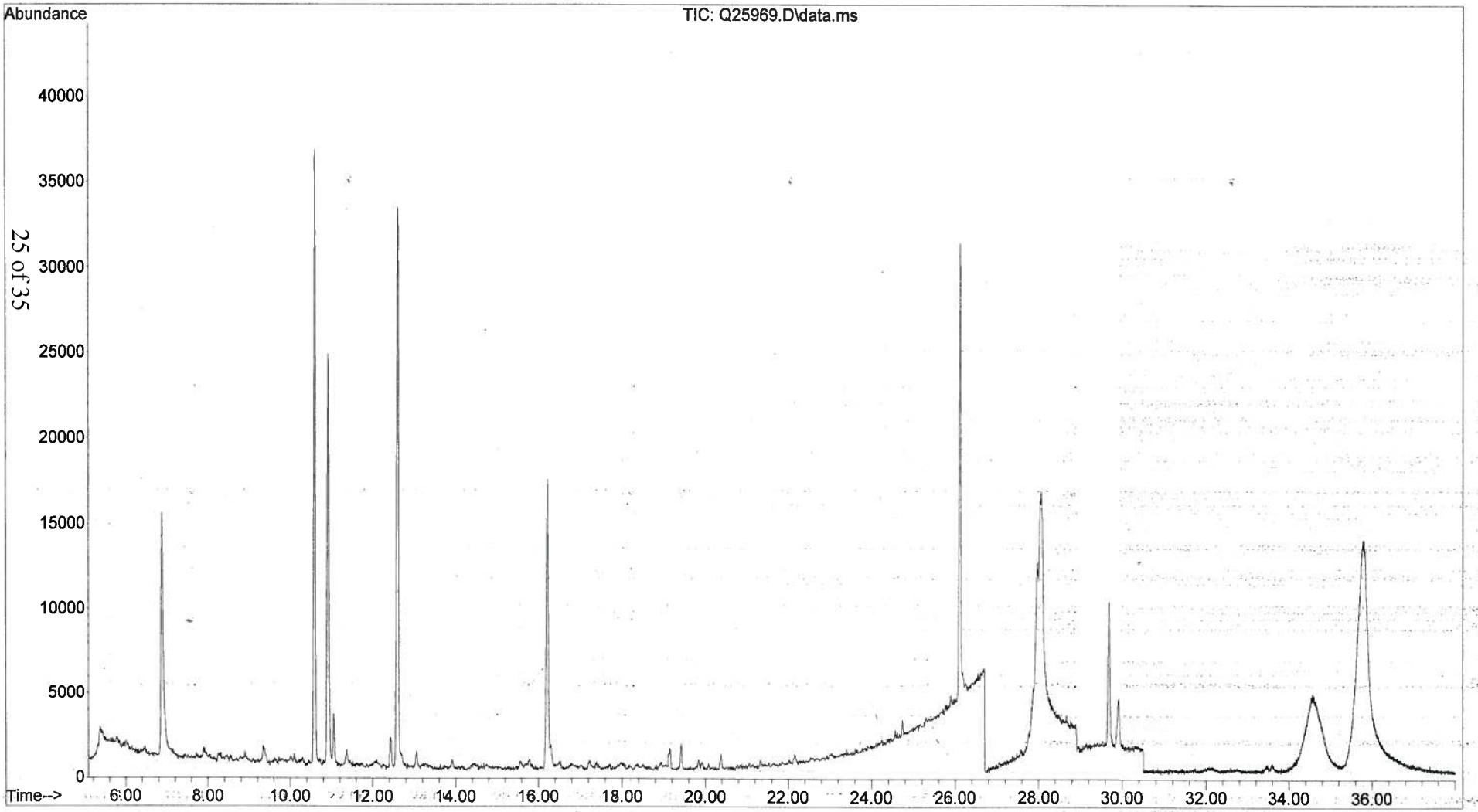
Quant Time: Nov 02 16:51:27 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : Q25969.D
Acq On : 25 Oct 2011 9:46 pm
Operator : Mackan/TLW
Sample : BLANK
Misc : M3763
ALS Vial : 8 Sample Multiplier: 1

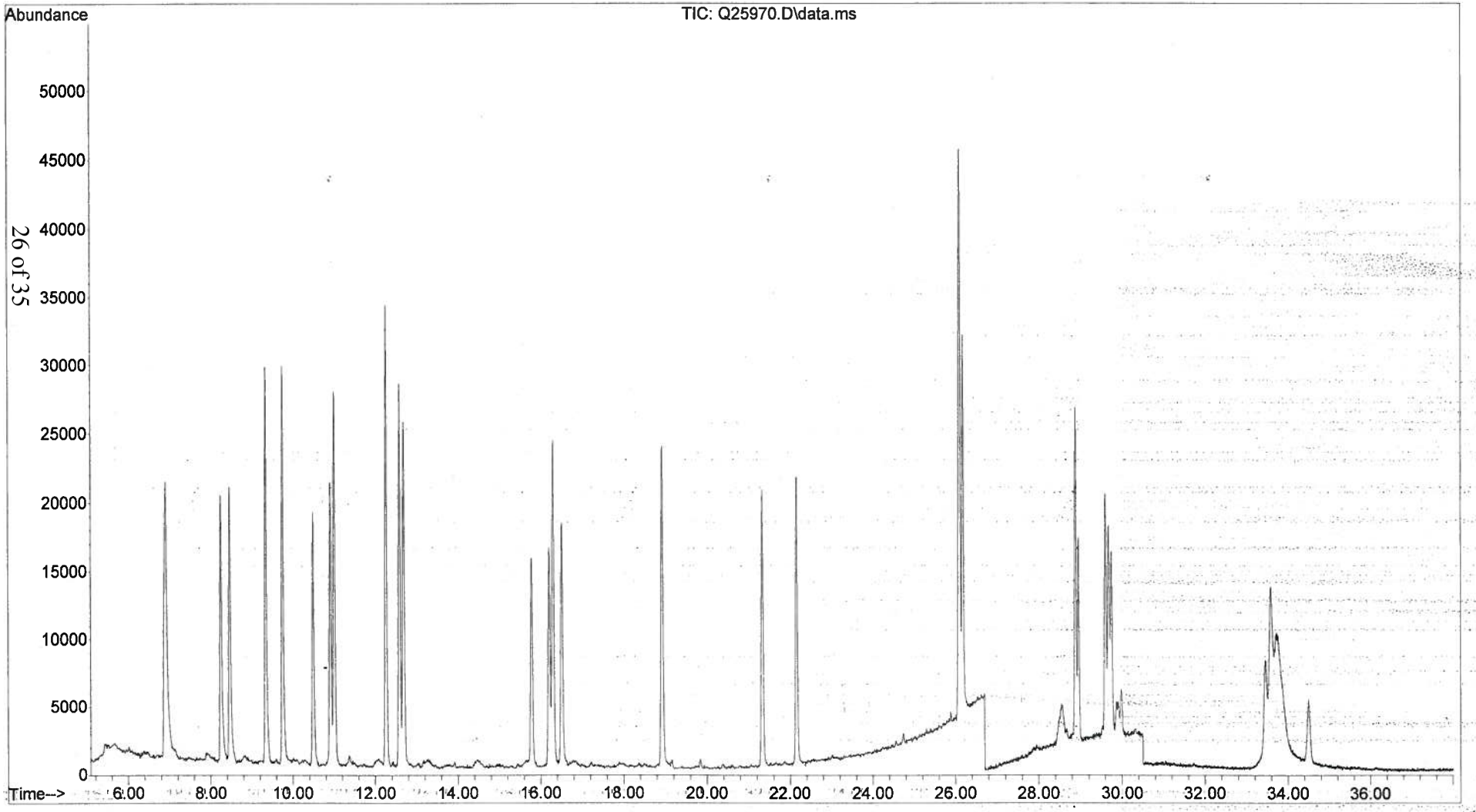
Quant Time: Nov 03 10:48:02 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:46:50 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : Q25970.D
Acq On : 25 Oct 2011 10:29 pm
Operator : Mackan/TLW
Sample : LBS
Misc : M3763
ALS Vial : 9 Sample Multiplier: 1

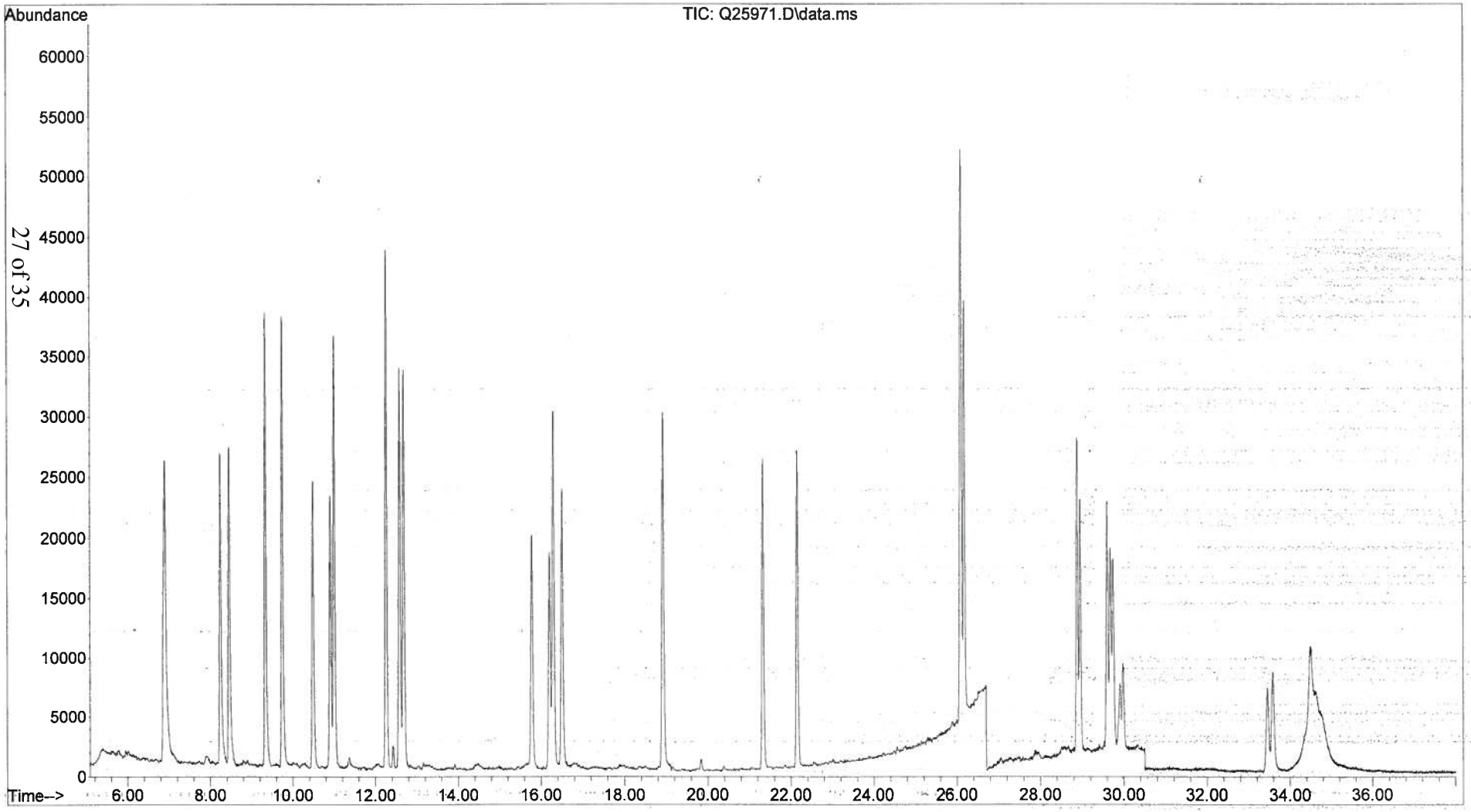
Quant Time: Nov 03 11:10:47 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : Q25971.D
Acq On : 25 Oct 2011 11:12 pm
Operator : Mackan/TLW
Sample : LBSD
Misc : M3763
ALS Vial : 10 Sample Multiplier: 1

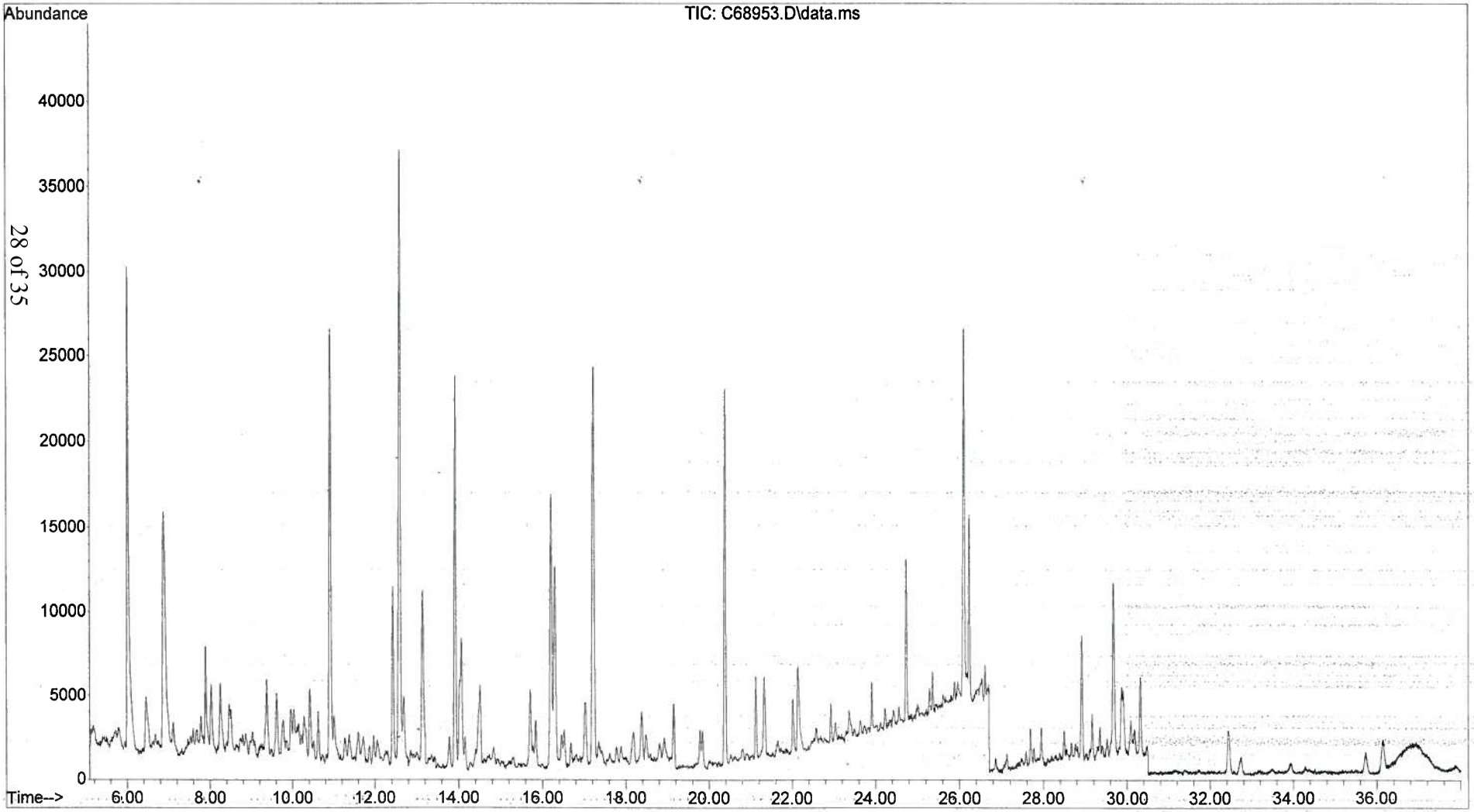
Quant Time: Nov 03 11:10:08 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : C68953.D
Acq On : 25 Oct 2011 11:55 pm
Operator : Mackan/TLW
Sample : MOA11PAH001
Misc : M3763
ALS Vial : 11 Sample Multiplier: 1.087

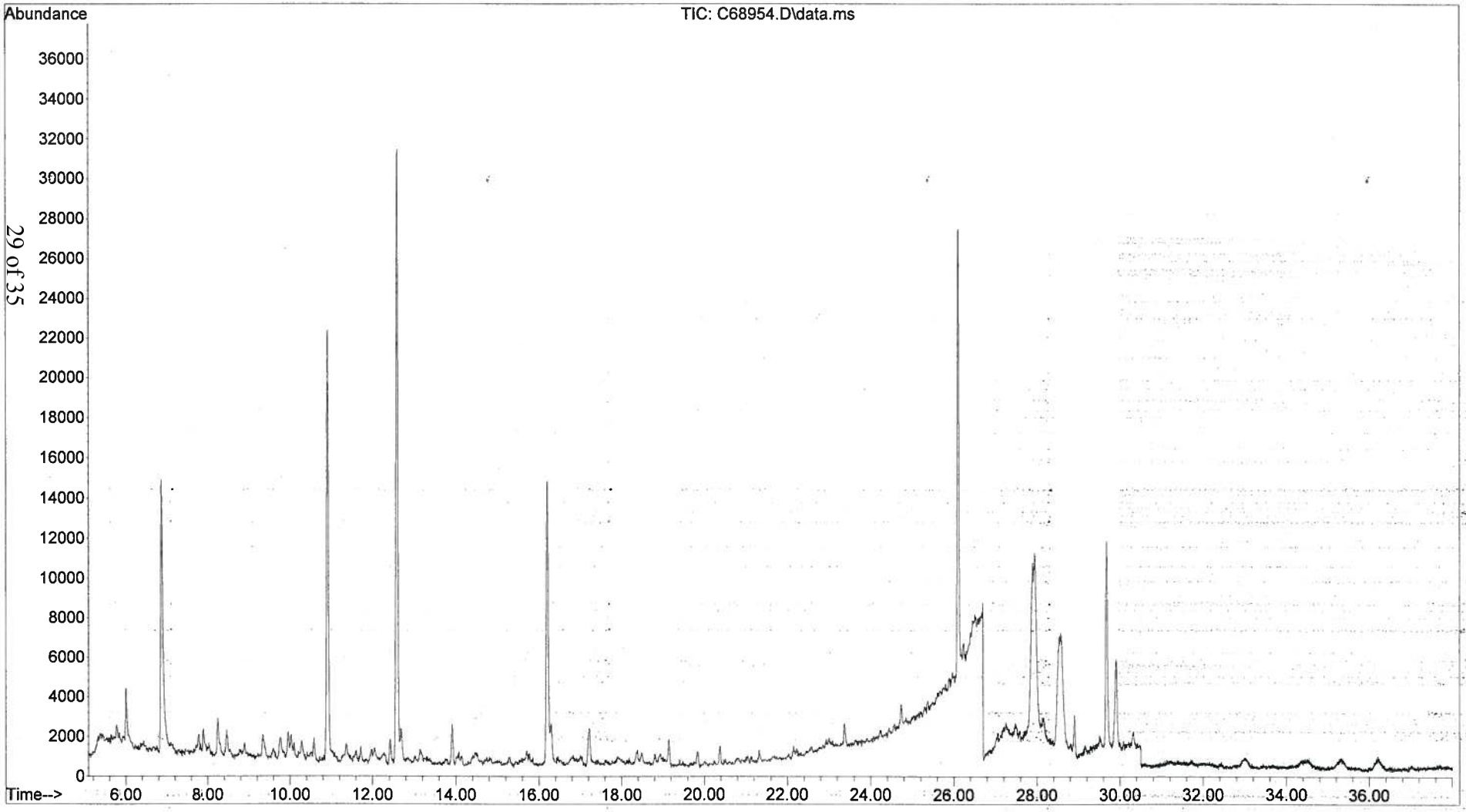
Quant Time: Nov 03 10:25:50 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : C68954.D
Acq On : 26 Oct 2011 12:38 am
Operator : Mackan/TLW
Sample : MOA11PAH002
Misc : M3763
ALS Vial : 12 Sample Multiplier: 0.98

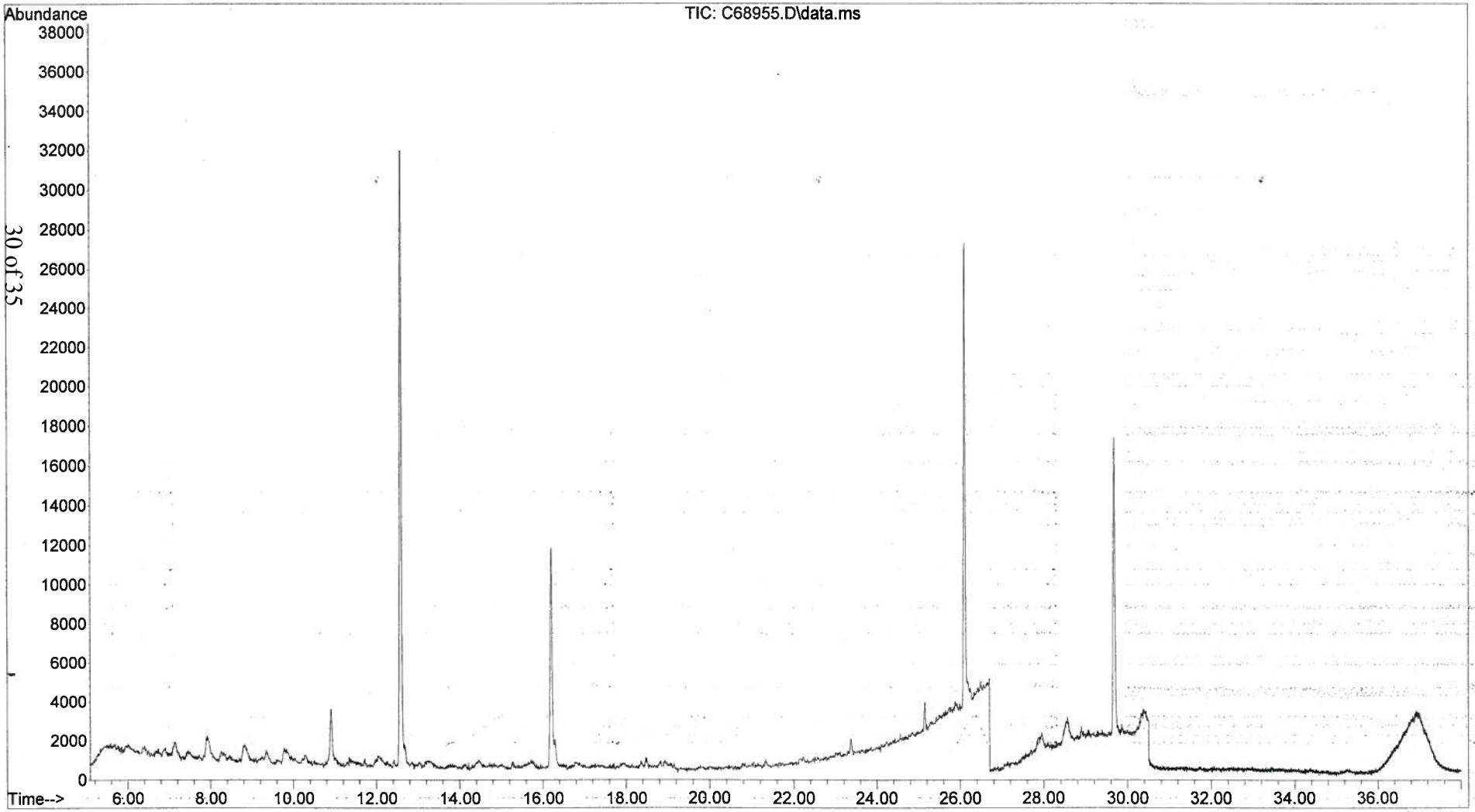
Quant Time: Nov 03 10:27:23 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : C68955.D
Acq On : 26 Oct 2011 1:21 am
Operator : Mackan/TLW
Sample : MOA11PAH003
Misc : M3763
ALS Vial : 13 Sample Multiplier: 0.976

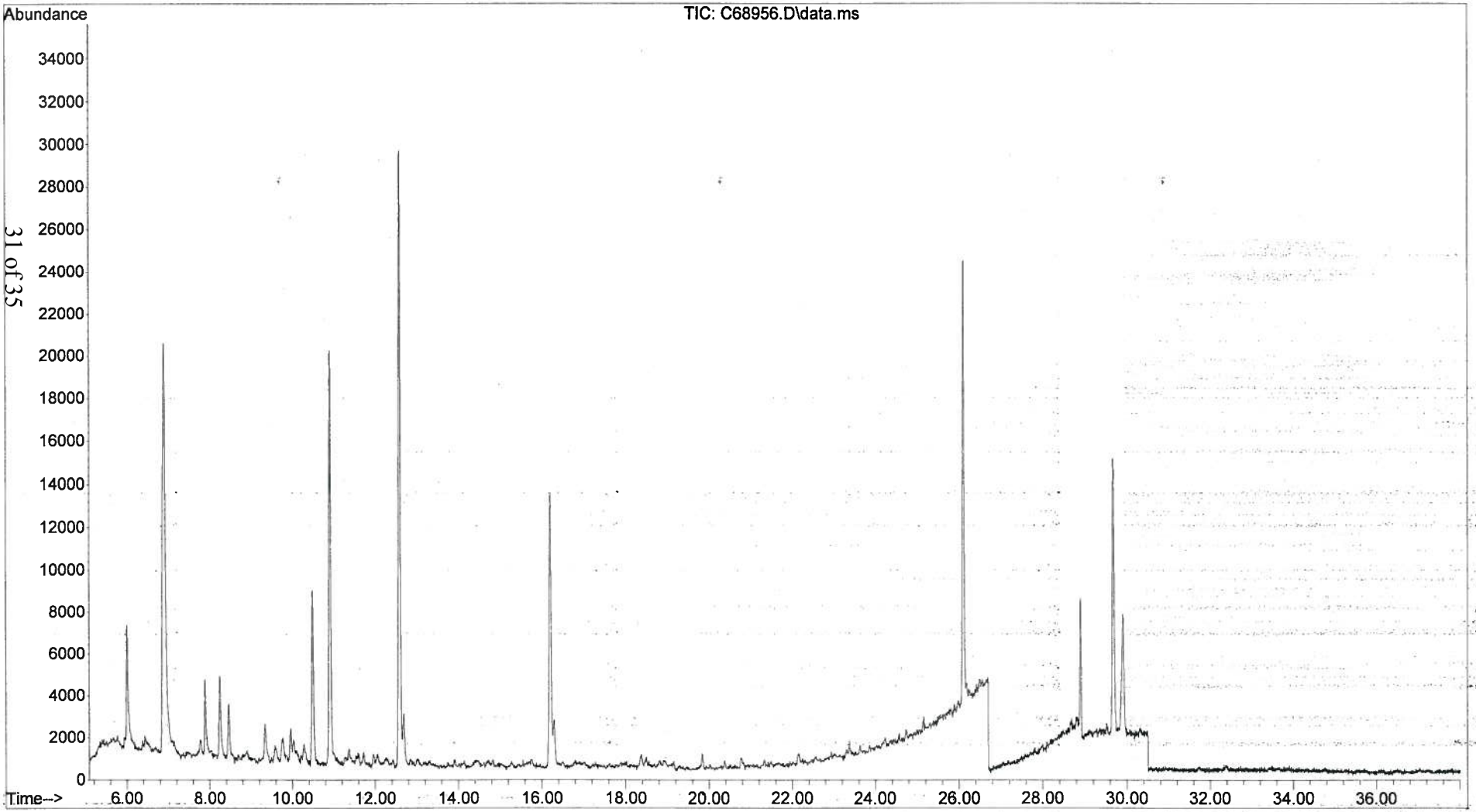
Quant Time: Nov 03 10:29:12 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : C68956.D
Acq On : 26 Oct 2011 2:04 am
Operator : Mackan/TLW
Sample : MOA11PAH004
Misc : M3763
ALS Vial : 14 Sample Multiplier: 0.966

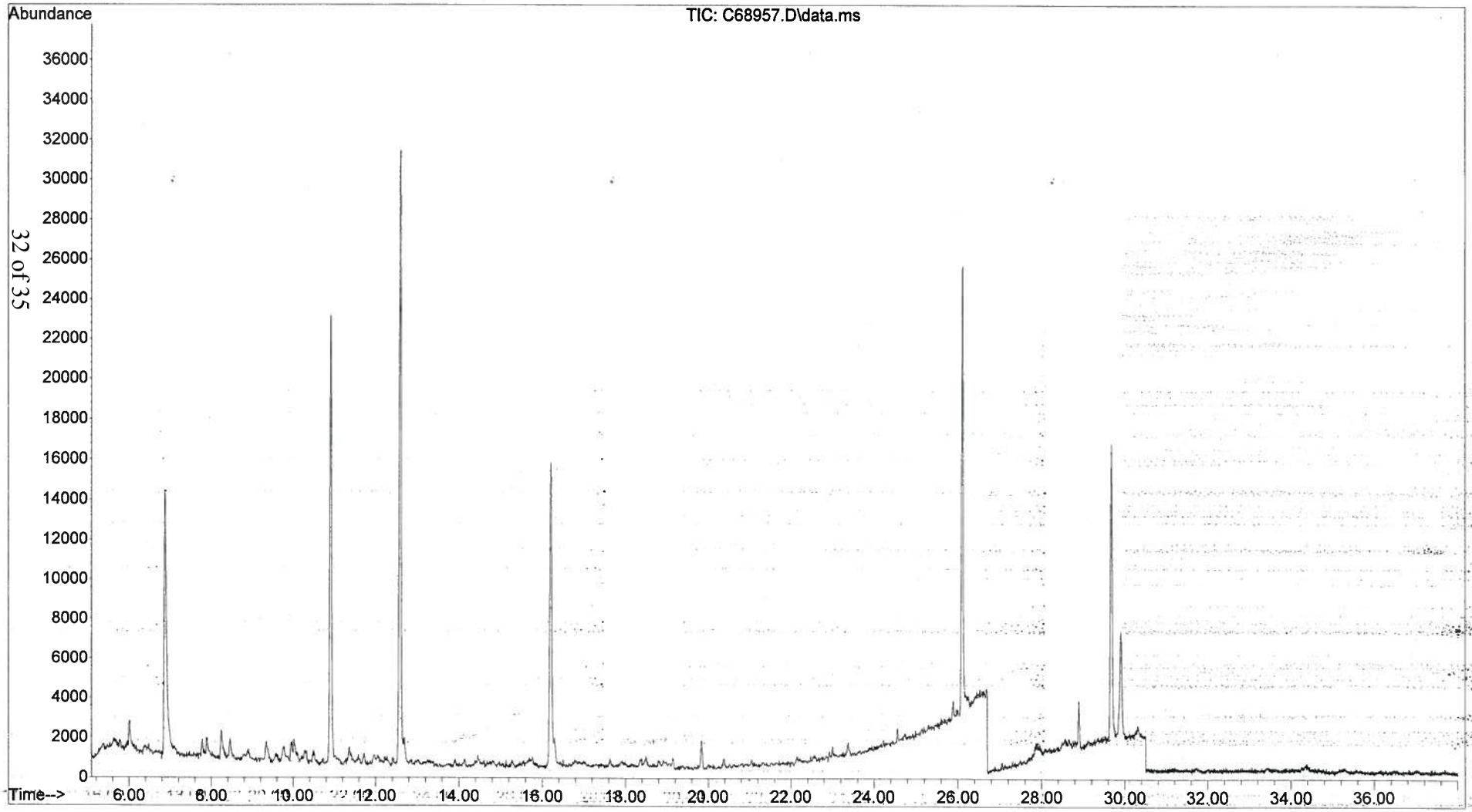
Quant Time: Nov 03 10:34:33 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : C68957.D
Acq On : 26 Oct 2011 2:47 am
Operator : Mackan/TLW
Sample : MOA11PAH005
Misc : M3763
ALS Vial : 15 Sample Multiplier: 0.943

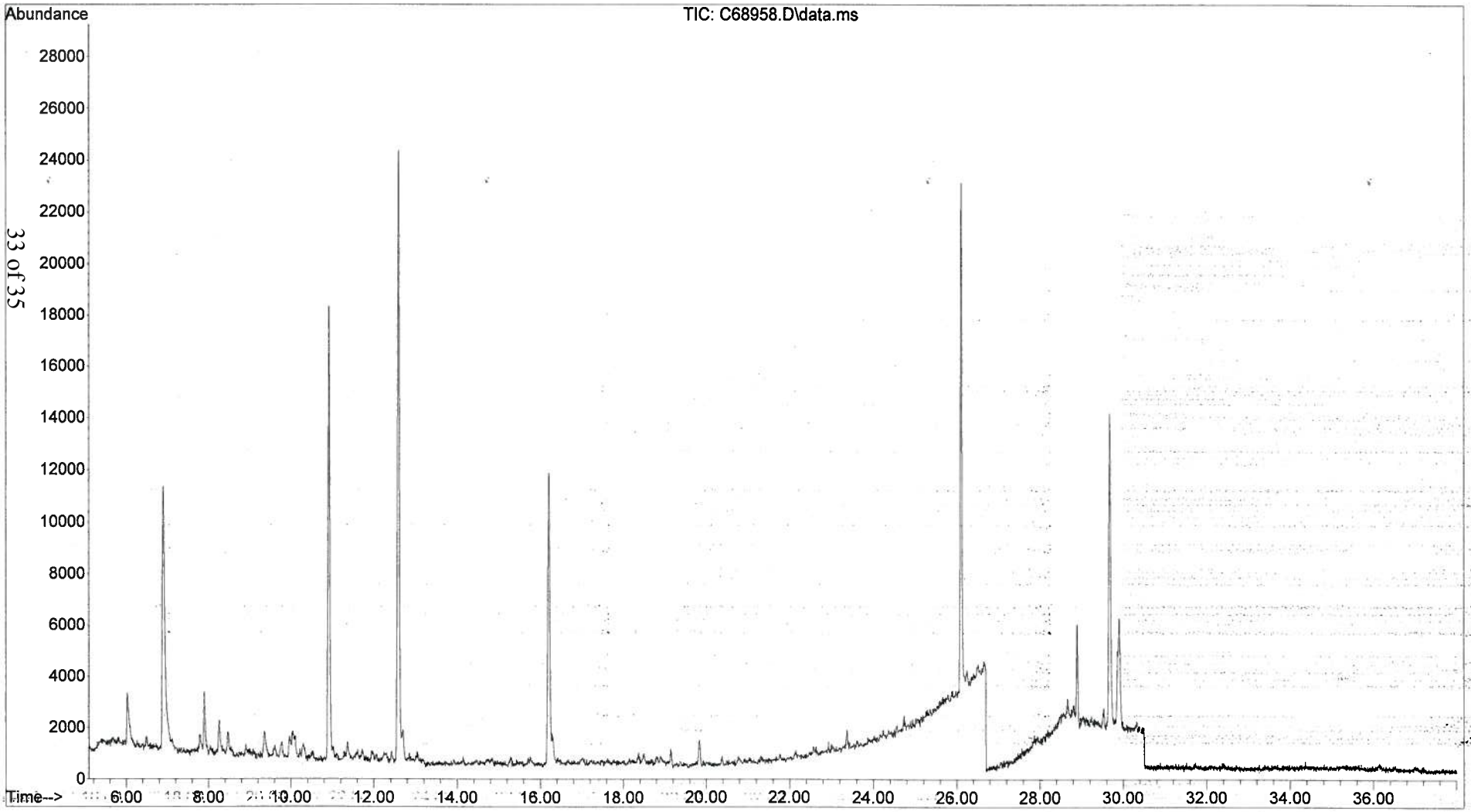
Quant Time: Nov 03 10:38:04 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : C68958.D
Acq On : 26 Oct 2011 3:30 am
Operator : Mackan/TLW
Sample : MOA11PAH006
Misc : M3763
ALS Vial : 16 Sample Multiplier: 0.962

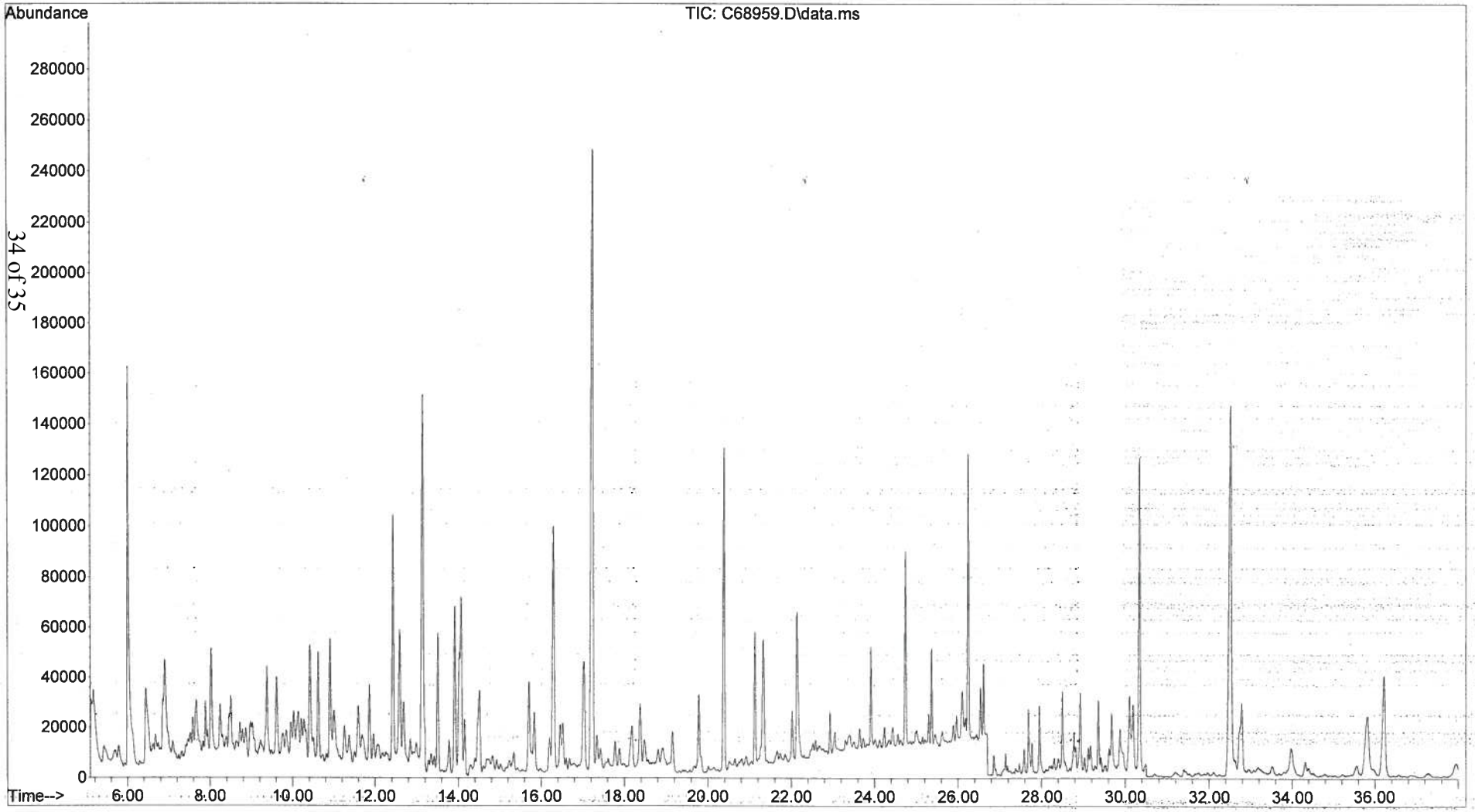
Quant Time: Nov 03 10:41:28 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\M3763AR\
Data File : C68959.D
Acq On : 26 Oct 2011 4:12 am
Operator : Mackan/TLW
Sample : MOA11PAH007
Misc : M3763
ALS Vial : 17 Sample Multiplier: 0.98

Quant Time: Nov 03 10:44:26 2011
Quant Method : C:\msdchem\1\METHODS\AR11211M1.M
Quant Title : Calibration of polynuclear aromatic hydrocarbons (Wed Nov 02 14:57:14 2011
QLast Update : Wed Nov 02 14:57:14 2011
Response via : Initial Calibration



This is the last page

of this report

APPENDIX C

Receiving Water Quality Monitoring

C4 Trace Metals

Calscience Environmental Laboratories, Inc.

Calscience
Environmental & Marine Chemistry Laboratories

CALSCIENCE

WORK ORDER NUMBER: 11-06-1118

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Kinnetic Laboratories, Inc.

Client Project Name: 506.02

Attention: Gary Lawley
1102 West 7th Avenue
Anchorage, AK 99501-3302

Approved for release on 06/28/2011 by:
Danielle Gonsman
Project Manager

ResultLink

Email your PM

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

Calscience
Environmental & Marine Chemistry Laboratories

Contents

Client Project Name: 506.02
Work Order Number: 11-06-1118

1 Client Sample Data 3
1.1 EPA 7470A Mercury (Aqueous) 3
1.2 EPA 1640 ICP/MS Metals (Aqueous) 5

2 Quality Control Sample Data 7
2.1 MS/MSD and/or Duplicate 7
2.2 LCS/LCSD 11

3 Glossary of Terms and Qualifiers 15

4 Chain of Custody/Sample Receipt Form 16

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1118
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project: 506.02

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL001	**11-06-1118-1-A**	**06/14/11 13:46**	**Aqueous**	**Mercury**	**06/20/11**	**06/21/11 12:03**	**110620L06F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

MOA11MTL002	**11-06-1118-2-A**	**06/14/11 14:18**	**Aqueous**	**Mercury**	**06/20/11**	**06/21/11 17:01**	**110620L06F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

MOA11MTL003	**11-06-1118-3-a**	**06/14/11 14:39**	**Aqueous**	**Mercury**	**06/20/11**	**06/22/11 13:07**	**110620L06F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Method Blank	**099-12-510-120**	**N/A**	**Aqueous**	**Mercury**	**06/20/11**	**06/20/11 16:48**	**110620L06F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1118
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project: 506.02

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL001	**11-06-1118-1-F**	**06/14/11 13:46**	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11 13:17**	**110617L03**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

MOA11MTL002	**11-06-1118-2-F**	**06/14/11 14:18**	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11 13:19**	**110617L03**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

MOA11MTL003	**11-06-1118-3-F**	**06/14/11 14:39**	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11 13:21**	**110617L03**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Method Blank	**099-12-510-119**	**N/A**	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11 12:41**	**110617L03**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1118
Anchorage, AK 99501-3302		Preparation:	EPA 3005A Filt.
		Method:	EPA 1640
		Units:	ug/L
Project: 506.02			Page 1 of 2

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL001	**11-06-1118-1-A**	**06/14/11 13:46**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 00:36**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	2.18	0.0300	1		Lead	ND	0.0300	1	
Cadmium	0.0977	0.0300	1		Nickel	2.05	0.0500	1	
Chromium	ND	0.200	1		Silver	0.161	0.0500	1	
Copper	5.65	0.0300	1		Zinc	9.99	1.00	1	

MOA11MTL002	**11-06-1118-2-A**	**06/14/11 14:18**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 00:47**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	1.47	0.0300	1		Lead	ND	0.0300	1	
Cadmium	0.0882	0.0300	1		Nickel	1.48	0.0500	1	
Chromium	ND	0.200	1		Silver	0.188	0.0500	1	
Copper	1.50	0.0300	1		Zinc	2.53	1.00	1	

MOA11MTL003	**11-06-1118-3-A**	**06/14/11 14:39**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 00:59**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	1.73	0.0300	1		Lead	ND	0.0300	1	
Cadmium	0.0907	0.0300	1		Nickel	1.42	0.0500	1	
Chromium	ND	0.200	1		Silver	0.205	0.0500	1	
Copper	1.20	0.0300	1		Zinc	2.10	1.00	1	

Method Blank	**099-13-067-56**	**N/A**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11 17:43**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.0300	1		Lead	ND	0.0300	1	
Cadmium	ND	0.0300	1		Nickel	ND	0.0500	1	
Chromium	ND	0.200	1		Silver	ND	0.0500	1	
Copper	ND	0.0300	1		Zinc	ND	1.00	1	

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1118
Anchorage, AK 99501-3302		Preparation:	EPA 3005A Total
		Method:	EPA 1640
		Units:	ug/L
Project: 506.02			Page 2 of 2

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL001	**11-06-1118-1-A**	**06/14/11 13:46**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 01:56**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	7.37	0.0300	1		Lead	4.66	0.0300	1	
Cadmium	0.203	0.0300	1		Nickel	16.5	0.0500	1	
Chromium	7.29	0.200	1		Silver	0.427	0.0500	1	
Copper	37.2	0.300	10		Zinc	63.1	10.0	10	

MOA11MTL002	**11-06-1118-2-A**	**06/14/11 14:18**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 02:07**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	6.89	0.0300	1		Lead	5.01	0.0300	1	
Cadmium	0.168	0.0300	1		Nickel	19.0	0.0500	1	
Chromium	9.25	0.200	1		Silver	0.421	0.0500	1	
Copper	38.7	0.300	10		Zinc	54.8	10.0	10	

MOA11MTL003	**11-06-1118-3-A**	**06/14/11 14:39**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 03:05**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	8.08	0.0300	1		Lead	4.50	0.0300	1	
Cadmium	0.158	0.0300	1		Nickel	16.8	0.0500	1	
Chromium	7.50	0.200	1		Silver	0.379	0.0500	1	
Copper	32.3	0.300	10		Zinc	46.8	10.0	10	

Method Blank	**099-13-067-55**	**N/A**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11 17:54**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.0300	1		Lead	ND	0.0300	1	
Cadmium	ND	0.0300	1		Nickel	ND	0.0500	1	
Chromium	ND	0.200	1		Silver	ND	0.0500	1	
Copper	ND	0.0300	1		Zinc	ND	1.00	1	

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	06/16/11
Work Order No:	11-06-1118
Preparation:	EPA 3005A Total
Method:	EPA 1640

Project 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MOA11MTL001	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11**	**110620S07**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	4X	4X	50-150	4X	0-20	Q
Cadmium	111	106	50-150	3	0-20	
Chromium	105	102	50-150	1	0-20	
Copper	4X	4X	50-150	4X	0-20	Q
Lead	4X	4X	50-150	4X	0-20	Q
Nickel	4X	4X	50-150	4X	0-20	Q
Silver	126	114	50-150	4	0-20	
Zinc	4X	4X	50-150	4X	0-20	Q

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	06/16/11
Work Order No:	11-06-1118
Preparation:	EPA 7470A Filt.
Method:	EPA 7470A

Project 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-06-1101-6	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11**	**110617S03**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	86	97	57-141	12	0-10	4

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	06/16/11
Work Order No:	11-06-1118
Preparation:	EPA 7470A Total
Method:	EPA 7470A

Project 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-06-1283-1	**Aqueous**	**Mercury**	**06/20/11**	**06/20/11**	**110620S06**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	179	145	57-141	10	0-10	3

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - PDS / PDSD

Kinnetic Laboratories, Inc.		Date Received	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1118
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS / PDSD Batch Number
11-06-1283-1	**Aqueous**	**Mercury**	**06/20/11**	**06/20/11**	**110620S06**

Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	120	119	75-125	1	0-10	

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.		Date Received:	N/A
1102 West 7th Avenue		Work Order No:	11-06-1118
Anchorage, AK 99501-3302		Preparation:	EPA 3005A Total
		Method:	EPA 1640

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-13-067-55	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11**	**110620L07**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	122	115	70-130	6	0-20	
Cadmium	88	90	70-130	2	0-20	
Chromium	105	106	70-130	1	0-20	
Copper	98	105	70-130	7	0-20	
Lead	95	94	70-130	1	0-20	
Nickel	94	98	70-130	4	0-20	
Silver	90	96	70-130	7	0-20	
Zinc	100	105	70-130	5	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received: N/A
Work Order No: 11-06-1118
Preparation: EPA 3005A Filt.
Method: EPA 1640

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-13-067-56	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11**	**110620L07F**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	122	115	70-130	6	0-20	
Cadmium	88	90	70-130	2	0-20	
Chromium	105	106	70-130	1	0-20	
Copper	98	105	70-130	7	0-20	
Lead	95	94	70-130	1	0-20	
Nickel	94	98	70-130	4	0-20	
Silver	90	96	70-130	7	0-20	
Zinc	100	105	70-130	5	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.		Date Received:	N/A
1102 West 7th Avenue		Work Order No:	11-06-1118
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-510-119	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11**	**110617L03**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	98	98	85-121	0	0-4	

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.		Date Received:	N/A
1102 West 7th Avenue		Work Order No:	11-06-1118
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-510-120	**Aqueous**	**Mercury**	**06/20/11**	**06/20/11**	**110620L06F**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	92	93	85-121	0	0-4	

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-06-1118

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Return to Contents

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	FROM: (1118)	
Calscience Environmental Laboratories, Inc. Danielle Gonsman 7440 Lincoln Way Garden Grove, CA 92841-1427 Phone: 714-895-5494 x232 Fax: 714-894-7501	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax	
Required Completion Date: 30 days.	P.O. #: AK11-1004	KLI Proj. #:506.02

ANALYSIS TYPE: Total dissolved and total recoverable metals: arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc. All ICP/MS except As, Cr, Zn (GFAA) and Hg (CVAA).

MATRIX: Water	**Preservative:** None, 6°C	**Type of Container:** 500-ml Teflon

	SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
1	MOA11MTL001	F1-1S	1	6/14 1346		
2	MOA11MTL002	F1-2S	1	6/14 1418		
3	MOA11MTL003	F1-3S	1	6/14 1434		
GL	[redacted]					

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
A Lawley	6/15 1330	Fed Ex	[illegible]	6/16/11 10:10

SAMPLED BY (NAME/SIGNATURE): GL

Return to Contents

1118

From: (907) 276-6178
KINNETIC LABORATORIES, INC
KINNETIC LABORATORIES, INC
1102 WEST 7TH AVENUE

ANCHORAGE, AK 99501

Origin ID: CYMA

FedEx Express

J11201104290225

Ship Date: 15JUN11
ActWgt: 9.0 LB
CAD: 3116229/INET3180

Delivery Address Bar Code

Ref # 516
Invoice #
PO #
Dept #

SHIP TO: (714) 895-5494 BILL SENDER

Danielle Gonsman
Calscience Environmental Labs Inc
7440 Lincoln Way

Garden Grove, CA 92841

THU - 16 JUN A1
PRIORITY OVERNIGHT

TRK# 7948 6863 2183
0201

QZ APVA

92841
CA-US
SNA

50FG1/0CB0/F5F4

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic valueof the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Return to Contents

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-06-1118

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: KINNETIC LAB

DATE: 06/16/11

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 5.2 °C + 0.5 °C (CF) = 5.7 °C ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: RS

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A Initial: RS

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: YC

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☑ YC 6/16/11
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☐500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna ☑250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** YC

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** RS

Preservative: h: HCL n: HNO_3 na_2: $Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:** RS

Return to Contents

Calscience
Environmental & Marine Chemistry Laboratories

CALSCIENCE

WORK ORDER NUMBER: 11-06-1216

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Kinnetic Laboratories, Inc.

Client Project Name: 506.02

Attention: Gary Lawley
1102 West 7th Avenue
Anchorage, AK 99501-3302

Approved for release on 06/28/2011 by:
Danielle Gonsman
Project Manager

ResultLink

Email your PM

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

Calscience
Environmental & Marine Chemistry Laboratories

Contents

Client Project Name: 506.02
Work Order Number: 11-06-1216

1 Client Sample Data 3
1.1 EPA 7470A Mercury (Aqueous) 3
1.2 EPA 1640 ICP/MS Metals (Aqueous) 5

2 Quality Control Sample Data 7
2.1 MS/MSD and/or Duplicate 7
2.2 LCS/LCSD 9

3 Glossary of Terms and Qualifiers 13

4 Chain of Custody/Sample Receipt Form 14

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/17/11
1102 West 7th Avenue		Work Order No:	11-06-1216
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project: 506.02

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL004	**11-06-1216-1-A**	**06/15/11 14:55**	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11 17:39**	**110622L01F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

MOA11MTL005	**11-06-1216-2-A**	**06/15/11 15:10**	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11 17:41**	**110622L01F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

MOA11MTL006	**11-06-1216-3-A**	**06/15/11 15:25**	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11 17:44**	**110622L01F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Method Blank	**099-12-510-122**	**N/A**	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11 14:06**	**110622L01F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/17/11
1102 West 7th Avenue		Work Order No:	11-06-1216
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project: 506.02

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL004	**11-06-1216-1-A**	**06/15/11 14:55**	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11 17:32**	**110622L01**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

MOA11MTL005	**11-06-1216-2-A**	**06/15/11 15:10**	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11 17:35**	**110622L01**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

MOA11MTL006	**11-06-1216-3-A**	**06/15/11 15:25**	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11 17:37**	**110622L01**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Method Blank	**099-12-510-121**	**N/A**	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11 14:06**	**110622L01**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/17/11
1102 West 7th Avenue		Work Order No:	11-06-1216
Anchorage, AK 99501-3302		Preparation:	EPA 3005A Filt.
		Method:	EPA 1640
		Units:	ug/L
Project: 506.02			Page 1 of 2

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL004	**11-06-1216-1-A**	**06/15/11 14:55**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 01:22**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	1.39	0.0300	1		Lead	ND	0.0300	1	
Cadmium	0.0798	0.0300	1		Nickel	0.979	0.0500	1	
Chromium	ND	0.200	1		Silver	0.183	0.0500	1	
Copper	0.637	0.0300	1		Zinc	ND	1.00	1	

MOA11MTL005	**11-06-1216-2-A**	**06/15/11 15:10**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 01:33**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	1.74	0.0300	1		Lead	ND	0.0300	1	
Cadmium	0.0827	0.0300	1		Nickel	0.939	0.0500	1	
Chromium	ND	0.200	1		Silver	0.182	0.0500	1	
Copper	1.44	0.0300	1		Zinc	ND	1.00	1	

MOA11MTL006	**11-06-1216-3-A**	**06/15/11 15:25**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 01:45**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	1.37	0.0300	1		Lead	ND	0.0300	1	
Cadmium	0.0797	0.0300	1		Nickel	0.955	0.0500	1	
Chromium	ND	0.200	1		Silver	0.175	0.0500	1	
Copper	0.573	0.0300	1		Zinc	ND	1.00	1	

Method Blank	**099-13-067-56**	**N/A**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11 17:43**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.0300	1		Lead	ND	0.0300	1	
Cadmium	ND	0.0300	1		Nickel	ND	0.0500	1	
Chromium	ND	0.200	1		Silver	ND	0.0500	1	
Copper	ND	0.0300	1		Zinc	ND	1.00	1	

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/17/11
1102 West 7th Avenue		Work Order No:	11-06-1216
Anchorage, AK 99501-3302		Preparation:	EPA 3005A Total
		Method:	EPA 1640
		Units:	ug/L
Project: 506.02			Page 2 of 2

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL004	**11-06-1216-1-A**	**06/15/11 14:55**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 03:51**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	5.80	0.0300	1		Lead	2.81	0.0300	1	
Cadmium	0.134	0.0300	1		Nickel	11.8	0.0500	1	
Chromium	7.30	2.00	10		Silver	0.312	0.0500	1	
Copper	21.9	0.300	10		Zinc	31.1	10.0	10	

MOA11MTL005	**11-06-1216-2-A**	**06/15/11 15:10**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 04:02**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	6.87	0.0300	1		Lead	3.94	0.0300	1	
Cadmium	0.147	0.0300	1		Nickel	14.5	0.0500	1	
Chromium	9.22	2.00	10		Silver	0.334	0.0500	1	
Copper	31.8	0.300	10		Zinc	42.2	10.0	10	

MOA11MTL006	**11-06-1216-3-A**	**06/15/11 15:25**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 04:14**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	7.45	0.0300	1		Lead	4.71	0.0300	1	
Cadmium	0.155	0.0300	1		Nickel	16.5	0.0500	1	
Chromium	10.8	2.00	10		Silver	0.373	0.0500	1	
Copper	35.9	0.300	10		Zinc	47.1	10.0	10	

Method Blank	**099-13-067-55**	**N/A**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11 17:54**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.0300	1		Lead	ND	0.0300	1	
Cadmium	ND	0.0300	1		Nickel	ND	0.0500	1	
Chromium	ND	0.200	1		Silver	ND	0.0500	1	
Copper	ND	0.0300	1		Zinc	ND	1.00	1	

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	06/17/11
Work Order No:	11-06-1216
Preparation:	EPA 3005A Total
Method:	EPA 1640

Project 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-06-1118-1	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11**	**110620S07**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	4X	4X	50-150	4X	0-20	Q
Cadmium	111	106	50-150	3	0-20	
Chromium	105	102	50-150	1	0-20	
Copper	4X	4X	50-150	4X	0-20	Q
Lead	4X	4X	50-150	4X	0-20	Q
Nickel	4X	4X	50-150	4X	0-20	Q
Silver	126	114	50-150	4	0-20	
Zinc	4X	4X	50-150	4X	0-20	Q

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	06/17/11
Work Order No:	11-06-1216
Preparation:	EPA 7470A Total
Method:	EPA 7470A

Project 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-06-1363-1	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11**	**110622S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	107	108	57-141	1	0-10	

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	N/A
Work Order No:	11-06-1216
Preparation:	EPA 3005A Total
Method:	EPA 1640

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-13-067-55	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11**	**110620L07**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	122	115	70-130	6	0-20	
Cadmium	88	90	70-130	2	0-20	
Chromium	105	106	70-130	1	0-20	
Copper	98	105	70-130	7	0-20	
Lead	95	94	70-130	1	0-20	
Nickel	94	98	70-130	4	0-20	
Silver	90	96	70-130	7	0-20	
Zinc	100	105	70-130	5	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	N/A
Work Order No:	11-06-1216
Preparation:	EPA 3005A Filt.
Method:	EPA 1640

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-13-067-56	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11**	**110620L07F**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	122	115	70-130	6	0-20	
Cadmium	88	90	70-130	2	0-20	
Chromium	105	106	70-130	1	0-20	
Copper	98	105	70-130	7	0-20	
Lead	95	94	70-130	1	0-20	
Nickel	94	98	70-130	4	0-20	
Silver	90	96	70-130	7	0-20	
Zinc	100	105	70-130	5	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.		Date Received:	N/A
1102 West 7th Avenue		Work Order No:	11-06-1216
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-510-121	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11**	**110622L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	101	101	85-121	1	0-4	

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.		Date Received:	N/A
1102 West 7th Avenue		Work Order No:	11-06-1216
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-510-122	**Aqueous**	**Mercury**	**06/22/11**	**06/22/11**	**110622L01F**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	101	101	85-121	1	0-4	

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-06-1216

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Return to Contents

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	FROM:
Calscience Environmental Laboratories, Inc. Danielle Gonsman 7440 Lincoln Way Garden Grove, CA 92841-1427 Phone: 714-895-5494 x232 Fax: 714-894-7501	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax 1216

Required Completion Date: 30 days.	P.O. #: AK11-1004	KLI Proj. #:506.02

ANALYSIS TYPE: Total dissolved and total recoverable metals: arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc. All ICP/MS except As, Cr, Zn (GFAA) and Hg (CVAA).

MATRIX: Water	**Preservative:** None, 6°C	**Type of Container:** 500-ml Teflon

	SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
1	MOA11MTL004	C1-1S	1	6/15 1455		
2	MOA11MTL005	C1-2S	1	6/15 1510		
3	MOA11MTL006	C1-3S	1	6/15 1525		

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/16 1400	Fed Ex		
			[signature]	6/17/11 1030

SAMPLED BY (NAME/SIGNATURE): [signature]

Return to Contents

1216

From: (907) 276-6178
KINNETIC LABORATORIES, INC
KINNETIC LABORATORIES, INC
1102 WEST 7TH AVENUE

ANCHORAGE, AK 99501

Origin ID: CYMA

FedEx Express

J112011042902 25

Ship Date: 16JUN11
ActWgt: 6.0 LB
CAD: 3116229/INET3180

Delivery Address Bar Code

Ref # 516
Invoice #
PO #
Dept #

SHIP TO: (714) 895-5494 BILL SENDER

Danielle Gonsman
Calscience Environmental Labs Inc
7440 Lincoln Way

Garden Grove, CA 92841

FRI - 17 JUN A1
PRIORITY OVERNIGHT

TRK# 0201 7948 7472 6808

QZ APVA

92841
CA-US
SNA

50FG1/0CB0/F5F4

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic valueof the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Return to Contents

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-06- 1 2 1 6

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Kinnetic Lab

DATE: 06/17/11

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 5.3 °C + 0.5 °C (CF) = 5.8 °C ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: [illegible]

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A Initial: [illegible]

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: [illegible]

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☑ PS 6/17/11	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na**

☑250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** [illegible]

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** [illegible]

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:** $Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **znna:** $ZnAc_2$+NaOH **f:** Field-filtered **Scanned by:** [illegible]

Return to Contents

Calscience
Environmental & Marine Chemistry Laboratories

CALSCIENCE

WORK ORDER NUMBER: 11-06-1119

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Kinnetic Laboratories, Inc.

Client Project Name: 506.02

Attention: Gary Lawley
1102 West 7th Avenue
Anchorage, AK 99501-3302

Approved for release on 06/28/2011 by:
Danielle Gonsman
Project Manager

ResultLink

Email your PM

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

Calscience
Environmental & Marine Chemistry Laboratories

Contents

Client Project Name: 506.02
Work Order Number: 11-06-1119

1 Client Sample Data 3
1.1 EPA 7470A Mercury (Aqueous) 3
1.2 EPA 1640 ICP/MS Metals (Aqueous) 5

2 Quality Control Sample Data 7
2.1 MS/MSD and/or Duplicate 7
2.2 LCS/LCSD 11

3 Glossary of Terms and Qualifiers 15

4 Chain of Custody/Sample Receipt Form 16

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1119
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project: 506.02

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL007	**11-06-1119-1-A**	**06/14/11 13:30**	**Aqueous**	**Mercury**	**06/20/11**	**06/21/11 12:05**	**110620L06F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Method Blank	**099-12-510-120**	**N/A**	**Aqueous**	**Mercury**	**06/20/11**	**06/20/11 16:48**	**110620L06F**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1119
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project: 506.02

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL007	**11-06-1119-1-F**	**06/14/11 13:30**	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11 13:28**	**110617L03**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Method Blank	**099-12-510-119**	**N/A**	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11 12:41**	**110617L03**

Parameter	Result	RL	DF	Qual	Units
Mercury	ND	0.0500	1		ug/L

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1119
Anchorage, AK 99501-3302		Preparation:	EPA 3005A Filt.
		Method:	EPA 1640
		Units:	ug/L
Project: 506.02			Page 1 of 2

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL007	**11-06-1119-1-A**	**06/14/11 13:30**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 01:10**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	2.14	0.0300	1		Lead	0.278	0.0300	1	
Cadmium	0.0991	0.0300	1		Nickel	4.22	0.0500	1	
Chromium	0.339	0.200	1		Silver	0.124	0.0500	1	
Copper	16.7	0.300	10		Zinc	43.1	1.00	1	

Method Blank	**099-13-067-56**	**N/A**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11 17:43**	**110620L07F**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.0300	1		Lead	ND	0.0300	1	
Cadmium	ND	0.0300	1		Nickel	ND	0.0500	1	
Chromium	ND	0.200	1		Silver	ND	0.0500	1	
Copper	ND	0.0300	1		Zinc	ND	1.00	1	

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1119
Anchorage, AK 99501-3302		Preparation:	EPA 3005A Total
		Method:	EPA 1640
		Units:	ug/L
Project: 506.02			Page 2 of 2

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MOA11MTL007	**11-06-1119-1-A**	**06/14/11 13:30**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/21/11 03:16**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	2.50	0.0300	1		Lead	1.80	0.0300	1	
Cadmium	0.242	0.0300	1		Nickel	4.60	0.0500	1	
Chromium	0.700	0.200	1		Silver	0.478	0.0500	1	
Copper	33.8	0.300	10		Zinc	80.4	10.0	10	

Method Blank	**099-13-067-55**	**N/A**	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11 17:54**	**110620L07**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.0300	1		Lead	ND	0.0300	1	
Cadmium	ND	0.0300	1		Nickel	ND	0.0500	1	
Chromium	ND	0.200	1		Silver	ND	0.0500	1	
Copper	ND	0.0300	1		Zinc	ND	1.00	1	

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	06/16/11
Work Order No:	11-06-1119
Preparation:	EPA 3005A Total
Method:	EPA 1640

Project 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-06-1118-1	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11**	**110620S07**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	4X	4X	50-150	4X	0-20	Q
Cadmium	111	106	50-150	3	0-20	
Chromium	105	102	50-150	1	0-20	
Copper	4X	4X	50-150	4X	0-20	Q
Lead	4X	4X	50-150	4X	0-20	Q
Nickel	4X	4X	50-150	4X	0-20	Q
Silver	126	114	50-150	4	0-20	
Zinc	4X	4X	50-150	4X	0-20	Q

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1119
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-06-1101-6	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11**	**110617S03**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	86	97	57-141	12	0-10	4

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kinnetic Laboratories, Inc.		Date Received:	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1119
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-06-1283-1	**Aqueous**	**Mercury**	**06/20/11**	**06/20/11**	**110620S06**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	179	145	57-141	10	0-10	3

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - PDS / PDSD

Kinnetic Laboratories, Inc.		Date Received	06/16/11
1102 West 7th Avenue		Work Order No:	11-06-1119
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS / PDSD Batch Number
11-06-1283-1	**Aqueous**	**Mercury**	**06/20/11**	**06/20/11**	**110620S06**

Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	120	119	75-125	1	0-10	

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	N/A
Work Order No:	11-06-1119
Preparation:	EPA 3005A Total
Method:	EPA 1640

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-13-067-55	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11**	**110620L07**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	122	115	70-130	6	0-20	
Cadmium	88	90	70-130	2	0-20	
Chromium	105	106	70-130	1	0-20	
Copper	98	105	70-130	7	0-20	
Lead	95	94	70-130	1	0-20	
Nickel	94	98	70-130	4	0-20	
Silver	90	96	70-130	7	0-20	
Zinc	100	105	70-130	5	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.
1102 West 7th Avenue
Anchorage, AK 99501-3302

Date Received:	N/A
Work Order No:	11-06-1119
Preparation:	EPA 3005A Filt.
Method:	EPA 1640

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-13-067-56	**Aqueous**	**ICP/MS 03**	**06/20/11**	**06/20/11**	**110620L07F**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	122	115	70-130	6	0-20	
Cadmium	88	90	70-130	2	0-20	
Chromium	105	106	70-130	1	0-20	
Copper	98	105	70-130	7	0-20	
Lead	95	94	70-130	1	0-20	
Nickel	94	98	70-130	4	0-20	
Silver	90	96	70-130	7	0-20	
Zinc	100	105	70-130	5	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.		Date Received:	N/A
1102 West 7th Avenue		Work Order No:	11-06-1119
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-510-119	**Aqueous**	**Mercury**	**06/17/11**	**06/17/11**	**110617L03**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	98	98	85-121	0	0-4	

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Kinnetic Laboratories, Inc.		Date Received:	N/A
1102 West 7th Avenue		Work Order No:	11-06-1119
Anchorage, AK 99501-3302		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project: 506.02

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-510-120	**Aqueous**	**Mercury**	**06/20/11**	**06/20/11**	**110620L06F**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	92	93	85-121	0	0-4	

RPD - Relative Percent Difference , CL - Control Limit

Return to Contents

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-06-1119

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Return to Contents

Kinnetic Laboratories, Inc. Chain of Custody Record

LABORATORY:	FROM:
Calscience Environmental Laboratories, Inc. Danielle Gonsman 7440 Lincoln Way Garden Grove, CA 92841-1427 Phone: 714-895-5494 x232 Fax: 714-894-7501	Kinnetic Laboratories, Inc. 1102 West 7th Avenue Anchorage, AK 99501 Attn: Gary Lawley (907) 276.6178 phone (907) 278-6881 fax

1119

Required Completion Date: 30 days.	P.O. #: AK11-1004	KLI Proj. #:506.02

ANALYSIS TYPE: Total dissolved and total recoverable metals: arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc. All ICP/MS except As, Cr, Zn (GFAA) and Hg (CVAA).

MATRIX: Water	**Preservative:** None, 6°C	**Type of Container:** 1-l Teflon

SAMPLE IDENTIFICATION	SAMPLE LOCATION	NO. OF CONTAINERS	SAMPLE DATE & TIME	CONDITION UPON RECEIPT	COMMENTS
MOA11MTL007	Effluent	1	6/14/11 1330		SWG

DATA REPORTS **MUST** INCLUDE THE FOLLOWING: SAMPLE ID NUMBER, ANALYTICAL METHOD, DETECTION LIMIT, DATE OF EXTRACTION, DATE OF ANALYSIS, ANALYTICAL RESULTS, AND SIGNATURE OF QA REVIEWER.

COMMENTS: *Please report all QC data, including method blanks, matrix spike/spike duplicates, duplicates, etc. Please return all completed original COCs to KLI Anchorage.*

RELINQUISHED BY:	DATE AND TIME	TRANSPORTED BY:	RECEIVED BY:	DATE AND TIME
[signature]	6/15/11 1015	hand	[signature]	6/15 1015
[signature]	6/15 1330	Fed Ex	[signature]	6/16/11 10:10

SAMPLED BY (NAME/SIGNATURE): [signature]

Return to Contents

1119

From: (907) 276-6178
KINNETIC LABORATORIES, INC
KINNETIC LABORATORIES, INC
1102 WEST 7TH AVENUE

ANCHORAGE, AK 99501

Origin ID: CYMA

FedEx Express

J112011042902 25

Ship Date: 15JUN11
ActWgt: 9.0 LB
CAD: 3116229/INET3180

Delivery Address Bar Code

Ref # 516
Invoice #
PO #
Dept #

SHIP TO: (714) 895-5494 BILL SENDER

Danielle Gonsman
Calscience Environmental Labs Inc
7440 Lincoln Way

Garden Grove, CA 92841

THU - 16 JUN A1
PRIORITY OVERNIGHT

TRK# 7948 6863 2183
0201

QZ APVA

92841
CA-US
SNA

50FG1/OCB0/F5F4

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic valueof the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Return to Contents

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-06-1119

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: KINNETIC LAB

DATE: 06/16/11

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 5.2 °C + 0.5 °C (CF) = 5.7 °C ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: RS

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A Initial: RS

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: YC

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☑ YC 6/16/11
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na**

☑250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** YC

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** RS

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:** $Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **znna:** $ZnAc_2$+NaOH **f:** Field-filtered **Scanned by:** RS

Return to Contents

APPENDIX C

Receiving Water Quality Monitoring

C5 Intertidal Bacteria & Receiving Water Bacteria

Anchorage Water & Wastewater Utility

ANCHORAGE WATER AND WASTEWATER UTILITY

WATER QUALITY SECTION

Analytical Report

Sample ID	Sample Number	Collection Date	Collection Time	Analysis Date	Analysis Time	Parameter	Method	Result	Unit	Analyst
AA84983	MOA11FEC001	6/14/11	06:43	6/14/11	11:25	Fecal Coliform, MPN	SM 9221 E	2.0	FC/100 mL	SWG
AA84984	MOA11FEC002	6/14/11	06:55	6/14/11	11:25	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84985	MOA11FEC003	6/14/11	07:08	6/14/11	11:40	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84986	MOA11FEC004	6/14/11	07:23	6/14/11	11:40	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84987	MOA11FEC005	6/14/11	08:30	6/14/11	12:00	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84988	MOA11FEC006	6/14/11	08:35	6/14/11	12:00	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84989	MOA11FEC007	6/14/11	08:41	6/14/11	12:10	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84990	MOA11FEC008	6/14/11	08:50	6/14/11	12:10	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84991	MOA11FEC009	6/14/11	11:00	6/14/11	16:25	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84992	MOA11FEC010	6/14/11	11:12	6/14/11	16:25	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84993	MOA11FEC011	6/14/11	11:26	6/14/11	16:40	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84994	MOA11FEC012	6/14/11	11:50	6/14/11	16:40	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84995	MOA11FEC013	6/14/11	13:46	6/14/11	16:55	Fecal Coliform, MPN	SM 9221 E	2.0	FC/100 mL	SWG
AA84996	MOA11FEC014	6/14/11	14:18	6/14/11	16:55	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84997	MOA11FEC015	6/14/11	14:34	6/14/11	17:10	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84998	MOA11FEC016	6/14/11	15:03	6/14/11	17:10	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	SWG
AA84999	MOA11FEC017	6/14/11	15:57	6/14/11	20:40	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85000	MOA11FEC018	6/14/11	16:05	6/14/11	21:00	Fecal Coliform, MPN	SM 9221 E	4.5	FC/100 mL	PWS
AA85001	MOA11FEC019	6/14/11	16:14	6/14/11	21:05	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS

Reported by: _____

Paul W. Smith, Water Quality Analyst

Date: 01/12/2012

ANCHORAGE WATER AND WASTEWATER UTILITY

WATER QUALITY SECTION

Analytical Report

Sample ID	Sample Number	Collection Date	Collection Time	Analysis Date	Analysis Time	Parameter	Method	Result	Unit	Analyst
AA85002	MOA11FEC020	6/14/11	16:30	6/14/11	21:08	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85003	MOA11FEC021	6/14/11	17:23	6/14/11	21:13	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85004	MOA11FEC022	6/14/11	17:29	6/14/11	21:17	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85005	MOA11FEC023	6/14/11	17:36	6/14/11	21:20	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85006	MOA11FEC024	6/14/11	17:58	6/14/11	21:25	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85007	MOA11FEC025	6/15/11	14:55	6/15/11	20:50	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85008	MOA11FEC026	6/15/11	15:10	6/15/11	21:00	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85009	MOA11FEC027	6/15/11	15:25	6/15/11	21:05	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85010	MOA11FEC028	6/15/11	15:33	6/15/11	21:10	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85011	MOA11FEC029	6/15/11	16:43	6/15/11	21:15	Fecal Coliform, MPN	SM 9221 E	2.0	FC/100 mL	AJ
AA85012	MOA11FEC030	6/15/11	16:54	6/15/11	21:20	Fecal Coliform, MPN	SM 9221 E	2.0	FC/100 mL	AJ
AA85013	MOA11FEC031	6/15/11	16:54	6/15/11	21:26	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85014	MOA11FEC032	6/15/11	16:54	6/15/11	21:31	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85015	MOA11FEC033	6/15/11	17:07	6/15/11	21:37	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85016	MOA11FEC034	6/15/11	17:17	6/15/11	21:45	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85017	MOA11FEC035	6/15/11	18:13	6/15/11	21:50	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85018	MOA11FEC036	6/15/11	18:13	6/15/11	21:55	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	AJ
AA85019	MOA11FEC037	6/15/11	18:13	6/15/11	22:00	Fecal Coliform, MPN	SM 9221 E	2.0	FC/100 mL	AJ
AA85020	MOA11FEC038	6/15/11	18:22	6/15/11	21:50	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS

Reported by: _____ Date: 01/12/2012

Paul W. Smith, Water Quality Analyst

ANCHORAGE WATER AND WASTEWATER UTILITY

WATER QUALITY SECTION

Analytical Report

Sample ID	Sample Number	Collection Date	Collection Time	Analysis Date	Analysis Time	Parameter	Method	Result	Unit	Analyst
AA85021	MOA11FEC039	6/15/11	18:34	6/15/11	21:55	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85022	MOA11FEC040	6/15/11	18:53	6/15/11	21:59	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85023	MOA11FEC041	6/14/11	18:53	6/14/11	22:48	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85024	MOA11FEC042	6/14/11	18:53	6/14/11	22:45	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85025	MOA11FEC043	6/14/11	18:49	6/14/11	22:40	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85026	MOA11FEC044	6/14/11	18:49	6/14/11	22:37	Fecal Coliform, MPN	SM 9221 E	2.0	FC/100 mL	PWS
AA85027	MOA11FEC045	6/14/11	18:46	6/14/11	22:33	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85028	MOA11FEC046	6/14/11	18:46	6/14/11	22:29	Fecal Coliform, MPN	SM 9221 E	1.8	FC/100 mL	PWS
AA85029	MOA11FEC047	6/14/11	18:45	6/14/11	22:25	Fecal Coliform, MPN	SM 9221 E	2.0	FC/100 mL	PWS
AA85030	MOA11FEC048	6/14/11	18:45	6/14/11	22:20	Fecal Coliform, MPN	SM 9221 E	1.8	FC/100 mL	PWS
AA85031	MOA11FEC049	6/14/11	18:41	6/14/11	22:08	Fecal Coliform, MPN	SM 9221 E	4.5	FC/100 mL	PWS
AA85032	MOA11FEC050	6/14/11	18:41	6/14/11	22:04	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85033	MOA11FEC051	6/14/11	18:37	6/14/11	22:00	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85034	MOA11FEC052	6/14/11	18:37	6/14/11	21:56	Fecal Coliform, MPN	SM 9221 E	2.0	FC/100 mL	PWS
AA85035	MOA11FEC053	6/14/11	18:28	6/14/11	21:51	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85036	MOA11FEC054	6/14/11	18:28	6/14/11	21:47	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85037	MOA11FEC055	6/14/11	18:10	6/14/11	21:43	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85038	MOA11FEC056	6/14/11	18:10	6/14/11	21:39	Fecal Coliform, MPN	SM 9221 E	<1.8	FC/100 mL	PWS
AA85039	MOA11FEC057	6/14/11	13:25	6/14/11	14:00	Fecal Coliform, MPN	SM 9221 E	7.8	FC/100 mL	SWG

Reported by: _____ Date: 01/12/2012

Paul W. Smith, Water Quality Analyst

APPENDIX C

Receiving Water Quality Monitoring

C6 Total Residual Chlorine and Turbidity

Kinnetic Laboratories, Inc.

KINNETIC LABORATORIES, INC.
TOTAL RESIDUAL CHLORINE - LABORATORY REPORT

CLIENT: MUNICIPALITY OF ANCHORAGE AWWU
PROJECT: 2011 ASPLUND WPCF RECEIVING WATER QUALITY

SAMPLE NUMBER	STATION	SAMPLE DATE	SAMPLE TIME	ANALYSIS DATE	ANALYSIS TIME	Total Residual Chlorine (µg/L)
MOA11TRC001	E1-1S	6/14/11	6:43	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC002	E1-2S	6/14/11	6:55	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC003	E1-3S	6/14/11	7:08	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC004	E1-4S	6/14/11	7:23	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC005	E2-1S	6/14/11	8:30	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC006	E2-2S	6/14/11	8:35	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC007	E2-3S	6/14/11	8:41	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC008	E2-4S	6/14/11	8:50	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC009	E3-1S	6/14/11	11:00	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC010	E3-2S	6/14/11	11:12	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC011	E3-3S	6/14/11	11:26	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC012	E3-4S	6/14/11	11:50	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC013	F1-1S	6/14/11	13:46	6/14/11	< 5 minutes	15 ug/L
MOA11TRC014	F1-2S	6/14/11	14:18	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC015	F1-3S	6/14/11	14:34	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC016	F1-4S	6/14/11	15:03	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC017	F2-1S	6/14/11	15;57	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC018	F2-2S	6/14/11	16:05	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC019	F2-3S	6/14/11	16:14	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC020	F2-4S	6/14/11	16:30	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC021	F3-1S	6/14/11	17:23	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC022	F3-2S	6/14/11	17:29	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC023	F3-3S	6/14/11	17:36	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC024	F3-4S	6/14/11	17:58	6/14/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC025	C1-1S	6/15/11	14:55	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC026	C1-2S	6/15/11	15:10	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC027	C1-3S	6/15/11	15:25	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC028	C1-4S	6/15/11	15:33	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC029	C2-1S	6/15/11	16:43	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC030	C2-2SA	6/15/11	16:54	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC031	C2-2SB	6/15/11	16:54	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC032	C2-2SC	6/15/11	16:54	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC033	C2-3S	6/15/11	17:07	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC034	C2-4S	6/15/11	17:17	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC035	C3-1S	6/15/11	18:13	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC038	C3-2S	6/15/11	18:22	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC039	C3-3S	6/15/11	18:34	6/15/11	< 5 minutes	ND (<10 µg/L)
MOA11TRC040	C3-4S	6/15/11	18:53	6/15/11	< 5 minutes	ND (<10 µg/L)

Analyzed By: G.Gillingham Reviewed By: M Aussie Date: 7/12/11

KINNETIC LABORATORIES, INC.
TURBIDITY DATA LOG

CLIENT: MUNICIPALITY OF ANCHORAGE AWWU
PROJECT: SUMMER 2011 JOHN M. ASPLUND WPCF RECEIVING WATER QUALITY

CALIBRATION STANDARDS:

	STD 1:	READ	DATE	TIME
Turbidity	0.02	0.02	6/15/11	8:05
Turbidity	0.02	0.02	6/16/11	14:40

SAMPID	STATION	SAMPLE DATE	SAMPLE TIME	ANALYSIS DATE	ANALYSIS TIME	TURBIDITY (NTU)
MOA11TUR001	E1-1S	6/14/11	6:43	6/15/11	8:13	166
MOA11TUR002	E1-1M	6/14/11	6:43	6/15/11	8:26	410/418
MOA11TUR003	E1-1B	6/14/11	6:43	6/15/11	8:28	349
MOA11TUR004	E1-2S	6/14/11	6:55	6/15/11	8:31	190
MOA11TUR005	E1-2M	6/14/11	6:55	6/15/11	8:33	268
MOA11TUR006	E1-2B	6/14/11	6:55	6/15/11	8:35	238
MOA11TUR007	E1-3S	6/14/11	7:08	6/15/11	8:37	71
MOA11TUR008	E1-3M	6/14/11	7:08	6/15/11	8:39	164
MOA11TUR009	E1-3B	6/14/11	7:08	6/15/11	8:40	255
MOA11TUR010	E1-4S	6/14/11	7:23	6/15/11	8:42	64
MOA11TUR011	E1-4M	6/14/11	7:23	6/15/11	8:44	204
MOA11TUR012	E1-4B	6/14/11	7:23	6/15/11	8:46	270
MOA11TUR013	E2-1S	6/14/11	8:30	6/15/11	8:48	330
MOA11TUR014	E2-1M	6/14/11	8:30	6/15/11	8:49	348
MOA11TUR015	E2-1B	6/14/11	8:30	6/15/11	8:51	357
MOA11TUR016	E2-2S	6/14/11	8:35	6/15/11	8:52	318
MOA11TUR017	E2-2M	6/14/11	8:35	6/15/11	8:54	335
MOA11TUR018	E2-2B	6/14/11	8:35	6/15/11	8:56	350
MOA11TUR019	E2-3S	6/14/11	8:41	6/15/11	8:58	318
MOA11TUR020	E2-3M	6/14/11	8:41	6/15/11	8:59	353/360
MOA11TUR021	E2-3B	6/14/11	8:41	6/15/11	9:02	356
MOA11TUR022	E2-4S	6/14/11	8:50	6/15/11	9:04	300
MOA11TUR023	E2-4M	6/14/11	8:50	6/15/11	9:05	345
MOA11TUR024	E2-4B	6/14/11	8:50	6/15/11	9:07	340
MOA11TUR025	E3-1S	6/14/11	11:00	6/15/11	9:08	284
MOA11TUR026	E3-1M	6/14/11	11:00	6/15/11	9:10	290
MOA11TUR027	E3-1B	6/14/11	11:00	6/15/11	9:11	280
MOA11TUR028	E3-2S	6/14/11	11:12	6/15/11	9:13	272
MOA11TUR029	E3-2M	6/14/11	11:12	6/15/11	9:14	286
MOA11TUR030	E3-2B	6/14/11	11:12	6/15/11	9:16	288
MOA11TUR031	E3-3S	6/14/11	11:26	6/15/11	9:17	280
MOA11TUR032	E3-3M	6/14/11	11:26	6/15/11	9:19	293
MOA11TUR033	E3-3B	6/14/11	11:26	6/15/11	9:21	310
MOA11TUR034	E3-4S	6/14/11	11:50	6/15/11	9:22	200
MOA11TUR035	E3-4M	6/14/11	11:50	6/15/11	9:23	320
MOA11TUR036	E3-4B	6/14/11	11:50	6/15/11	9:24	347

Analyzed By: Mariah J. Davoie Reviewed By: Mary A Sevor Date: 7/12/11

KINNETIC LABORATORIES, INC.
TURBIDITY DATA LOG

CLIENT: MUNICIPALITY OF ANCHORAGE AWWU
PROJECT: SUMMER 2011 JOHN M. ASPLUND WPCF RECEIVING WATER QUALITY

CALIBRATION STANDARDS:

	STD 1:	READ	DATE	TIME
Turbidity	0.02	0.02	6/15/11	8:05
Turbidity	0.02	0.02	6/16/11	14:40

SAMPID	STATION	SAMPLE DATE	SAMPLE TIME	ANALYSIS DATE	ANALYSIS TIME	TURBIDITY (NTU)
MOA11TUR037	F1-1S	6/14/11	13:46	6/15/11	10:03	215
MOA11TUR038	F1-1M	6/14/11	13:46	6/15/11	10:04	395
MOA11TUR039	F1-1B	6/14/11	13:46	6/15/11	10:06	411
MOA11TUR040	F1-2S	6/14/11	14:18	6/15/11	10:07	220
MOA11TUR041	F1-2M	6/14/11	14:18	6/15/11	10:08	230/231
MOA11TUR042	F1-2B	6/14/11	14:18	6/15/11	10:10	234
MOA11TUR043	F1-3S	6/14/11	14:34	6/15/11	10:21	202
MOA11TUR044	F1-3M	6/14/11	14:34	6/15/11	10:22	218
MOA11TUR045	F1-3B	6/14/11	14:34	6/15/11	10:23	232
MOA11TUR046	F1-4S	6/14/11	15:03	6/15/11	10:25	61
MOA11TUR047	F1-4M	6/14/11	15:03	6/15/11	10:26	148
MOA11TUR048	F1-4B	6/14/11	15:03	6/15/11	10:27	219
MOA11TUR049	F2-1S	6/14/11	15:57	6/15/11	10:28	345
MOA11TUR050	F2-1M	6/14/11	15:57	6/15/11	10:29	383
MOA11TUR051	F2-1B	6/14/11	15:57	6/15/11	10:30	378
MOA11TUR052	F2-2S	6/14/11	16:05	6/15/11	10:32	349
MOA11TUR053	F2-2M	6/14/11	16:05	6/15/11	10:33	363
MOA11TUR054	F2-2B	6/14/11	16:05	6/15/11	10:34	380
MOA11TUR055	F2-3S	6/14/11	16:14	6/15/11	10:35	283
MOA11TUR056	F2-3M	6/14/11	16:14	6/15/11	10:36	431
MOA11TUR057	F2-3B	6/14/11	16:14	6/15/11	10:37	470
MOA11TUR058	F2-4S	6/14/11	16:30	6/15/11	10:39	425
MOA11TUR059	F2-4M	6/14/11	16:30	6/15/11	10:40	427/450
MOA11TUR060	F2-4B	6/14/11	16:30	6/15/11	10:42	448
MOA11TUR061	F3-1S	6/14/11	17:23	6/15/11	10:43	340
MOA11TUR062	F3-1M	6/14/11	17:23	6/15/11	10:44	365
MOA11TUR063	F3-1B	6/14/11	17:23	6/15/11	10:46	380
MOA11TUR064	F3-2S	6/14/11	17:29	6/15/11	10:47	360
MOA11TUR065	F3-2M	6/14/11	17:29	6/15/11	10:48	377
MOA11TUR066	F3-2B	6/14/11	17:29	6/15/11	10:49	380
MOA11TUR067	F3-3S	6/14/11	17:36	6/15/11	10:50	342
MOA11TUR068	F3-3M	6/14/11	17:36	6/15/11	10:51	374
MOA11TUR069	F3-3B	6/14/11	17:36	6/15/11	10:52	373
MOA11TUR070	F3-4S	6/14/11	17:58	6/15/11	10:54	300
MOA11TUR071	F3-4M	6/14/11	17:58	6/15/11	10:55	340
MOA11TUR072	F3-4B	6/14/11	17:58	6/15/11	10:56	330

Analyzed By: Kristin J. Savoie Reviewed By: Marc A Arwood Date: 7/12/11

KINNETIC LABORATORIES, INC.
TURBIDITY DATA LOG

CLIENT: MUNICIPALITY OF ANCHORAGE AWWU
PROJECT: SUMMER 2011 JOHN M. ASPLUND WPCF RECEIVING WATER QUALITY

CALIBRATION STANDARDS:

	STD 1:	READ	DATE	TIME
Turbidity	0.02	0.02	6/15/11	8:05
Turbidity	0.02	0.02	6/16/11	14:40

SAMPID	STATION	SAMPLE DATE	SAMPLE TIME	ANALYSIS DATE	ANALYSIS TIME	TURBIDITY (NTU)
MOA11TUR073	C1-1S	6/15/11	14:55	6/16/11	14:44	152
MOA11TUR074	C1-1M	6/15/11	14:55	6/16/11	14:45	438
MOA11TUR075	C1-1B	6/15/11	14:55	6/16/11	14:47	445
MOA11TUR076	C1-2S	6/15/11	15:10	6/16/11	14:48	314
MOA11TUR077	C1-2M	6/15/11	15:10	6/16/11	14:49	536
MOA11TUR078	C1-2B	6/15/11	15:10	6/16/11	14:50	577
MOA11TUR079	C1-3S	6/15/11	15:25	6/16/11	14:53	223
MOA11TUR080	C1-3M	6/15/11	15:25	6/16/11	14:54	490
MOA11TUR081	C1-3B	6/15/11	15:25	6/16/11	14:55	562
MOA11TUR082	C1-4S	6/15/11	15:33	6/16/11	14:56	278
MOA11TUR083	C1-4M	6/15/11	15:33	6/16/11	14:48	555
MOA11TUR084	C1-4B	6/15/11	15:33	6/16/11	14:59	568
MOA11TUR085	C2-1S	6/15/11	16:43	6/16/11	15:00	345
MOA11TUR086	C2-1M	6/15/11	16:43	6/16/11	15:01	355
MOA11TUR087	C2-1B	6/15/11	16:43	6/16/11	15:02	418
MOA11TUR088	C2-2S	6/15/11	16:54	6/16/11	15:04	314
MOA11TUR089	C2-2M	6/15/11	16:54	6/16/11	15:05	368
MOA11TUR090	C2-2B	6/15/11	16:54	6/16/11	15:06	460
MOA11TUR091	C2-3S A	6/15/11	17:07	6/16/11	15:12	353
MOA11TUR092	C2-3S B	6/15/11	17:07	6/16/11	15:13	356
MOA11TUR093	C2-3S C	6/15/11	17:07	6/16/11	15:15	344
MOA11TUR094	C2-3M	6/15/11	17:07	6/16/11	15:16	429
MOA11TUR095	C2-3B	6/15/11	17:07	6/16/11	15:17	460
MOA11TUR096	C2-4S	6/15/11	17:17	6/16/11	15:23	480
MOA11TUR097	C2-4M	6/15/11	17:17	6/16/11	15:25	394
MOA11TUR098	C2-4B	6/15/11	17:17	6/16/11	15:26	565
MOA11TUR099	C3-1S A	6/15/11	18:13	6/16/11	15:27	428
MOA11TUR100	C3-1S B	6/15/11	18:13	6/16/11	15:28	424
MOA11TUR101	C3-1S C	6/15/11	18:13	6/16/11	15:29	440
MOA11TUR102	C3-1M	6/15/11	18:13	6/16/11	15:30	442
MOA11TUR103	C3-1B	6/15/11	18:13	6/16/11	15:31	442
MOA11TUR104	C3-2S	6/15/11	18:22	6/16/11	15:33	389
MOA11TUR105	C3-2M	6/15/11	18:22	6/16/11	15:34	398
MOA11TUR106	C3-2B	6/15/11	18:22	6/16/11	15:35	429
MOA11TUR107	C3-3S	6/15/11	18:34	6/16/11	15:37	393
MOA11TUR108	C3-3M	6/15/11	18:34	6/16/11	15:38	403
MOA11TUR109	C3-3B	6/15/11	18:34	6/16/11	15:38	455
MOA11TUR110	C3-4S	6/15/11	18:53	6/16/11	15:40	404
MOA11TUR111	C3-4M	6/15/11	18:53	6/16/11	15:41	431
MOA11TUR112	C3-4B	6/15/11	18:53	6/16/11	15:42	443/434

Analyzed By: Yariah J. Savoie Reviewed By: Mark A. Sarver Date: 7/12/11

APPENDIX C

Receiving Water Quality Monitoring

C7 Hydrographic Data Profiles

Kinnetic Laboratories, Inc.

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C1-1 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.52	1.81	14.38	8.14	9.23	37	10.56	0
1.0	12.33	1.80	14.41	8.14	9.27	144	10.61	0
1.5	12.27	1.79	14.38	8.14	9.25	221	10.59	0
2.0	12.24	1.79	14.36	8.15	9.26	241	10.58	0
2.5	12.22	1.78	14.31	8.15	9.28	249	10.54	0
3.0	12.20	1.78	14.26	8.17	9.28	260	10.51	0
3.5	12.19	1.77	14.24	8.17	9.28	270	10.50	0
4.0	12.18	1.77	14.23	8.18	9.29	278	10.49	0
4.5	12.17	1.77	14.22	8.18	9.31	285	10.48	0
5.0	12.16	1.77	14.22	8.19	9.32	290	10.48	0
5.5	12.16	1.77	14.22	8.19	9.32	296	10.48	0
6.0	12.15	1.77	14.22	8.20	9.33	305	10.48	0
6.5	12.15	1.77	14.22	8.20	9.32	312	10.49	0
7.0	12.14	1.77	14.23	8.20	9.32	319	10.49	0
7.5	12.14	1.77	14.23	8.21	9.35	328	10.49	0
8.0	12.13	1.77	14.23	8.21	9.36	337	10.50	0
8.5	12.13	1.77	14.24	8.21	9.37	339	10.50	0
9.0	12.13	1.77	14.25	8.21	9.37	340	10.51	0
9.5	12.13	1.77	14.26	8.22	9.39	348	10.52	0
10.0	12.12	1.78	14.32	8.22	9.39	336	10.56	0
10.5	12.11	1.78	14.35	8.22	9.39	334	10.59	0
11.0	12.11	1.78	14.36	8.22	9.40	334	10.60	0
11.5	12.10	1.78	14.36	8.22	9.41	335	10.60	0
12.0	12.10	1.79	14.37	8.22	9.41	338	10.60	0
12.5	12.10	1.79	14.37	8.22	9.41	338	10.61	0
13.0	12.10	1.79	14.38	8.22	9.42	336	10.61	0
13.5	12.10	1.79	14.38	8.22	9.43	336	10.62	0
14.0	12.10	1.79	14.37	8.23	9.45	344	10.61	0
14.5	12.09	1.79	14.42	8.22	9.44	334	10.65	0
15.0	12.09	1.79	14.43	8.22	9.43	332	10.66	0
15.5	12.09	1.79	14.42	8.23	9.44	335	10.65	0
16.0	12.09	1.79	14.43	8.23	9.46	337	10.66	0
16.5	12.09	1.79	14.45	8.23	9.47	337	10.67	0
17.0	12.08	1.80	14.47	8.23	9.48	338	10.68	0
17.5	12.08	1.80	14.47	8.23	9.49	339	10.69	0
18.0	12.08	1.80	14.47	8.23	9.50	339	10.69	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C1-2 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.44	1.73	13.77	8.16	9.54	74	10.09	0
1.0	12.35	1.79	14.33	8.16	9.34	119	10.54	0
1.5	12.25	1.78	14.27	8.17	9.30	198	10.51	0
2.0	12.20	1.77	14.21	8.18	9.30	259	10.47	0
2.5	12.17	1.76	14.15	8.18	9.32	293	10.43	0
3.0	12.14	1.75	14.08	8.19	9.34	325	10.38	0
3.5	12.13	1.74	13.98	8.19	9.34	347	10.31	0
4.0	12.12	1.73	13.90	8.20	9.36	363	10.24	0
4.5	12.12	1.73	13.85	8.20	9.37	371	10.20	0
5.0	12.12	1.72	13.83	8.20	9.38	372	10.19	0
5.5	12.12	1.72	13.80	8.21	9.39	373	10.17	0
6.0	12.11	1.72	13.76	8.21	9.41	377	10.13	0
6.5	12.11	1.71	13.73	8.21	9.42	387	10.12	0
7.0	12.10	1.72	13.76	8.21	9.42	395	10.14	0
7.5	12.10	1.72	13.79	8.21	9.42	403	10.16	0
8.0	12.10	1.72	13.83	8.22	9.42	417	10.19	0
8.5	12.10	1.73	13.86	8.21	9.43	430	10.21	0
9.0	12.10	1.73	13.87	8.21	9.43	440	10.22	0
9.5	12.10	1.73	13.88	8.22	9.43	453	10.23	0
10.0	12.10	1.73	13.88	8.21	9.45	463	10.23	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C1-3 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.44	1.79	14.25	8.17	9.19	101	10.47	0
1.0	12.19	1.75	14.07	8.17	9.25	126	10.36	0
1.5	12.13	1.73	13.91	8.18	9.26	249	10.24	0
2.0	12.12	1.72	13.81	8.19	9.28	339	10.17	0
2.5	12.11	1.72	13.79	8.19	9.28	372	10.15	0
3.0	12.11	1.72	13.78	8.19	9.29	406	10.15	0
3.5	12.11	1.72	13.77	8.19	9.30	449	10.14	0
4.0	12.11	1.72	13.77	8.19	9.29	488	10.14	0
4.5	12.11	1.72	13.76	8.19	9.31	526	10.14	0
5.0	12.11	1.71	13.75	8.19	9.32	555	10.13	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C1-4 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.32	1.76	14.04	8.15	9.27	198	10.32	0
1.0	12.25	1.75	13.98	8.16	9.30	315	10.29	0
1.5	12.18	1.73	13.90	8.17	9.31	343	10.23	0
2.0	12.16	1.73	13.88	8.18	9.31	354	10.22	0
2.5	12.15	1.73	13.86	8.19	9.32	358	10.21	0
3.0	12.15	1.73	13.85	8.19	9.32	359	10.20	0
3.5	12.15	1.73	13.83	8.19	9.34	363	10.18	0
4.0	12.15	1.72	13.82	8.19	9.34	376	10.18	0
4.5	12.15	1.72	13.81	8.20	9.35	389	10.17	0
5.0	12.15	1.72	13.80	8.20	9.35	398	10.16	0
5.5	12.15	1.72	13.80	8.20	9.37	400	10.16	0
6.0	12.15	1.72	13.80	8.20	9.39	395	10.16	0
6.5	12.15	1.72	13.77	8.20	9.38	402	10.14	0
7.0	12.15	1.72	13.75	8.20	9.38	411	10.12	0
7.5	12.16	1.71	13.72	8.21	9.38	420	10.10	0
8.0	12.16	1.71	13.70	8.20	9.42	431	10.08	0
8.5	12.16	1.71	13.72	8.21	9.42	426	10.10	0
9.0	12.16	1.71	13.72	8.21	9.43	429	10.10	0
9.5	12.16	1.71	13.70	8.21	9.44	443	10.09	0
10.0	12.15	1.71	13.71	8.21	9.44	446	10.09	0
10.5	12.15	1.71	13.71	8.21	9.44	440	10.09	0
11.0	12.16	1.71	13.69	8.21	9.46	447	10.08	0
11.5	12.18	1.71	13.68	8.22	9.47	453	10.06	0
12.0	12.18	1.71	13.68	8.22	9.48	453	10.06	0
12.5	12.18	1.71	13.68	8.22	9.49	445	10.06	0
13.0	12.19	1.71	13.67	8.22	9.50	451	10.05	0
13.5	12.20	1.71	13.65	8.22	9.52	467	10.04	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C2-1 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.39	1.82	14.56	8.18	9.26	214	10.71	0
1.0	12.39	1.87	15.03	8.18	9.24	254	11.07	0
1.5	12.39	1.87	15.02	8.19	9.27	252	11.07	0
2.0	12.39	1.87	15.02	8.19	9.27	252	11.07	0
2.5	12.39	1.87	15.02	8.19	9.27	252	11.07	0
3.0	12.39	1.87	15.02	8.19	9.28	252	11.07	0
3.5	12.39	1.87	15.02	8.19	9.30	251	11.06	0
4.0	12.39	1.87	15.02	8.20	9.30	250	11.07	0
4.5	12.38	1.87	15.02	8.20	9.29	260	11.06	0
5.0	12.38	1.87	14.98	8.20	9.31	281	11.04	0
5.5	12.38	1.87	14.96	8.20	9.32	284	11.02	0
6.0	12.39	1.87	14.97	8.20	9.33	279	11.03	0
6.5	12.39	1.87	14.98	8.20	9.33	276	11.04	0
7.0	12.39	1.87	14.99	8.21	9.34	270	11.05	0
7.5	12.39	1.87	14.99	8.21	9.35	272	11.04	0
8.0	12.39	1.87	14.99	8.21	9.36	271	11.05	0
8.5	12.39	1.87	15.00	8.21	9.36	269	11.05	0
9.0	12.39	1.87	14.99	8.21	9.38	270	11.04	0
9.5	12.39	1.87	14.99	8.22	9.36	275	11.04	0
10.0	12.39	1.87	14.98	8.21	9.40	280	11.03	0
10.5	12.39	1.87	14.97	8.22	9.41	285	11.03	0
11.0	12.38	1.86	14.96	8.22	9.42	303	11.02	0
11.5	12.38	1.86	14.95	8.23	9.42	297	11.02	0
12.0	12.39	1.87	14.96	8.23	9.44	291	11.02	0
12.5	12.39	1.87	14.96	8.23	9.45	291	11.02	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C2-2a **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.34	1.87	14.99	8.17	9.22	208	11.05	0
1.0	12.32	1.87	15.00	8.18	9.24	227	11.06	0
1.5	12.30	1.87	15.00	8.18	9.24	253	11.06	0
2.0	12.29	1.87	15.00	8.19	9.26	272	11.07	0
2.5	12.27	1.87	15.01	8.19	9.27	284	11.07	0
3.0	12.26	1.87	15.01	8.19	9.29	288	11.08	0
3.5	12.24	1.86	15.01	8.20	9.30	290	11.08	0
4.0	12.23	1.86	15.01	8.20	9.30	303	11.08	0
4.5	12.23	1.86	15.01	8.20	9.30	314	11.08	0
5.0	12.23	1.86	15.01	8.20	9.30	316	11.08	0
5.5	12.23	1.86	15.01	8.21	9.30	316	11.09	0
6.0	12.22	1.86	15.01	8.21	9.32	317	11.09	0
6.5	12.22	1.86	15.01	8.21	9.33	319	11.09	0
7.0	12.22	1.86	15.01	8.21	9.34	323	11.09	0
7.5	12.21	1.86	15.01	8.21	9.34	329	11.09	0
8.0	12.21	1.86	15.01	8.21	9.34	337	11.09	0
8.5	12.20	1.86	15.00	8.21	9.35	351	11.08	0
9.0	12.18	1.86	14.97	8.21	9.37	389	11.06	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C2-2b **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.35	1.87	14.98	8.18	9.23	206	11.04	0
1.0	12.34	1.87	14.98	8.18	9.25	225	11.04	0
1.5	12.33	1.87	14.99	8.18	9.26	244	11.05	0
2.0	12.31	1.87	14.99	8.19	9.26	258	11.06	0
2.5	12.30	1.87	14.99	8.19	9.27	264	11.06	0
3.0	12.29	1.87	15.00	8.20	9.28	269	11.06	0
3.5	12.28	1.87	15.00	8.20	9.28	281	11.07	0
4.0	12.27	1.87	15.00	8.20	9.28	288	11.07	0
4.5	12.26	1.86	15.01	8.20	9.30	296	11.08	0
5.0	12.25	1.86	15.01	8.20	9.32	302	11.08	0
5.5	12.24	1.86	15.01	8.20	9.31	308	11.08	0
6.0	12.24	1.86	15.01	8.20	9.32	312	11.08	0
6.5	12.23	1.86	15.01	8.21	9.34	318	11.08	0
7.0	12.22	1.86	15.01	8.20	9.35	327	11.08	0
7.5	12.21	1.86	15.01	8.21	9.35	340	11.09	0
8.0	12.20	1.86	15.01	8.21	9.36	358	11.08	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C2-2c **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.36	1.86	14.95	8.19	9.24	166	11.02	0
1.0	12.33	1.86	14.97	8.19	9.26	202	11.04	0
1.5	12.30	1.87	14.99	8.19	9.25	245	11.06	0
2.0	12.29	1.87	15.00	8.19	9.27	271	11.06	0
2.5	12.28	1.87	15.00	8.19	9.30	280	11.07	0
3.0	12.27	1.87	15.00	8.19	9.30	282	11.07	0
3.5	12.26	1.86	15.00	8.20	9.30	284	11.07	0
4.0	12.25	1.86	15.01	8.20	9.32	293	11.08	0
4.5	12.25	1.86	15.01	8.20	9.32	301	11.08	0
5.0	12.24	1.86	15.01	8.20	9.33	304	11.08	0
5.5	12.23	1.86	15.01	8.20	9.34	306	11.08	0
6.0	12.21	1.86	15.01	8.20	9.35	310	11.09	0
6.5	12.21	1.86	15.01	8.21	9.35	323	11.09	0
7.0	12.20	1.86	15.01	8.21	9.36	349	11.08	0
7.5	12.20	1.86	15.00	8.20	9.36	368	11.08	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C2-3 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.43	1.79	14.27	8.15	9.27	197	10.48	0
1.0	12.43	1.83	14.61	8.15	9.27	205	10.74	0
1.5	12.41	1.84	14.71	8.17	9.28	222	10.82	0
2.0	12.41	1.84	14.72	8.18	9.28	227	10.83	0
2.5	12.41	1.84	14.72	8.19	9.29	225	10.83	0
3.0	12.41	1.84	14.73	8.19	9.30	227	10.84	0
3.5	12.40	1.84	14.77	8.19	9.31	230	10.87	0
4.0	12.39	1.85	14.81	8.19	9.31	238	10.90	0
4.5	12.38	1.85	14.85	8.20	9.32	243	10.94	0
5.0	12.35	1.86	14.91	8.20	9.33	250	10.99	0
5.5	12.32	1.86	14.95	8.20	9.33	265	11.03	0
6.0	12.32	1.86	14.97	8.20	9.33	276	11.04	0
6.5	12.33	1.86	14.95	8.20	9.33	276	11.02	0
7.0	12.31	1.86	14.96	8.20	9.34	266	11.03	0
7.5	12.30	1.87	14.99	8.21	9.35	277	11.06	0
8.0	12.31	1.87	14.99	8.21	9.36	277	11.05	0
8.5	12.29	1.87	15.00	8.21	9.37	281	11.06	0
9.0	12.29	1.87	15.00	8.21	9.39	279	11.07	0
9.5	12.27	1.87	15.00	8.21	9.40	285	11.07	0
10.0	12.23	1.87	15.03	8.22	9.41	314	11.10	0
10.5	12.19	1.87	15.03	8.22	9.42	341	11.11	0
11.0	12.17	1.86	15.03	8.22	9.44	363	11.11	0
11.5	12.17	1.86	15.03	8.22	9.44	368	11.11	0
12.0	12.17	1.86	15.02	8.22	9.45	372	11.10	0
12.5	12.17	1.86	15.02	8.22	9.45	371	11.10	0
13.0	12.17	1.86	15.02	8.23	9.45	372	11.10	0
13.5	12.17	1.86	15.02	8.23	9.47	377	11.10	0
14.0	12.19	1.86	15.00	8.23	9.48	384	11.08	0
14.5	12.21	1.86	14.98	8.23	9.50	390	11.06	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C2-4 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.32	1.83	14.67	8.12	9.21	245	10.81	0
1.0	12.31	1.83	14.66	8.11	9.25	277	10.80	0
1.5	12.31	1.83	14.66	8.10	9.26	282	10.80	0
2.0	12.31	1.83	14.66	8.12	9.27	279	10.80	0
2.5	12.31	1.83	14.66	8.14	9.28	280	10.80	0
3.0	12.31	1.83	14.67	8.15	9.29	281	10.81	0
3.5	12.31	1.83	14.67	8.17	9.28	281	10.80	0
4.0	12.31	1.83	14.66	8.18	9.30	283	10.80	0
4.5	12.31	1.83	14.66	8.19	9.31	283	10.80	0
5.0	12.31	1.83	14.67	8.19	9.31	283	10.81	0
5.5	12.31	1.83	14.67	8.19	9.31	282	10.81	0
6.0	12.31	1.83	14.67	8.20	9.32	280	10.81	0
6.5	12.30	1.83	14.69	8.20	9.34	280	10.83	0
7.0	12.29	1.83	14.72	8.20	9.35	281	10.85	0
7.5	12.27	1.84	14.81	8.20	9.34	286	10.92	0
8.0	12.26	1.85	14.87	8.20	9.35	300	10.97	0
8.5	12.25	1.85	14.89	8.21	9.35	311	10.99	0
9.0	12.23	1.85	14.93	8.21	9.35	318	11.02	0
9.5	12.22	1.86	14.96	8.20	9.35	343	11.04	0
10.0	12.22	1.86	14.97	8.20	9.35	358	11.05	0
10.5	12.22	1.86	14.98	8.21	9.36	358	11.06	0
11.0	12.22	1.86	14.98	8.21	9.38	363	11.06	0
11.5	12.22	1.86	14.97	8.21	9.38	360	11.06	0
12.0	12.21	1.86	14.97	8.21	9.39	357	11.06	0
12.5	12.21	1.86	14.98	8.21	9.38	366	11.06	0
13.0	12.21	1.86	14.98	8.21	9.40	366	11.07	0
13.5	12.20	1.86	14.99	8.21	9.41	384	11.07	0
14.0	12.21	1.86	14.98	8.21	9.41	373	11.06	0
14.5	12.22	1.86	14.97	8.21	9.44	369	11.05	0
15.0	12.24	1.86	14.95	8.22	9.44	342	11.03	0
15.5	12.23	1.86	14.95	8.22	9.44	336	11.04	0
16.0	12.21	1.86	14.97	8.22	9.46	351	11.06	0
16.5	12.20	1.86	14.99	8.22	9.47	372	11.07	0
17.0	12.20	1.86	14.99	8.22	9.48	362	11.07	0
17.5	12.20	1.86	14.99	8.22	9.48	358	11.08	0
18.0	12.19	1.86	14.99	8.22	9.49	361	11.07	0
18.5	12.18	1.86	14.99	8.22	9.49	376	11.07	0
19.0	12.18	1.86	14.98	8.22	9.49	397	11.07	0
19.5	12.18	1.86	14.98	8.22	9.50	408	11.07	0
20.0	12.17	1.86	14.98	8.22	9.52	412	11.07	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C3-1 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.19	1.92	15.54	8.17	9.10	278	11.50	0
1.0	12.19	1.94	15.67	8.17	9.14	309	11.60	0
1.5	12.19	1.94	15.66	8.17	9.13	311	11.59	0
2.0	12.19	1.94	15.66	8.18	9.16	309	11.59	0
2.5	12.19	1.94	15.67	8.18	9.17	308	11.59	0
3.0	12.19	1.94	15.67	8.18	9.17	306	11.60	0
3.5	12.19	1.94	15.67	8.19	9.18	305	11.60	0
4.0	12.19	1.94	15.67	8.19	9.19	305	11.60	0
4.5	12.19	1.94	15.67	8.19	9.19	306	11.60	0
5.0	12.19	1.94	15.67	8.19	9.20	307	11.60	0
5.5	12.19	1.94	15.67	8.20	9.18	306	11.60	0
6.0	12.19	1.94	15.67	8.20	9.20	306	11.59	0
6.5	12.19	1.94	15.67	8.20	9.23	307	11.59	0
7.0	12.19	1.94	15.67	8.20	9.24	307	11.59	0
7.5	12.19	1.94	15.67	8.20	9.25	304	11.60	0
8.0	12.19	1.94	15.67	8.21	9.26	306	11.60	0
8.5	12.19	1.94	15.67	8.21	9.27	305	11.59	0
9.0	12.19	1.94	15.67	8.21	9.28	304	11.60	0
9.5	12.19	1.94	15.67	8.21	9.29	307	11.60	0
10.0	12.18	1.94	15.67	8.21	9.30	310	11.60	0
10.5	12.18	1.94	15.67	8.21	9.30	309	11.60	0
11.0	12.18	1.94	15.67	8.22	9.31	309	11.60	0
11.5	12.18	1.94	15.67	8.22	9.33	309	11.60	0
12.0	12.18	1.94	15.67	8.22	9.32	309	11.60	0
12.5	12.18	1.94	15.67	8.22	9.34	309	11.60	0
13.0	12.18	1.94	15.67	8.22	9.35	310	11.60	0
13.5	12.18	1.94	15.67	8.22	9.38	311	11.60	0
14.0	12.18	1.94	15.67	8.22	9.39	313	11.60	0
14.5	12.18	1.94	15.67	8.23	9.39	312	11.60	0
15.0	12.18	1.94	15.67	8.23	9.41	311	11.60	0
15.5	12.18	1.94	15.68	8.23	9.41	310	11.61	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C3-2 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.18	1.81	14.62	8.15	9.16	228	10.79	0
1.0	12.18	1.93	15.64	8.16	9.10	264	11.57	0
1.5	12.18	1.93	15.65	8.17	9.14	269	11.58	0
2.0	12.17	1.93	15.65	8.17	9.12	278	11.59	0
2.5	12.16	1.93	15.66	8.18	9.15	281	11.59	0
3.0	12.16	1.94	15.67	8.18	9.16	281	11.60	0
3.5	12.15	1.94	15.67	8.18	9.16	282	11.60	0
4.0	12.15	1.94	15.67	8.19	9.17	287	11.60	0
4.5	12.15	1.94	15.67	8.19	9.19	288	11.60	0
5.0	12.15	1.94	15.67	8.19	9.20	292	11.60	0
5.5	12.15	1.94	15.67	8.19	9.18	297	11.60	0
6.0	12.15	1.93	15.66	8.20	9.21	295	11.60	0
6.5	12.15	1.93	15.66	8.20	9.21	298	11.60	0
7.0	12.15	1.93	15.65	8.20	9.23	301	11.59	0
7.5	12.15	1.93	15.63	8.20	9.23	304	11.58	0
8.0	12.16	1.93	15.61	8.20	9.24	312	11.55	0
8.5	12.16	1.93	15.58	8.20	9.26	337	11.53	0
9.0	12.16	1.92	15.57	8.20	9.26	350	11.53	0
9.5	12.16	1.92	15.57	8.21	9.27	358	11.53	0
10.0	12.16	1.92	15.56	8.21	9.26	366	11.52	0
10.5	12.16	1.92	15.56	8.21	9.29	365	11.51	0
11.0	12.16	1.92	15.55	8.22	9.31	363	11.51	0
11.5	12.16	1.92	15.55	8.22	9.33	385	11.51	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C3-3 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.37	1.87	14.97	8.16	9.19	264	11.03	0
1.0	12.37	1.90	15.27	8.15	9.17	284	11.26	0
1.5	12.38	1.90	15.28	8.15	9.18	276	11.27	0
2.0	12.38	1.90	15.29	8.15	9.21	279	11.28	0
2.5	12.37	1.90	15.30	8.14	9.21	281	11.29	0
3.0	12.37	1.90	15.31	8.15	9.22	280	11.29	0
3.5	12.37	1.90	15.31	8.16	9.22	282	11.30	0
4.0	12.37	1.90	15.31	8.17	9.22	283	11.30	0
4.5	12.36	1.91	15.32	8.17	9.23	282	11.30	0
5.0	12.35	1.91	15.33	8.18	9.24	282	11.31	0
5.5	12.35	1.91	15.33	8.18	9.25	283	11.31	0
6.0	12.35	1.91	15.33	8.18	9.26	284	11.31	0
6.5	12.35	1.91	15.33	8.19	9.27	283	11.31	0
7.0	12.35	1.91	15.33	8.19	9.28	283	11.31	0
7.5	12.35	1.91	15.33	8.19	9.28	285	11.31	0
8.0	12.35	1.91	15.33	8.20	9.29	286	11.31	0
8.5	12.34	1.91	15.34	8.20	9.29	286	11.32	0
9.0	12.33	1.91	15.34	8.20	9.30	288	11.32	0
9.5	12.32	1.91	15.36	8.20	9.31	289	11.34	0
10.0	12.31	1.91	15.38	8.20	9.33	293	11.36	0
10.5	12.28	1.91	15.41	8.20	9.33	303	11.38	0
11.0	12.25	1.92	15.45	8.20	9.33	302	11.42	0
11.5	12.22	1.92	15.52	8.20	9.33	303	11.48	0
12.0	12.23	1.92	15.53	8.20	9.32	301	11.48	0
12.5	12.26	1.92	15.48	8.20	9.32	304	11.44	0
13.0	12.27	1.92	15.44	8.21	9.33	307	11.41	0
13.5	12.26	1.92	15.45	8.21	9.34	305	11.42	0
14.0	12.25	1.92	15.47	8.21	9.36	299	11.43	0
14.5	12.23	1.92	15.50	8.21	9.37	305	11.46	0
15.0	12.21	1.92	15.53	8.21	9.30	304	11.49	0
15.5	12.17	1.93	15.60	8.21	9.31	309	11.55	0
16.0	12.16	1.93	15.64	8.21	9.31	314	11.58	0
16.5	12.16	1.93	15.64	8.21	9.36	316	11.58	0
17.0	12.16	1.93	15.63	8.21	9.34	311	11.57	0
17.5	12.16	1.93	15.63	8.21	9.35	312	11.57	0
18.0	12.15	1.93	15.65	8.21	9.37	310	11.59	0
18.5	12.14	1.93	15.66	8.22	9.35	323	11.59	0
19.0	12.14	1.93	15.65	8.22	9.36	320	11.59	0
19.5	12.14	1.93	15.65	8.22	9.36	332	11.59	0
20.0	12.14	1.93	15.65	8.22	9.38	328	11.59	0
20.5	12.13	1.93	15.64	8.22	9.34	348	11.59	0
21.0	12.13	1.93	15.64	8.22	9.36	341	11.59	0
21.5	12.14	1.93	15.64	8.22	9.35	342	11.58	0
22.0	12.14	1.93	15.63	8.22	9.35	339	11.58	0
22.5	12.14	1.93	15.61	8.23	9.38	336	11.56	0
23.0	12.15	1.93	15.58	8.23	9.37	344	11.54	0
23.5	12.15	1.92	15.57	8.23	9.38	358	11.52	0
24.0	12.15	1.92	15.54	8.23	9.39	367	11.51	0
24.5	12.16	1.92	15.52	8.24	9.45	388	11.49	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C3-4 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.01	1.94	15.80	8.12	9.12	160	11.73	0
1.0	12.01	1.94	15.80	8.11	9.14	282	11.73	0
1.5	12.01	1.94	15.80	8.12	9.17	281	11.73	0
2.0	12.01	1.94	15.80	8.13	9.17	281	11.73	0
2.5	12.00	1.94	15.80	8.13	9.17	281	11.73	0
3.0	12.00	1.94	15.81	8.14	9.19	280	11.73	0
3.5	12.00	1.94	15.81	8.14	9.21	282	11.73	0
4.0	12.00	1.94	15.81	8.16	9.21	283	11.73	0
4.5	12.00	1.94	15.80	8.18	9.23	284	11.73	0
5.0	12.00	1.94	15.80	8.19	9.22	287	11.73	0
5.5	12.00	1.94	15.80	8.19	9.21	287	11.73	0
6.0	11.99	1.94	15.81	8.20	9.23	287	11.74	0
6.5	11.98	1.94	15.81	8.20	9.22	293	11.74	0
7.0	11.98	1.94	15.82	8.20	9.24	297	11.74	0
7.5	11.98	1.94	15.82	8.20	9.26	299	11.74	0
8.0	11.97	1.94	15.82	8.20	9.26	293	11.75	0
8.5	11.97	1.94	15.82	8.20	9.26	295	11.75	0
9.0	11.97	1.94	15.82	8.20	9.28	297	11.75	0
9.5	11.97	1.94	15.82	8.20	9.28	296	11.75	0
10.0	11.97	1.94	15.82	8.20	9.29	295	11.75	0
10.5	11.96	1.94	15.83	8.21	9.31	294	11.75	0
11.0	11.96	1.94	15.83	8.21	9.31	294	11.75	0
11.5	11.96	1.94	15.83	8.21	9.31	295	11.75	0
12.0	11.96	1.94	15.83	8.21	9.32	301	11.75	0
12.5	11.97	1.94	15.83	8.21	9.33	297	11.75	0
13.0	11.97	1.94	15.83	8.21	9.31	292	11.75	0
13.5	11.96	1.94	15.83	8.21	9.33	295	11.75	0
14.0	11.96	1.94	15.83	8.21	9.35	294	11.76	0
14.5	11.95	1.94	15.83	8.21	9.34	301	11.76	0
15.0	11.95	1.94	15.83	8.21	9.34	304	11.76	0
15.5	11.95	1.94	15.83	8.21	9.34	309	11.76	0
16.0	11.95	1.94	15.83	8.21	9.35	311	11.76	0
16.5	11.95	1.94	15.83	8.21	9.36	309	11.76	0
17.0	11.95	1.94	15.83	8.21	9.38	308	11.76	0
17.5	11.95	1.94	15.83	8.21	9.37	299	11.76	0
18.0	11.95	1.94	15.83	8.21	9.38	295	11.76	0
18.5	11.95	1.94	15.83	8.21	9.37	297	11.76	0
19.0	11.95	1.94	15.83	8.21	9.37	297	11.76	0
19.5	11.95	1.94	15.83	8.21	9.39	299	11.76	0
20.0	11.95	1.94	15.83	8.21	9.40	295	11.76	0
20.5	11.95	1.94	15.83	8.21	9.41	293	11.76	0
21.0	11.95	1.94	15.83	8.21	9.41	296	11.76	0
21.5	11.95	1.94	15.83	8.21	9.42	301	11.76	0
22.0	11.95	1.94	15.83	8.21	9.42	299	11.76	0
22.5	11.95	1.94	15.83	8.21	9.43	296	11.76	0
23.0	11.95	1.94	15.83	8.21	9.43	294	11.76	0
23.5	11.95	1.94	15.83	8.22	9.44	298	11.76	0
24.0	11.95	1.94	15.83	8.21	9.45	299	11.76	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: C3-4 **Date: 6/15/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
24.5	11.95	1.94	15.83	8.22	9.46	297	11.76	0
25.0	11.95	1.94	15.83	8.22	9.46	297	11.76	0
25.5	11.95	1.94	15.83	8.21	9.47	296	11.76	0
26.0	11.95	1.94	15.83	8.22	9.47	297	11.76	0
26.5	11.95	1.94	15.83	8.22	9.46	294	11.76	0
27.0	11.95	1.94	15.83	8.22	9.47	298	11.76	0
27.5	11.95	1.94	15.83	8.22	9.48	300	11.76	0
28.0	11.95	1.94	15.83	8.22	9.49	303	11.76	0
28.5	11.95	1.94	15.83	8.22	9.49	300	11.76	0
29.0	11.95	1.94	15.83	8.22	9.49	300	11.76	0
29.5	11.95	1.94	15.83	8.22	9.50	300	11.76	0
30.0	11.95	1.94	15.83	8.22	9.51	306	11.76	0
30.5	11.95	1.94	15.83	8.22	9.51	299	11.76	0
31.0	11.95	1.94	15.83	8.22	9.53	296	11.76	0
31.5	11.95	1.94	15.83	8.22	9.52	296	11.76	0
32.0	11.95	1.94	15.83	8.22	9.53	299	11.76	0
32.5	11.95	1.94	15.83	8.22	9.52	300	11.76	0
33.0	11.95	1.94	15.83	8.22	9.52	297	11.76	0
33.5	11.95	1.94	15.83	8.22	9.55	298	11.76	0
34.0	11.95	1.94	15.83	8.22	9.55	300	11.76	0
34.5	11.95	1.94	15.83	8.22	9.55	299	11.76	0
35.0	11.95	1.94	15.83	8.22	9.56	298	11.76	0
35.5	11.95	1.94	15.83	8.22	9.57	298	11.76	0
36.0	11.95	1.94	15.83	8.22	9.57	298	11.76	0
36.5	11.95	1.94	15.83	8.22	9.58	298	11.76	0
37.0	11.95	1.94	15.83	8.23	9.59	294	11.76	0
37.5	11.95	1.94	15.83	8.23	9.60	296	11.76	0
38.0	11.95	1.94	15.83	8.23	9.61	293	11.76	0
38.5	11.95	1.94	15.83	8.23	9.61	293	11.76	0
39.0	11.94	1.94	15.83	8.23	9.61	293	11.76	0
39.5	11.94	1.94	15.83	8.23	9.63	297	11.76	0
40.0	11.94	1.94	15.83	8.23	9.64	312	11.76	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E1-1 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.80	1.97	16.15	8.18	9.22	115	12.02	0
1.0	11.81	1.98	16.17	8.18	9.24	136	12.04	0
1.5	11.80	1.98	16.21	8.19	9.26	150	12.07	0
2.0	11.79	1.99	16.27	8.20	9.27	165	12.12	0
2.5	11.78	1.99	16.34	8.20	9.29	183	12.18	0
3.0	11.76	2.00	16.40	8.21	9.31	210	12.22	0
3.5	11.73	2.00	16.46	8.21	9.33	222	12.27	0
4.0	11.69	2.01	16.54	8.21	9.36	228	12.34	0
4.5	11.65	2.02	16.64	8.22	9.37	230	12.43	0
5.0	11.63	2.03	16.72	8.22	9.38	225	12.50	0
5.5	11.59	2.03	16.79	8.22	9.37	222	12.55	0
6.0	11.55	2.04	16.85	8.22	9.40	221	12.61	0
6.5	11.50	2.04	16.93	8.22	9.44	219	12.67	0
7.0	11.43	2.06	17.06	8.22	9.48	215	12.79	0
7.5	11.38	2.07	17.19	8.23	9.49	208	12.90	0
8.0	11.32	2.08	17.33	8.23	9.51	198	13.01	0
8.5	11.26	2.10	17.50	8.22	9.51	190	13.15	0
9.0	11.22	2.11	17.62	8.22	9.50	180	13.25	0
9.5	11.18	2.11	17.69	8.22	9.52	173	13.31	0
10.0	11.16	2.12	17.77	8.22	9.55	165	13.38	0
10.5	11.15	2.12	17.82	8.22	9.56	163	13.41	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E1-2 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.68	2.01	16.50	8.18	9.23	155	12.31	0
1.0	11.63	2.01	16.59	8.20	9.28	162	12.39	0
1.5	11.58	2.03	16.76	8.20	9.29	174	12.53	0
2.0	11.54	2.04	16.86	8.20	9.30	171	12.62	0
2.5	11.51	2.05	16.95	8.21	9.30	162	12.69	0
3.0	11.49	2.05	16.98	8.21	9.33	160	12.71	0
3.5	11.49	2.05	17.00	8.22	9.34	158	12.73	0
4.0	11.47	2.05	17.02	8.23	9.36	157	12.75	0
4.5	11.46	2.05	17.04	8.23	9.36	154	12.77	0
5.0	11.44	2.06	17.06	8.23	9.39	151	12.79	0
5.5	11.43	2.06	17.09	8.23	9.40	150	12.81	0
6.0	11.40	2.06	17.12	8.23	9.42	146	12.84	0
6.5	11.38	2.06	17.16	8.24	9.44	142	12.87	0
7.0	11.33	2.07	17.22	8.24	9.47	138	12.92	0
7.5	11.27	2.07	17.29	8.24	9.49	129	12.98	0
8.0	11.25	2.08	17.35	8.24	9.51	121	13.03	0
8.5	11.21	2.08	17.41	8.24	9.51	117	13.09	0
9.0	11.17	2.09	17.47	8.24	9.52	114	13.14	0
9.5	11.13	2.09	17.52	8.24	9.52	114	13.19	0
10.0	11.09	2.09	17.58	8.24	9.55	114	13.23	0
10.5	11.06	2.10	17.65	8.24	9.57	117	13.29	0
11.0	11.04	2.11	17.71	8.24	9.58	120	13.35	0
11.5	11.02	2.11	17.76	8.24	9.60	124	13.39	0
12.0	11.00	2.12	17.83	8.24	9.61	132	13.44	0
12.5	11.00	2.12	17.89	8.24	9.62	144	13.49	0
13.0	11.00	2.13	17.90	8.24	9.62	146	13.50	0
13.5	10.99	2.13	17.90	8.24	9.64	146	13.50	0
14.0	11.00	2.13	17.90	8.24	9.63	147	13.50	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E1-3 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.66	2.01	16.54	8.17	9.25	111	12.35	0
1.0	11.59	2.02	16.71	8.18	9.29	149	12.49	0
1.5	11.56	2.03	16.77	8.19	9.30	155	12.55	0
2.0	11.52	2.03	16.81	8.20	9.33	152	12.58	0
2.5	11.45	2.04	16.90	8.20	9.35	147	12.66	0
3.0	11.41	2.04	16.96	8.21	9.37	138	12.71	0
3.5	11.37	2.05	17.02	8.22	9.38	126	12.76	0
4.0	11.34	2.05	17.05	8.22	9.39	125	12.80	0
4.5	11.31	2.05	17.08	8.23	9.40	120	12.82	0
5.0	11.30	2.05	17.11	8.23	9.41	117	12.84	0
5.5	11.27	2.06	17.15	8.24	9.42	116	12.88	0
6.0	11.25	2.06	17.17	8.24	9.43	113	12.90	0
6.5	11.24	2.06	17.20	8.24	9.44	111	12.92	0
7.0	11.22	2.06	17.23	8.24	9.47	110	12.95	0
7.5	11.20	2.07	17.26	8.24	9.48	107	12.97	0
8.0	11.20	2.07	17.27	8.24	9.49	104	12.98	0
8.5	11.20	2.07	17.27	8.25	9.50	102	12.98	0
9.0	11.19	2.07	17.28	8.25	9.52	101	12.99	0
9.5	11.17	2.07	17.31	8.25	9.53	100	13.02	0
10.0	11.14	2.07	17.36	8.25	9.54	101	13.06	0
10.5	11.10	2.08	17.41	8.25	9.56	102	13.11	0
11.0	11.07	2.08	17.48	8.25	9.57	103	13.16	0
11.5	11.04	2.09	17.57	8.25	9.57	114	13.24	0
12.0	11.06	2.10	17.61	8.25	9.57	120	13.27	0
12.5	11.06	2.10	17.62	8.25	9.60	114	13.27	0
13.0	11.00	2.11	17.73	8.25	9.62	127	13.37	0
13.5	10.97	2.12	17.82	8.25	9.64	137	13.45	0
14.0	10.97	2.12	17.86	8.25	9.65	142	13.47	0
14.5	10.98	2.12	17.87	8.25	9.64	149	13.48	0
15.0	10.99	2.12	17.89	8.25	9.66	156	13.49	0
15.5	10.99	2.12	17.90	8.24	9.67	158	13.50	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E1-4 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.60	2.02	16.67	8.19	9.26	86	12.46	0
1.0	11.55	2.02	16.72	8.19	9.28	118	12.50	0
1.5	11.54	2.02	16.73	8.19	9.30	117	12.51	0
2.0	11.53	2.03	16.74	8.20	9.31	117	12.53	0
2.5	11.52	2.03	16.76	8.20	9.34	116	12.54	0
3.0	11.49	2.03	16.79	8.21	9.35	116	12.56	0
3.5	11.46	2.03	16.84	8.23	9.38	115	12.61	0
4.0	11.43	2.04	16.91	8.23	9.38	116	12.67	0
4.5	11.38	2.04	16.97	8.24	9.41	107	12.73	0
5.0	11.34	2.05	17.04	8.24	9.43	93	12.78	0
5.5	11.31	2.05	17.08	8.24	9.45	90	12.82	0
6.0	11.21	2.06	17.21	8.25	9.53	88	12.94	0
6.5	11.04	2.09	17.53	8.24	9.55	90	13.21	0
7.0	10.95	2.10	17.74	8.24	9.53	106	13.38	0
7.5	10.94	2.11	17.78	8.24	9.54	119	13.42	0
8.0	10.94	2.11	17.81	8.24	9.53	123	13.44	0
8.5	10.95	2.11	17.82	8.25	9.55	125	13.45	0
9.0	10.95	2.12	17.84	8.24	9.53	129	13.46	0
9.5	10.96	2.12	17.87	8.24	9.54	137	13.48	0
10.0	10.96	2.12	17.90	8.24	9.56	145	13.50	0
10.5	10.96	2.12	17.91	8.25	9.57	150	13.51	0
11.0	10.96	2.12	17.91	8.24	9.58	153	13.51	0
11.5	10.96	2.13	17.92	8.24	9.57	154	13.52	0
12.0	10.96	2.13	17.92	8.24	9.59	154	13.52	0
12.5	10.96	2.13	17.92	8.25	9.62	155	13.52	0
13.0	10.96	2.13	17.92	8.25	9.63	158	13.52	0
13.5	10.96	2.13	17.92	8.24	9.63	161	13.52	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E2-1 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.58	2.04	16.81	8.20	9.27	208	12.57	0
1.0	11.58	2.04	16.81	8.21	9.30	220	12.57	0
1.5	11.58	2.04	16.81	8.22	9.31	219	12.57	0
2.0	11.58	2.04	16.81	8.22	9.32	219	12.57	0
2.5	11.58	2.04	16.81	8.22	9.32	219	12.57	0
3.0	11.58	2.04	16.81	8.22	9.33	220	12.57	0
3.5	11.58	2.04	16.81	8.23	9.34	221	12.57	0
4.0	11.58	2.04	16.81	8.23	9.35	221	12.57	0
4.5	11.58	2.04	16.81	8.23	9.36	221	12.57	0
5.0	11.58	2.04	16.81	8.23	9.38	220	12.57	0
5.5	11.58	2.04	16.81	8.23	9.40	220	12.57	0
6.0	11.58	2.04	16.81	8.23	9.41	220	12.57	0
6.5	11.58	2.04	16.81	8.23	9.43	221	12.57	0
7.0	11.58	2.04	16.81	8.23	9.43	226	12.57	0
7.5	11.58	2.03	16.81	8.23	9.44	232	12.57	0
8.0	11.58	2.04	16.81	8.23	9.43	225	12.57	0
8.5	11.58	2.04	16.81	8.23	9.46	223	12.57	0
9.0	11.58	2.04	16.81	8.23	9.47	221	12.57	0
9.5	11.57	2.04	16.81	8.23	9.48	222	12.57	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E2-2 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.57	2.03	16.80	8.20	9.26	219	12.56	0
1.0	11.57	2.04	16.82	8.20	9.28	226	12.58	0
1.5	11.57	2.04	16.82	8.20	9.29	224	12.58	0
2.0	11.57	2.04	16.82	8.21	9.29	219	12.58	0
2.5	11.57	2.04	16.81	8.22	9.32	220	12.57	0
3.0	11.58	2.04	16.81	8.23	9.34	220	12.57	0
3.5	11.58	2.03	16.81	8.23	9.34	219	12.57	0
4.0	11.58	2.03	16.81	8.23	9.36	219	12.57	0
4.5	11.58	2.03	16.81	8.23	9.36	220	12.57	0
5.0	11.58	2.04	16.81	8.23	9.35	221	12.57	0
5.5	11.58	2.04	16.81	8.23	9.36	220	12.57	0
6.0	11.57	2.04	16.82	8.23	9.37	219	12.58	0
6.5	11.57	2.04	16.82	8.23	9.39	220	12.58	0
7.0	11.57	2.04	16.83	8.24	9.41	221	12.58	0
7.5	11.57	2.04	16.83	8.23	9.42	223	12.59	0
8.0	11.57	2.04	16.83	8.24	9.43	222	12.59	0
8.5	11.57	2.04	16.83	8.24	9.44	223	12.58	0
9.0	11.57	2.04	16.83	8.24	9.45	224	12.59	0
9.5	11.56	2.04	16.83	8.24	9.47	221	12.59	0
10.0	11.56	2.04	16.83	8.24	9.47	221	12.59	0
10.5	11.57	2.04	16.83	8.24	9.48	221	12.59	0
11.0	11.57	2.04	16.83	8.24	9.48	221	12.58	0
11.5	11.57	2.04	16.82	8.24	9.49	220	12.58	0
12.0	11.57	2.04	16.82	8.24	9.49	220	12.58	0
12.5	11.57	2.04	16.82	8.24	9.50	222	12.58	0
13.0	11.57	2.04	16.82	8.24	9.53	222	12.58	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E2-3 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.55	2.01	16.60	8.18	9.27	212	12.41	0
1.0	11.55	2.04	16.88	8.19	9.26	212	12.63	0
1.5	11.54	2.04	16.90	8.19	9.29	213	12.65	0
2.0	11.53	2.05	16.92	8.19	9.29	216	12.66	0
2.5	11.53	2.05	16.94	8.19	9.31	217	12.68	0
3.0	11.52	2.05	16.95	8.21	9.31	214	12.69	0
3.5	11.52	2.05	16.97	8.22	9.31	215	12.70	0
4.0	11.51	2.05	16.97	8.22	9.32	216	12.70	0
4.5	11.51	2.05	16.98	8.23	9.34	217	12.71	0
5.0	11.51	2.05	16.99	8.23	9.35	218	12.72	0
5.5	11.51	2.05	17.00	8.23	9.36	218	12.73	0
6.0	11.51	2.05	17.00	8.23	9.36	219	12.73	0
6.5	11.51	2.05	16.99	8.23	9.37	220	12.72	0
7.0	11.51	2.05	16.99	8.23	9.38	220	12.72	0
7.5	11.51	2.05	17.00	8.23	9.39	220	12.73	0
8.0	11.50	2.05	17.00	8.23	9.40	220	12.73	0
8.5	11.50	2.05	17.01	8.23	9.41	221	12.74	0
9.0	11.50	2.05	17.01	8.23	9.42	222	12.74	0
9.5	11.50	2.05	17.02	8.24	9.43	221	12.74	0
10.0	11.50	2.05	17.02	8.24	9.45	222	12.75	0
10.5	11.50	2.05	17.02	8.24	9.46	224	12.75	0
11.0	11.50	2.06	17.02	8.24	9.45	223	12.75	0
11.5	11.49	2.06	17.04	8.24	9.46	225	12.76	0
12.0	11.49	2.06	17.04	8.24	9.47	226	12.76	0
12.5	11.49	2.06	17.04	8.24	9.48	225	12.76	0
13.0	11.49	2.06	17.04	8.24	9.49	227	12.76	0
13.5	11.49	2.06	17.04	8.24	9.50	228	12.76	0
14.0	11.49	2.06	17.05	8.24	9.52	228	12.77	0
14.5	11.49	2.06	17.05	8.24	9.53	227	12.77	0
15.0	11.49	2.06	17.05	8.25	9.52	230	12.77	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E2-4 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.51	2.05	17.00	8.19	9.34	178	12.73	0
1.0	11.51	2.05	17.01	8.20	9.26	213	12.73	0
1.5	11.50	2.05	17.01	8.20	9.29	214	12.74	0
2.0	11.50	2.06	17.03	8.20	9.28	213	12.75	0
2.5	11.50	2.06	17.03	8.21	9.29	212	12.76	0
3.0	11.49	2.06	17.04	8.22	9.30	213	12.76	0
3.5	11.49	2.06	17.05	8.23	9.32	215	12.77	0
4.0	11.48	2.06	17.05	8.23	9.33	215	12.77	0
4.5	11.48	2.06	17.06	8.23	9.33	216	12.77	0
5.0	11.48	2.06	17.06	8.23	9.35	217	12.78	0
5.5	11.48	2.06	17.06	8.23	9.35	216	12.78	0
6.0	11.49	2.06	17.06	8.24	9.36	216	12.77	0
6.5	11.48	2.06	17.06	8.23	9.36	214	12.77	0
7.0	11.48	2.06	17.06	8.24	9.38	215	12.78	0
7.5	11.48	2.06	17.06	8.24	9.40	216	12.78	0
8.0	11.48	2.06	17.07	8.24	9.41	216	12.78	0
8.5	11.48	2.06	17.07	8.24	9.44	215	12.78	0
9.0	11.48	2.06	17.07	8.24	9.44	213	12.79	0
9.5	11.48	2.06	17.08	8.24	9.45	214	12.79	0
10.0	11.47	2.06	17.08	8.24	9.46	215	12.79	0
10.5	11.47	2.06	17.08	8.24	9.48	216	12.80	0
11.0	11.47	2.06	17.08	8.24	9.49	216	12.79	0
11.5	11.48	2.06	17.08	8.24	9.50	218	12.79	0
12.0	11.48	2.06	17.08	8.24	9.52	219	12.79	0
12.5	11.47	2.05	17.01	8.24	9.52	223	12.74	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E3-1 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.91	1.91	15.55	8.20	9.28	129	11.54	0
1.0	11.90	1.95	15.87	8.20	9.31	179	11.80	0
1.5	11.89	1.95	15.87	8.20	9.30	175	11.80	0
2.0	11.89	1.95	15.87	8.20	9.30	175	11.80	0
2.5	11.89	1.95	15.87	8.20	9.31	174	11.80	0
3.0	11.89	1.95	15.87	8.20	9.32	174	11.80	0
3.5	11.89	1.95	15.87	8.20	9.33	173	11.80	0
4.0	11.89	1.95	15.87	8.20	9.33	174	11.80	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E3-2 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.91	1.95	15.92	8.20	9.27	115	11.83	0
1.0	11.91	1.95	15.92	8.21	9.30	174	11.84	0
1.5	11.91	1.95	15.92	8.21	9.31	171	11.84	0
2.0	11.90	1.95	15.92	8.21	9.31	171	11.84	0
2.5	11.90	1.95	15.92	8.21	9.33	171	11.84	0
3.0	11.90	1.95	15.93	8.21	9.34	172	11.84	0
3.5	11.90	1.95	15.93	8.22	9.32	172	11.84	0
4.0	11.90	1.95	15.93	8.21	9.33	172	11.84	0
4.5	11.90	1.95	15.93	8.22	9.34	173	11.84	0
5.0	11.90	1.95	15.93	8.22	9.35	175	11.84	0
5.5	11.90	1.95	15.94	8.22	9.36	176	11.85	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E3-3 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.92	1.96	16.01	8.21	9.27	139	11.90	0
1.0	11.91	1.96	16.01	8.21	9.30	175	11.90	0
1.5	11.91	1.96	16.02	8.22	9.30	174	11.91	0
2.0	11.90	1.96	16.03	8.22	9.30	176	11.92	0
2.5	11.90	1.96	16.03	8.22	9.32	177	11.92	0
3.0	11.90	1.96	16.03	8.22	9.33	177	11.92	0
3.5	11.89	1.96	16.03	8.22	9.34	178	11.92	0
4.0	11.89	1.96	16.04	8.23	9.35	179	11.93	0
4.5	11.89	1.96	16.04	8.23	9.35	180	11.93	0
5.0	11.89	1.96	16.04	8.23	9.35	181	11.93	0
5.5	11.89	1.97	16.05	8.23	9.37	185	11.94	0
6.0	11.89	1.97	16.05	8.23	9.37	188	11.94	0
6.5	11.89	1.97	16.05	8.23	9.39	188	11.94	0
7.0	11.89	1.97	16.05	8.23	9.40	193	11.94	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: E3-4 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.98	1.97	16.07	8.21	9.26	100	11.94	0
1.0	11.92	1.97	16.09	8.22	9.30	177	11.96	0
1.5	11.89	1.97	16.10	8.23	9.30	198	11.97	0
2.0	11.89	1.97	16.10	8.23	9.31	203	11.98	0
2.5	11.88	1.97	16.11	8.23	9.31	209	11.98	0
3.0	11.88	1.97	16.11	8.23	9.33	213	11.99	0
3.5	11.88	1.97	16.12	8.23	9.33	216	11.99	0
4.0	11.87	1.97	16.12	8.23	9.34	218	12.00	0
4.5	11.87	1.97	16.13	8.23	9.35	223	12.00	0
5.0	11.87	1.97	16.13	8.24	9.35	226	12.00	0
5.5	11.87	1.97	16.13	8.23	9.36	228	12.00	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F1-1 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.18	1.88	15.13	8.22	9.28	184	11.18	0
1.0	12.09	1.87	15.13	8.22	9.29	218	11.19	0
1.5	12.08	1.87	15.12	8.22	9.31	227	11.19	0
2.0	12.08	1.87	15.12	8.22	9.33	233	11.19	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F1-2 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.21	1.89	15.25	8.18	9.28	126	11.27	0
1.0	12.20	1.89	15.25	8.19	9.30	128	11.27	0
1.5	12.20	1.89	15.26	8.19	9.30	130	11.28	0
2.0	12.20	1.89	15.26	8.19	9.29	137	11.28	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F1-3 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.25	1.90	15.28	8.21	9.27	115	11.29	0
1.0	12.23	1.89	15.28	8.21	9.28	129	11.29	0
1.5	12.23	1.90	15.29	8.22	9.31	131	11.30	0
2.0	12.23	1.90	15.29	8.21	9.31	130	11.30	0
2.5	12.22	1.90	15.30	8.22	9.30	132	11.30	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F1-4 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.34	1.89	15.22	8.19	9.27	39	11.23	0
1.0	12.28	1.89	15.25	8.21	9.31	46	11.26	0
1.5	12.26	1.90	15.29	8.22	9.31	79	11.29	0
2.0	12.26	1.90	15.32	8.22	9.31	118	11.31	0
2.5	12.26	1.90	15.32	8.22	9.32	128	11.32	0
3.0	12.25	1.90	15.33	8.22	9.33	132	11.33	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F2-1 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.11	1.98	16.09	8.22	9.25	250	11.93	0
1.0	12.10	1.98	16.09	8.23	9.27	260	11.93	0
1.5	12.10	1.98	16.09	8.23	9.28	258	11.93	0
2.0	12.10	1.98	16.09	8.23	9.30	264	11.93	0
2.5	12.10	1.98	16.09	8.23	9.29	265	11.93	0
3.0	12.10	1.98	16.09	8.23	9.31	262	11.93	0
3.5	12.10	1.98	16.08	8.23	9.32	257	11.93	0
4.0	12.10	1.98	16.08	8.23	9.32	259	11.93	0
4.5	12.10	1.98	16.08	8.24	9.32	260	11.93	0
5.0	12.10	1.98	16.09	8.24	9.34	260	11.93	0
5.5	12.10	1.98	16.08	8.23	9.35	254	11.93	0
6.0	12.10	1.98	16.08	8.24	9.35	254	11.93	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F2-2 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.11	1.98	16.08	8.22	9.24	244	11.93	0
1.0	12.11	1.98	16.08	8.23	9.27	253	11.93	0
1.5	12.11	1.98	16.08	8.23	9.27	251	11.93	0
2.0	12.11	1.98	16.08	8.23	9.26	252	11.93	0
2.5	12.10	1.98	16.08	8.24	9.27	255	11.93	0
3.0	12.10	1.98	16.08	8.24	9.29	258	11.93	0
3.5	12.10	1.98	16.08	8.24	9.30	258	11.93	0
4.0	12.10	1.98	16.08	8.24	9.31	258	11.93	0
4.5	12.10	1.98	16.08	8.24	9.32	260	11.93	0
5.0	12.10	1.98	16.08	8.24	9.34	260	11.93	0
5.5	12.10	1.98	16.08	8.25	9.35	261	11.93	0
6.0	12.10	1.98	16.08	8.25	9.35	262	11.93	0
6.5	12.10	1.98	16.08	8.25	9.36	262	11.93	0
7.0	12.10	1.98	16.08	8.25	9.36	261	11.93	0
7.5	12.10	1.98	16.09	8.25	9.36	264	11.93	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F2-3 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.11	1.97	15.99	8.20	9.22	204	11.86	0
1.0	12.06	1.96	15.95	8.21	9.24	278	11.84	0
1.5	12.04	1.96	15.92	8.22	9.24	284	11.81	0
2.0	12.03	1.96	15.92	8.22	9.25	285	11.82	0
2.5	12.03	1.96	15.92	8.23	9.26	288	11.82	0
3.0	12.03	1.96	15.92	8.23	9.26	287	11.82	0
3.5	12.02	1.96	15.92	8.23	9.28	288	11.82	0
4.0	12.02	1.96	15.92	8.23	9.30	291	11.82	0
4.5	12.02	1.96	15.92	8.24	9.30	295	11.82	0
5.0	12.02	1.96	15.92	8.24	9.30	297	11.82	0
5.5	12.02	1.96	15.93	8.24	9.31	295	11.82	0
6.0	12.02	1.96	15.93	8.24	9.32	295	11.82	0
6.5	12.03	1.96	15.93	8.24	9.33	293	11.82	0
7.0	12.03	1.96	15.93	8.25	9.34	293	11.82	0
7.5	12.03	1.96	15.93	8.25	9.33	293	11.82	0
8.0	12.04	1.96	15.94	8.25	9.33	291	11.83	0
8.5	12.04	1.96	15.94	8.25	9.36	292	11.83	0
9.0	12.03	1.96	15.94	8.25	9.36	293	11.83	0
9.5	12.03	1.96	15.94	8.25	9.37	296	11.83	0
10.0	12.03	1.96	15.94	8.25	9.36	296	11.83	0
10.5	12.03	1.96	15.96	8.25	9.37	296	11.84	0
11.0	12.04	1.97	15.98	8.25	9.38	300	11.86	0
11.5	12.04	1.97	15.98	8.26	9.40	300	11.86	0
12.0	12.05	1.97	15.98	8.26	9.41	300	11.86	0
12.5	12.05	1.97	16.00	8.26	9.41	300	11.87	0
13.0	12.06	1.97	16.00	8.26	9.40	301	11.87	0
13.5	12.06	1.97	16.00	8.27	9.43	301	11.87	0
14.0	12.06	1.97	16.00	8.27	9.44	300	11.87	0
14.5	12.06	1.97	16.00	8.27	9.45	303	11.88	0
15.0	12.06	1.97	16.01	8.27	9.45	309	11.88	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F2-4 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	12.07	1.96	15.96	8.21	9.23	266	11.84	0
1.0	12.02	1.96	15.96	8.20	9.24	284	11.85	0
1.5	12.01	1.96	15.96	8.21	9.24	284	11.85	0
2.0	12.01	1.96	15.96	8.22	9.25	291	11.85	0
2.5	12.01	1.96	15.96	8.22	9.26	284	11.85	0
3.0	12.01	1.96	15.96	8.22	9.27	286	11.85	0
3.5	12.00	1.96	15.96	8.22	9.27	287	11.85	0
4.0	12.00	1.96	15.97	8.23	9.28	286	11.86	0
4.5	12.00	1.96	15.97	8.23	9.29	289	11.86	0
5.0	12.00	1.96	15.97	8.24	9.30	287	11.86	0
5.5	11.99	1.96	15.97	8.24	9.32	288	11.86	0
6.0	11.98	1.96	15.98	8.24	9.33	287	11.87	0
6.5	11.97	1.96	15.99	8.24	9.33	289	11.88	0
7.0	11.96	1.96	16.00	8.24	9.33	291	11.89	0
7.5	11.96	1.96	16.00	8.24	9.34	289	11.89	0
8.0	11.96	1.96	16.01	8.24	9.34	288	11.89	0
8.5	11.96	1.96	16.01	8.25	9.36	290	11.90	0
9.0	11.96	1.97	16.01	8.25	9.35	290	11.90	0
9.5	11.96	1.96	16.01	8.25	9.37	291	11.90	0
10.0	11.96	1.97	16.01	8.25	9.38	291	11.90	0
10.5	11.96	1.97	16.02	8.25	9.39	290	11.90	0
11.0	11.96	1.97	16.02	8.26	9.40	289	11.90	0
11.5	11.96	1.97	16.02	8.26	9.40	289	11.90	0
12.0	11.96	1.97	16.02	8.26	9.42	289	11.90	0
12.5	11.96	1.97	16.02	8.26	9.43	289	11.90	0
13.0	11.95	1.97	16.02	8.27	9.45	293	11.90	0
13.5	11.95	1.97	16.02	8.27	9.45	295	11.90	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F3-1 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.83	2.04	16.73	8.21	9.24	238	12.48	0
1.0	11.83	2.04	16.74	8.22	9.25	240	12.48	0
1.5	11.82	2.04	16.74	8.22	9.27	243	12.48	0
2.0	11.82	2.04	16.74	8.23	9.28	249	12.48	0
2.5	11.82	2.04	16.73	8.23	9.28	249	12.47	0
3.0	11.82	2.04	16.73	8.23	9.27	247	12.47	0
3.5	11.82	2.04	16.73	8.23	9.30	249	12.47	0
4.0	11.82	2.04	16.73	8.23	9.31	250	12.47	0
4.5	11.82	2.04	16.73	8.23	9.32	253	12.47	0
5.0	11.82	2.04	16.73	8.24	9.32	256	12.47	0
5.5	11.82	2.04	16.73	8.24	9.33	263	12.47	0
6.0	11.82	2.04	16.73	8.24	9.32	260	12.47	0
6.5	11.82	2.04	16.73	8.24	9.34	262	12.47	0
7.0	11.82	2.04	16.74	8.24	9.35	266	12.48	0
7.5	11.82	2.04	16.74	8.25	9.37	261	12.48	0
8.0	11.83	2.04	16.74	8.25	9.36	261	12.48	0
8.5	11.83	2.04	16.74	8.25	9.39	258	12.48	0
9.0	11.83	2.04	16.75	8.26	9.39	259	12.49	0
9.5	11.83	2.04	16.76	8.26	9.38	253	12.49	0
10.0	11.83	2.04	16.76	8.26	9.40	253	12.50	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F3-2 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.83	1.99	16.31	8.18	9.25	224	12.15	0
1.0	11.83	2.03	16.70	8.18	9.24	236	12.44	0
1.5	11.83	2.04	16.71	8.20	9.25	244	12.46	0
2.0	11.83	2.04	16.73	8.20	9.26	248	12.47	0
2.5	11.84	2.04	16.74	8.21	9.27	248	12.48	0
3.0	11.84	2.04	16.74	8.22	9.27	247	12.48	0
3.5	11.84	2.04	16.74	8.22	9.27	244	12.48	0
4.0	11.84	2.04	16.74	8.22	9.27	244	12.48	0
4.5	11.84	2.04	16.74	8.23	9.30	245	12.48	0
5.0	11.84	2.04	16.74	8.23	9.32	243	12.48	0
5.5	11.84	2.04	16.74	8.23	9.31	243	12.48	0
6.0	11.84	2.04	16.74	8.23	9.33	241	12.48	0
6.5	11.84	2.04	16.75	8.24	9.34	241	12.48	0
7.0	11.84	2.04	16.75	8.24	9.35	240	12.48	0
7.5	11.84	2.04	16.74	8.24	9.37	242	12.48	0
8.0	11.83	2.04	16.74	8.24	9.37	244	12.48	0
8.5	11.84	2.04	16.74	8.24	9.37	244	12.48	0
9.0	11.84	2.04	16.75	8.24	9.39	245	12.48	0
9.5	11.85	2.04	16.76	8.24	9.40	246	12.50	0
10.0	11.85	2.04	16.77	8.24	9.40	251	12.50	0
10.5	11.85	2.04	16.77	8.25	9.42	249	12.50	0
11.0	11.85	2.04	16.77	8.25	9.44	251	12.50	0
11.5	11.85	2.04	16.77	8.25	9.44	246	12.50	0
12.0	11.85	2.04	16.77	8.25	9.44	248	12.50	0
12.5	11.85	2.04	16.77	8.26	9.45	244	12.50	0
13.0	11.85	2.04	16.77	8.26	9.45	241	12.50	0
13.5	11.85	2.04	16.77	8.26	9.46	242	12.50	0
14.0	11.85	2.04	16.77	8.26	9.48	244	12.50	0
14.5	11.85	2.04	16.77	8.27	9.48	243	12.50	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F3-3 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.81	1.99	16.34	8.13	9.24	226	12.18	0
1.0	11.81	2.03	16.70	8.16	9.24	248	12.45	0
1.5	11.81	2.03	16.70	8.17	9.25	249	12.45	0
2.0	11.81	2.03	16.70	8.20	9.25	249	12.45	0
2.5	11.81	2.04	16.71	8.20	9.26	249	12.46	0
3.0	11.81	2.04	16.71	8.21	9.27	248	12.46	0
3.5	11.81	2.04	16.71	8.21	9.29	247	12.46	0
4.0	11.82	2.04	16.72	8.22	9.28	247	12.46	0
4.5	11.82	2.04	16.72	8.22	9.30	245	12.47	0
5.0	11.82	2.04	16.73	8.22	9.30	246	12.47	0
5.5	11.83	2.04	16.73	8.23	9.32	248	12.47	0
6.0	11.83	2.04	16.73	8.23	9.31	246	12.47	0
6.5	11.82	2.04	16.73	8.23	9.32	245	12.47	0
7.0	11.82	2.04	16.73	8.23	9.32	247	12.47	0
7.5	11.82	2.04	16.72	8.24	9.33	247	12.47	0
8.0	11.81	2.04	16.72	8.24	9.34	248	12.47	0
8.5	11.80	2.04	16.72	8.24	9.36	250	12.46	0
9.0	11.79	2.03	16.71	8.24	9.36	254	12.46	0
9.5	11.80	2.04	16.71	8.24	9.36	252	12.46	0
10.0	11.82	2.04	16.72	8.25	9.38	249	12.46	0
10.5	11.82	2.04	16.72	8.25	9.38	249	12.46	0
11.0	11.82	2.04	16.72	8.25	9.39	249	12.46	0
11.5	11.82	2.04	16.72	8.25	9.40	250	12.46	0
12.0	11.82	2.04	16.72	8.25	9.41	249	12.47	0
12.5	11.82	2.04	16.72	8.25	9.42	249	12.47	0
13.0	11.81	2.04	16.72	8.25	9.43	250	12.46	0
13.5	11.82	2.04	16.72	8.25	9.44	248	12.46	0
14.0	11.82	2.04	16.72	8.25	9.45	246	12.46	0
14.5	11.82	2.04	16.72	8.25	9.46	247	12.47	0
15.0	11.82	2.04	16.72	8.25	9.46	249	12.47	0
15.5	11.81	2.04	16.72	8.26	9.46	253	12.46	0
16.0	11.80	2.04	16.71	8.26	9.48	253	12.46	0
16.5	11.81	2.04	16.72	8.26	9.51	253	12.46	0
17.0	11.82	2.04	16.72	8.26	9.54	252	12.46	0
17.5	11.82	2.03	16.68	8.27	9.43	251	12.44	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

Station: F3-4 **Date: 6/14/2011**

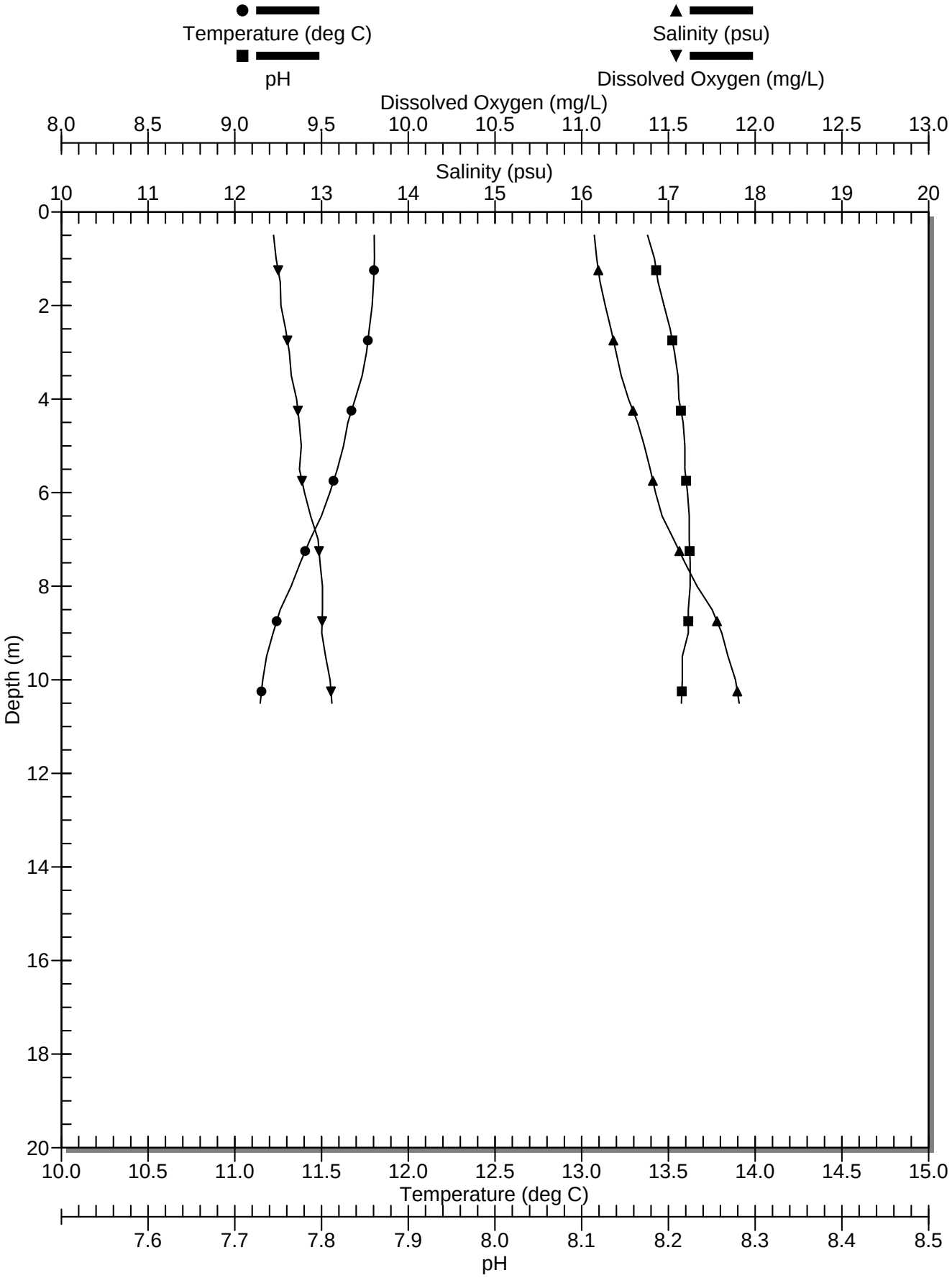
Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
0.5	11.85	2.01	16.49	8.17	9.20	173	12.28	0
1.0	11.86	2.02	16.53	8.17	9.20	171	12.32	0
1.5	11.86	2.02	16.53	8.18	9.21	163	12.31	0
2.0	11.85	2.02	16.53	8.18	9.23	165	12.31	0
2.5	11.85	2.02	16.53	8.19	9.24	165	12.31	0
3.0	11.84	2.02	16.53	8.20	9.25	169	12.31	0
3.5	11.82	2.02	16.53	8.20	9.26	178	12.32	0
4.0	11.80	2.02	16.53	8.21	9.25	176	12.32	0
4.5	11.79	2.02	16.53	8.21	9.28	178	12.33	0
5.0	11.77	2.01	16.54	8.22	9.28	185	12.33	0
5.5	11.76	2.02	16.55	8.22	9.28	200	12.34	0
6.0	11.75	2.02	16.56	8.23	9.29	210	12.35	0
6.5	11.74	2.02	16.59	8.23	9.30	214	12.37	0
7.0	11.72	2.02	16.62	8.23	9.31	220	12.40	0
7.5	11.69	2.03	16.68	8.23	9.31	228	12.45	0
8.0	11.66	2.03	16.74	8.23	9.33	236	12.50	0
8.5	11.63	2.04	16.81	8.23	9.34	237	12.56	0
9.0	11.62	2.04	16.87	8.24	9.34	239	12.61	0
9.5	11.60	2.05	16.93	8.24	9.34	241	12.66	0
10.0	11.59	2.05	16.97	8.24	9.35	241	12.69	0
10.5	11.57	2.06	17.02	8.24	9.36	243	12.73	0
11.0	11.56	2.06	17.05	8.24	9.37	239	12.76	0
11.5	11.54	2.06	17.09	8.24	9.38	239	12.79	0
12.0	11.54	2.07	17.11	8.24	9.38	235	12.81	0
12.5	11.53	2.07	17.12	8.24	9.38	236	12.82	0
13.0	11.52	2.07	17.15	8.24	9.39	233	12.85	0
13.5	11.51	2.07	17.18	8.24	9.40	234	12.86	0
14.0	11.49	2.08	17.22	8.24	9.41	231	12.90	0
14.5	11.48	2.08	17.25	8.24	9.42	230	12.93	0
15.0	11.47	2.08	17.30	8.24	9.43	225	12.96	0
15.5	11.46	2.09	17.31	8.24	9.44	224	12.98	0
16.0	11.44	2.09	17.35	8.24	9.45	224	13.01	0
16.5	11.43	2.09	17.39	8.24	9.46	222	13.04	0
17.0	11.42	2.10	17.43	8.24	9.45	221	13.08	0
17.5	11.41	2.10	17.45	8.24	9.46	217	13.09	0
18.0	11.40	2.10	17.47	8.25	9.46	214	13.11	0
18.5	11.39	2.10	17.52	8.24	9.48	211	13.15	0
19.0	11.38	2.11	17.55	8.25	9.48	208	13.17	0
19.5	11.38	2.11	17.55	8.24	9.48	206	13.17	0
20.0	11.37	2.11	17.57	8.25	9.49	207	13.19	0
20.5	11.37	2.11	17.59	8.25	9.48	206	13.20	0
21.0	11.37	2.11	17.60	8.25	9.50	207	13.21	0
21.5	11.37	2.11	17.60	8.25	9.50	206	13.22	0
22.0	11.36	2.11	17.60	8.25	9.50	205	13.22	0
22.5	11.36	2.11	17.60	8.25	9.50	204	13.22	0
23.0	11.36	2.11	17.61	8.25	9.49	204	13.22	0
23.5	11.36	2.11	17.61	8.25	9.52	204	13.22	0
24.0	11.37	2.11	17.61	8.25	9.52	204	13.22	0

Asplund WPCF - 2011 Receiving Water Hydrographic Data

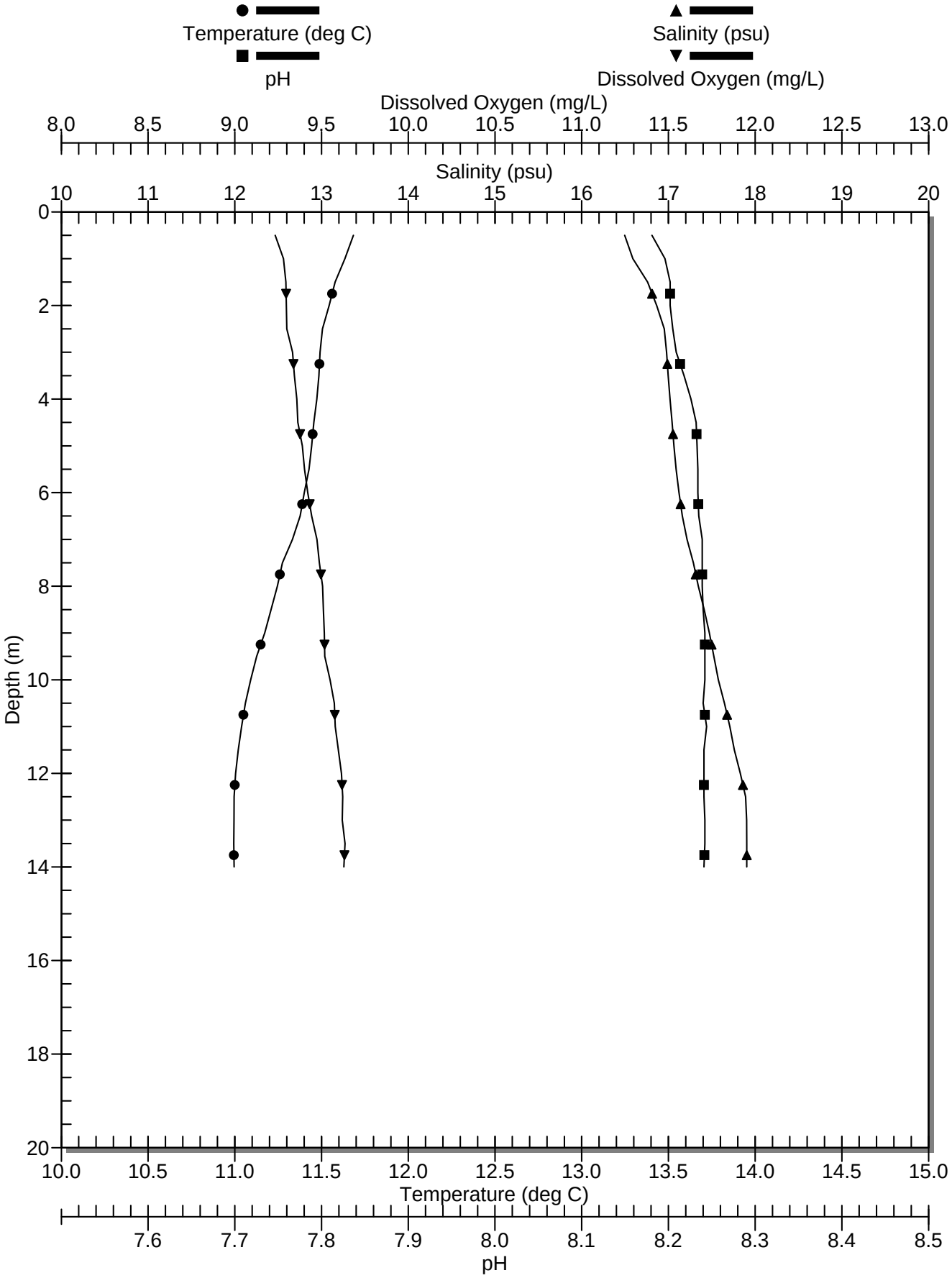
Station: F3-4 **Date: 6/14/2011**

Depth (m)	Temp (deg C)	Cond (S/m)	Salinity (psu)	pH	DO (mg/L)	Turbidity (ntu)	Sigma-t	Flag
24.5	11.37	2.11	17.60	8.25	9.53	205	13.22	0
25.0	11.37	2.11	17.59	8.25	9.54	204	13.20	0
25.5	11.38	2.11	17.57	8.25	9.51	207	13.19	0
26.0	11.38	2.11	17.58	8.25	9.54	212	13.19	0
26.5	11.38	2.11	17.58	8.25	9.55	210	13.19	0
27.0	11.38	2.11	17.57	8.25	9.55	211	13.19	0
27.5	11.38	2.11	17.57	8.25	9.54	210	13.19	0
28.0	11.38	2.11	17.57	8.25	9.55	209	13.19	0
28.5	11.38	2.11	17.57	8.25	9.56	209	13.19	0
29.0	11.38	2.11	17.56	8.25	9.57	211	13.18	0
29.5	11.38	2.11	17.55	8.25	9.58	216	13.17	0
30.0	11.38	2.11	17.56	8.25	9.59	210	13.18	0
30.5	11.38	2.11	17.57	8.25	9.59	209	13.19	0
31.0	11.38	2.11	17.56	8.25	9.59	211	13.18	0
31.5	11.38	2.11	17.56	8.25	9.59	211	13.18	0
32.0	11.39	2.11	17.56	8.25	9.60	212	13.18	0
32.5	11.39	2.11	17.55	8.25	9.61	214	13.17	0
33.0	11.39	2.11	17.55	8.25	9.63	217	13.17	0
33.5	11.39	2.11	17.54	8.26	9.63	224	13.16	0
34.0	11.39	2.11	17.52	8.26	9.64	232	13.15	0
34.5	11.40	2.10	17.51	8.26	9.67	239	13.14	0

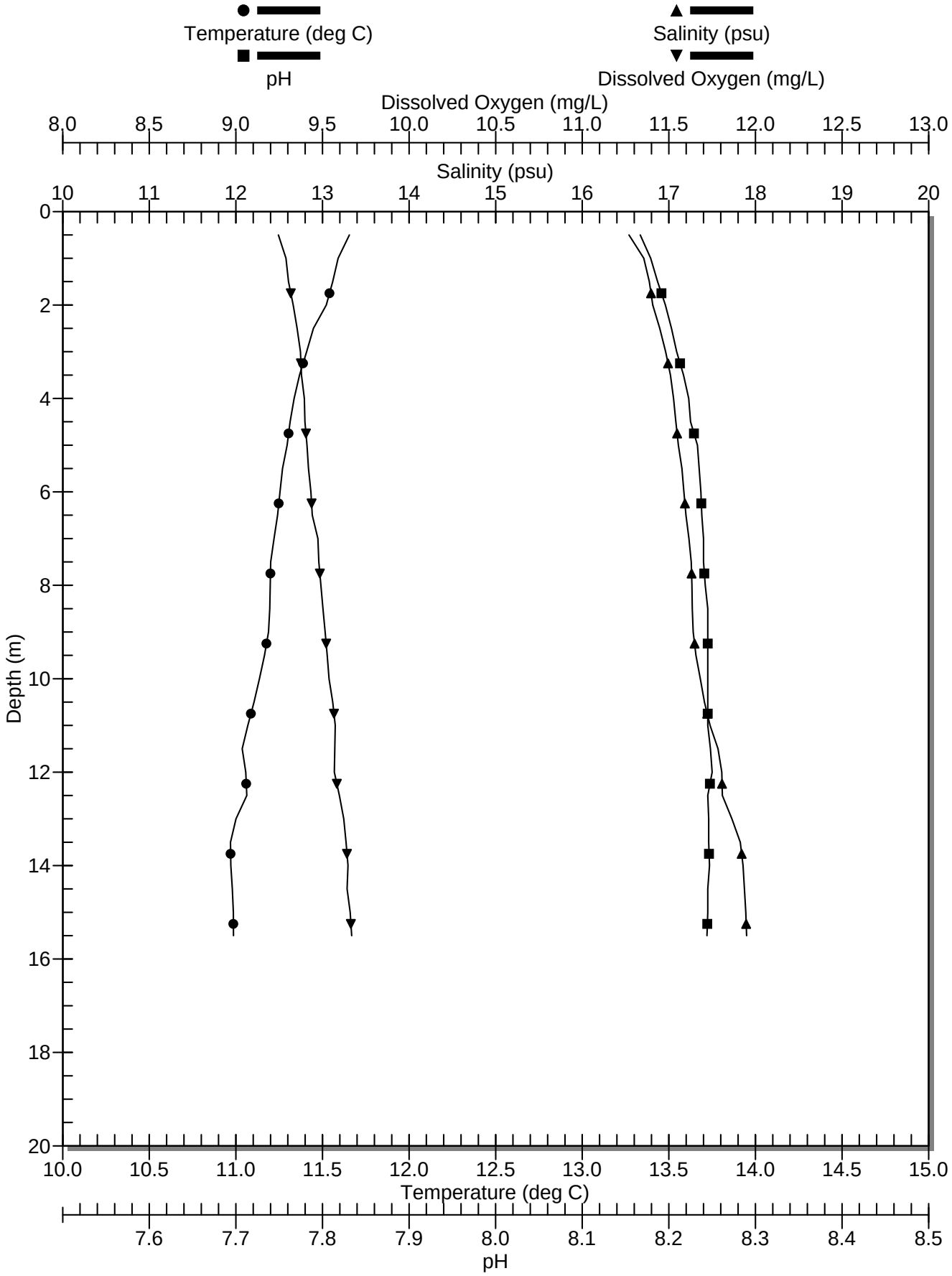
ASPLUND WPCF - Hydrographic Data - June 2011, uE1-1.cnv



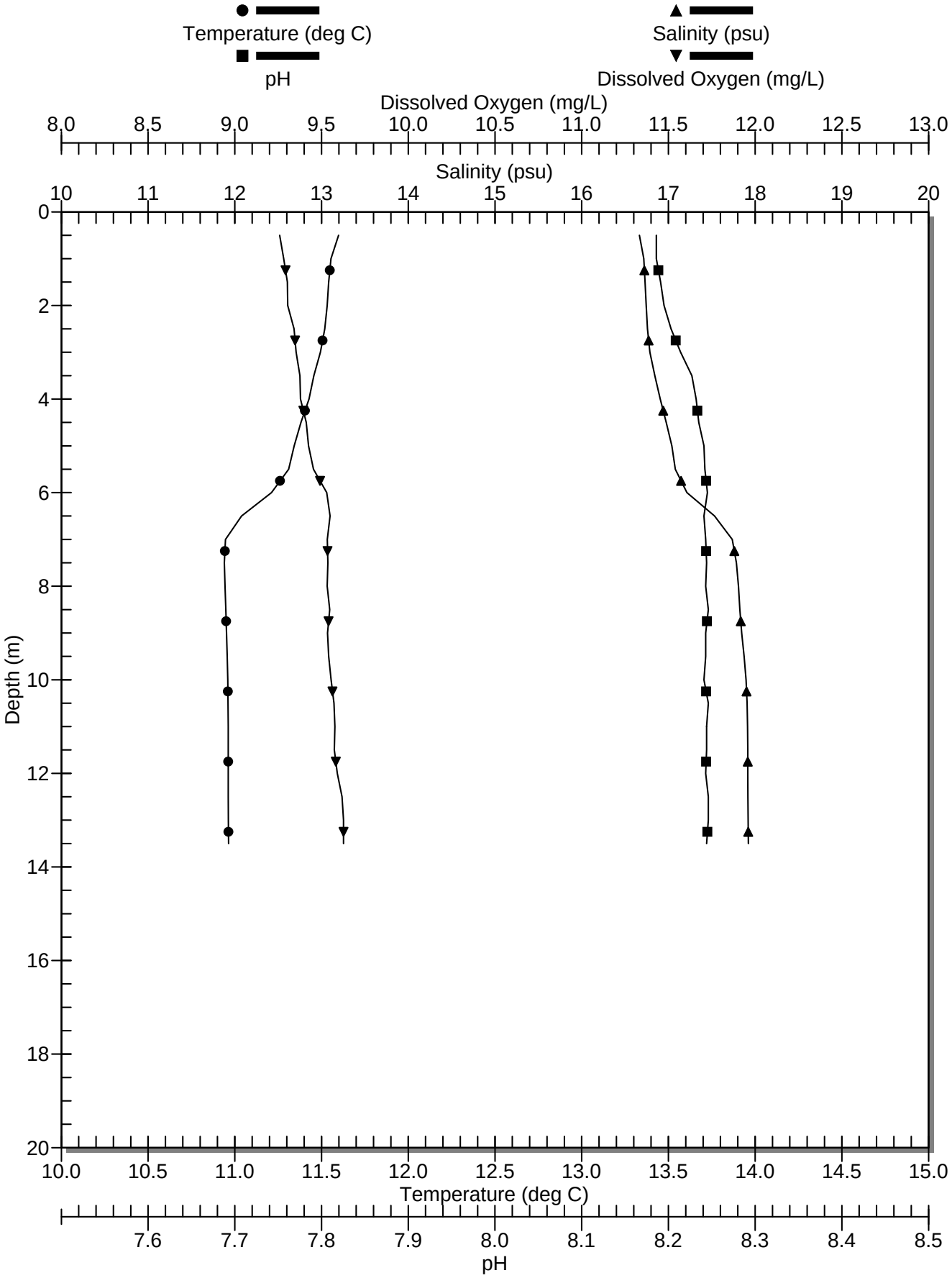
ASPLUND WPCF - Hydrographic Data - June 2011, uE1-2.cnv



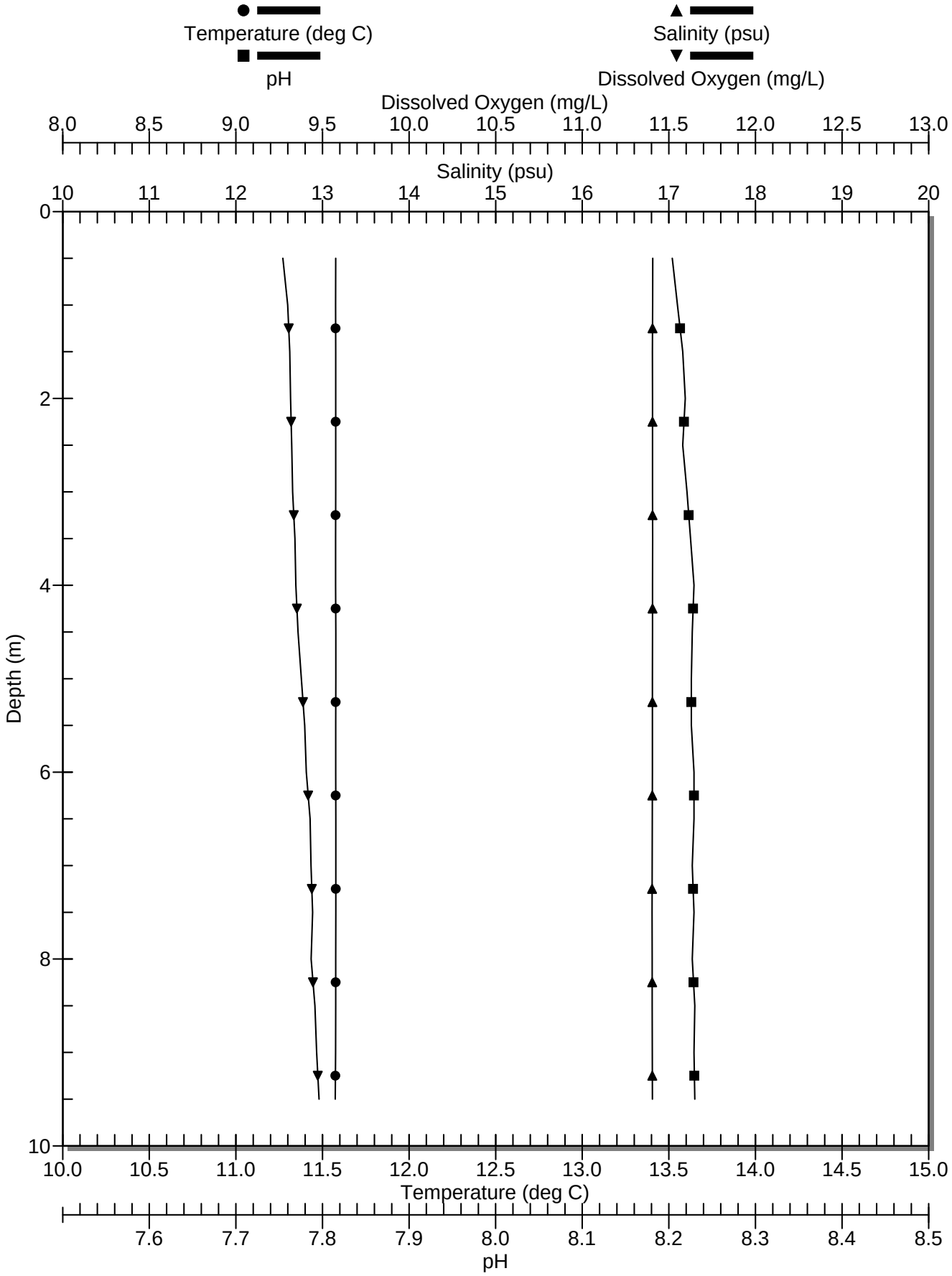
ASPLUND WPCF - Hydrographic Data - June 2011, uE1-3.cnv



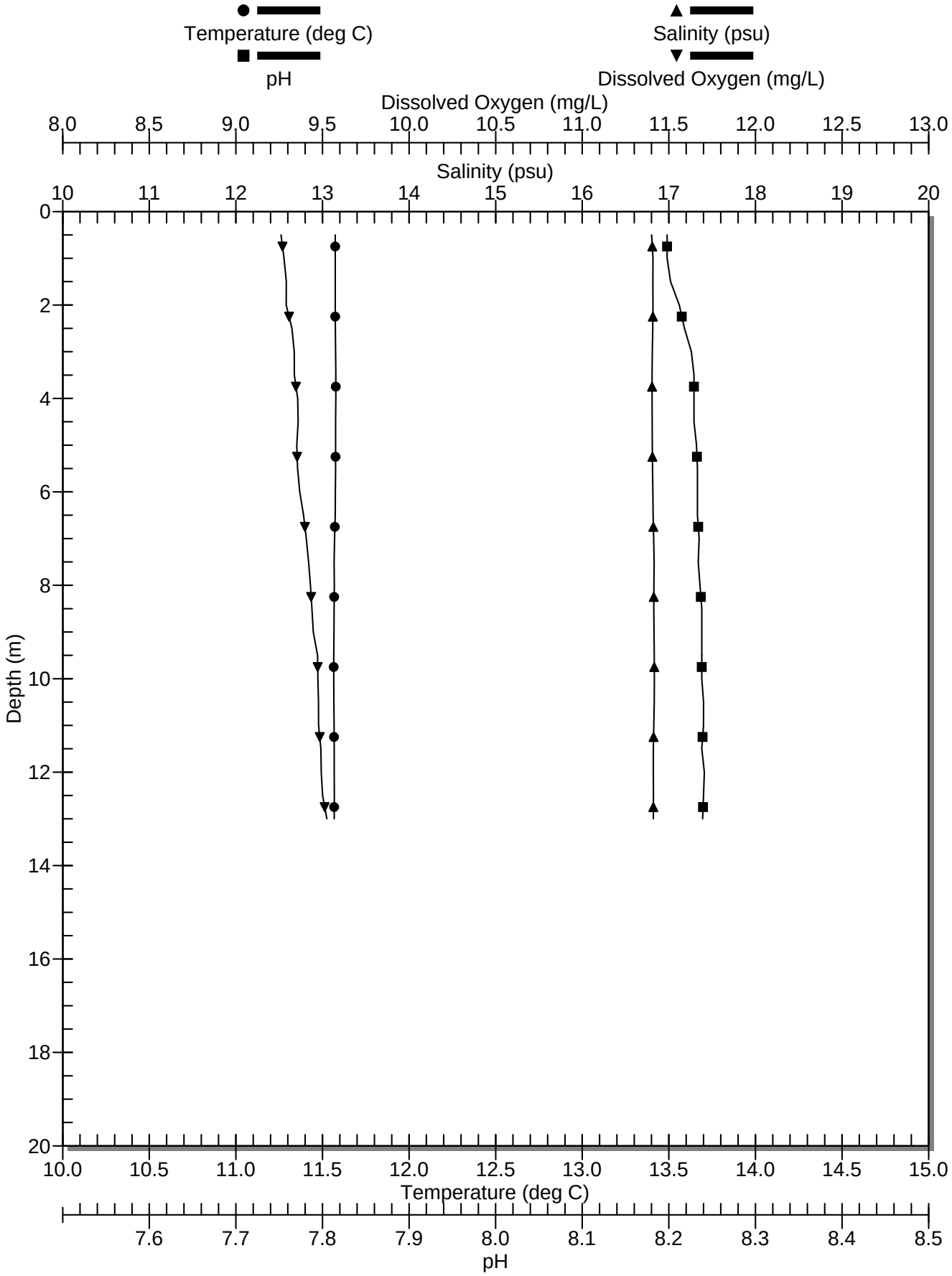
ASPLUND WPCF - Hydrographic Data - June 2011, uE1-4.cnv



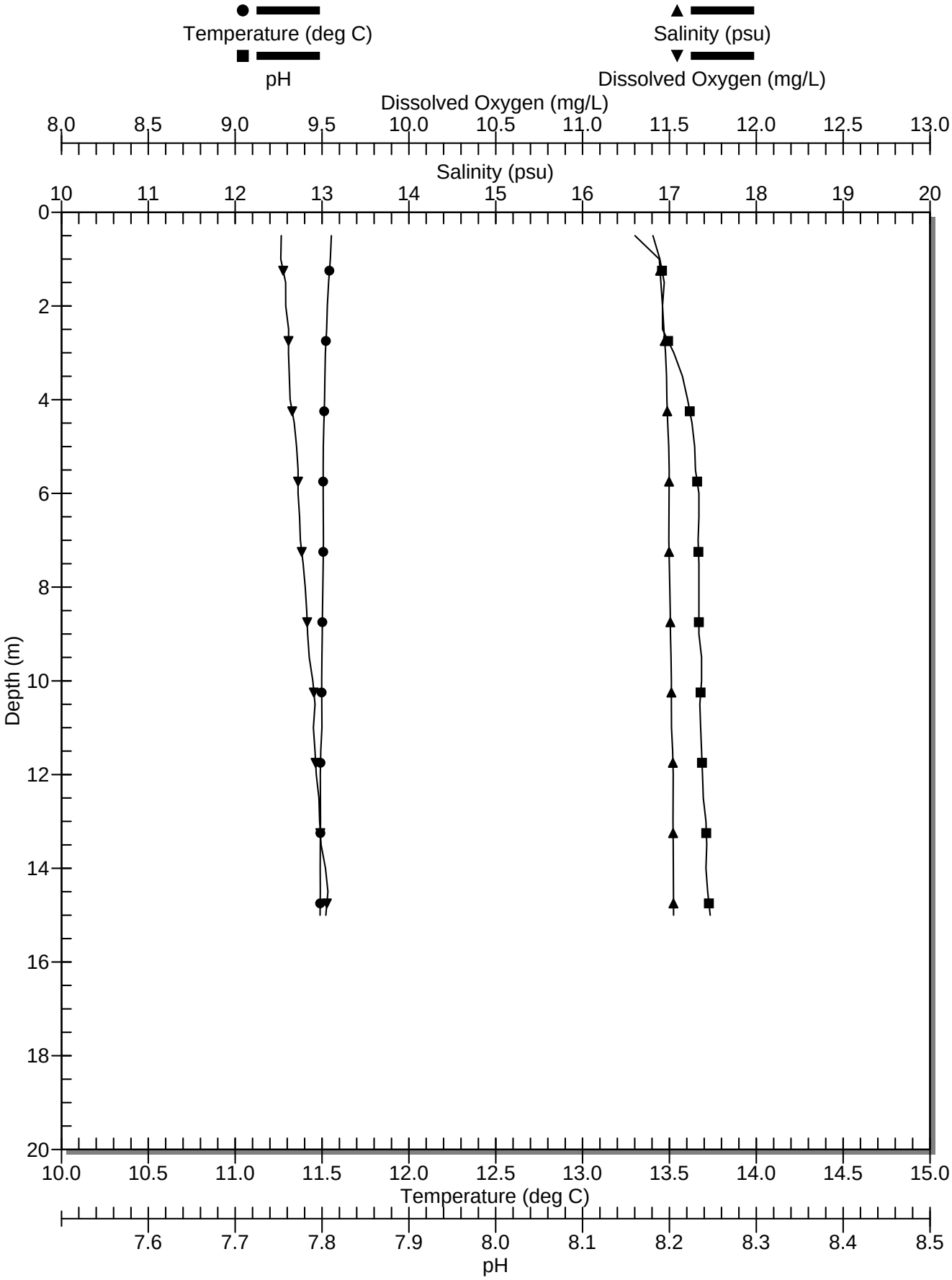
ASPLUND WPCF - Hydrographic Data - June 2011, uE2-1.cnv



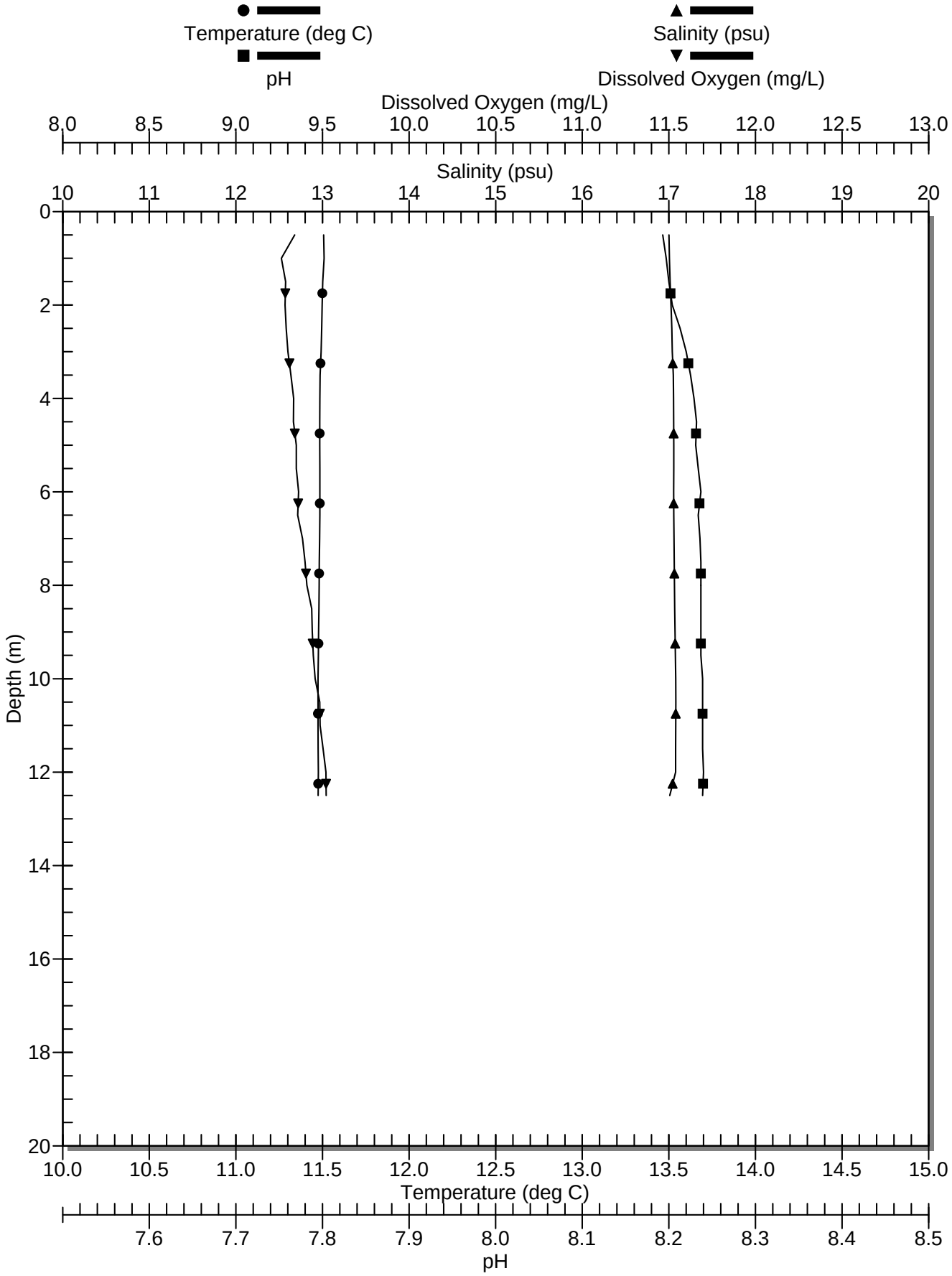
ASPLUND WPCF - Hydrographic Data - June 2011, uE2-2.cnv



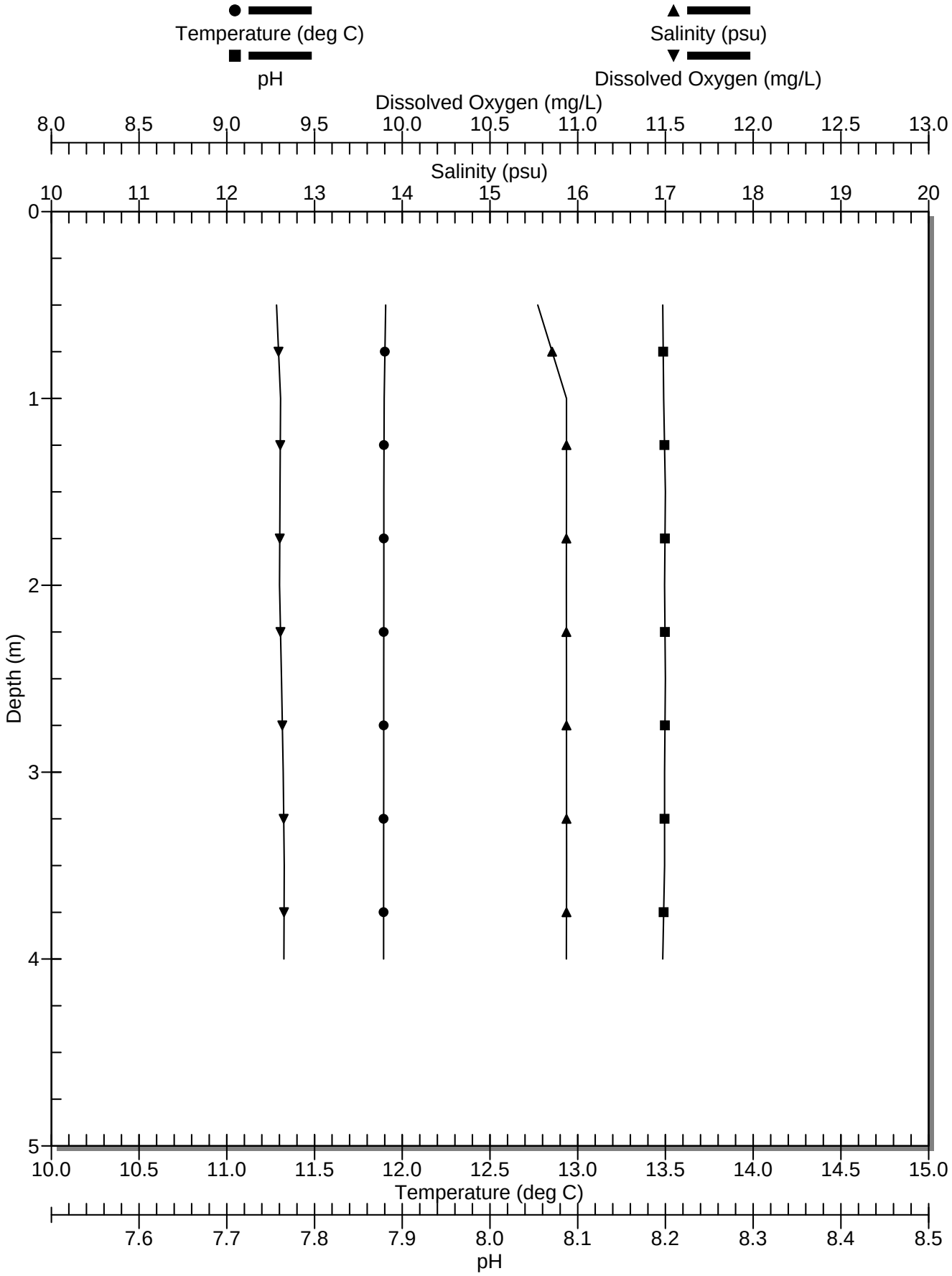
ASPLUND WPCF - Hydrographic Data - June 2011, uE2-3.cnv



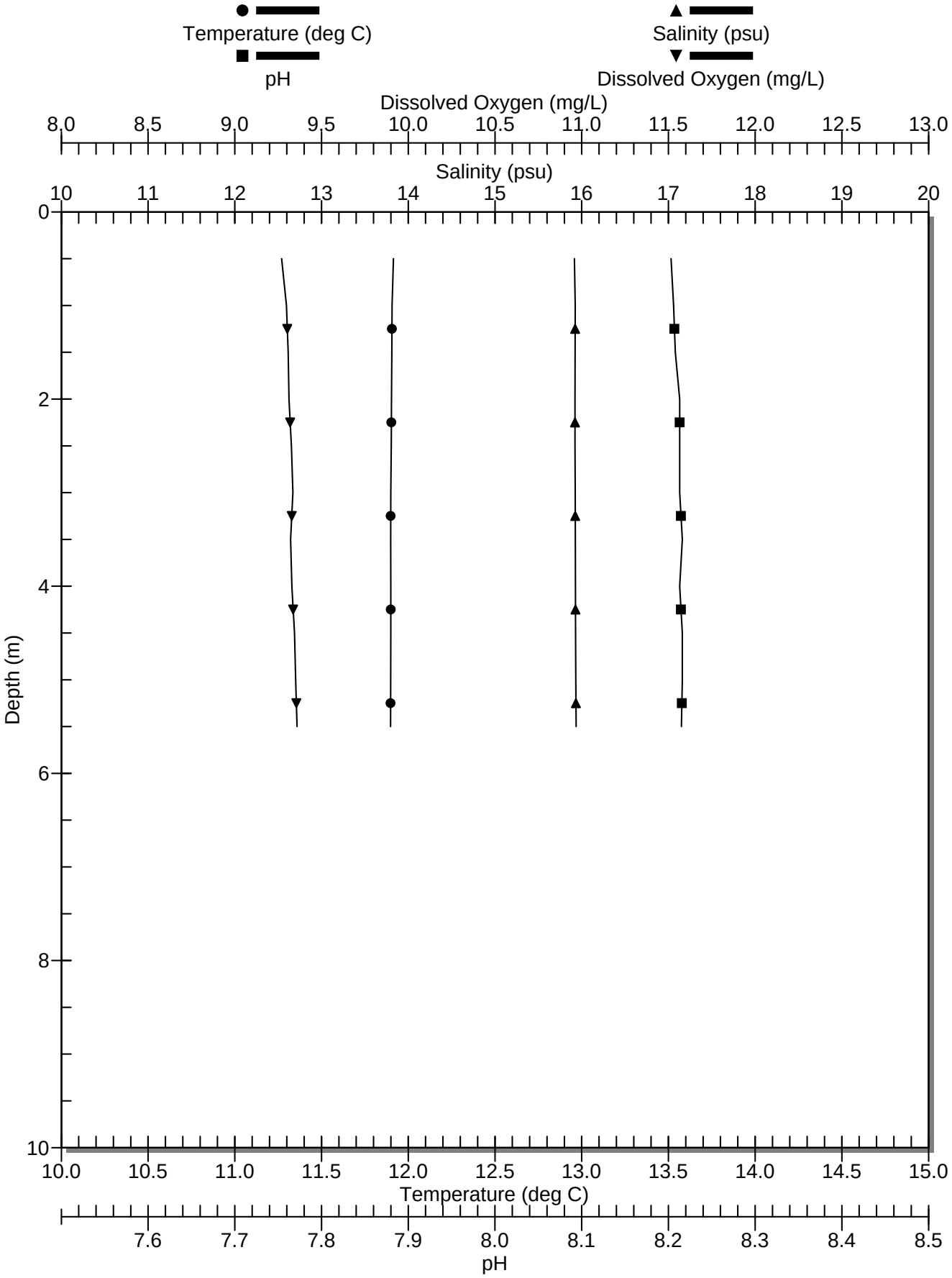
ASPLUND WPCF - Hydrographic Data - June 2011, uE2-4.cnv



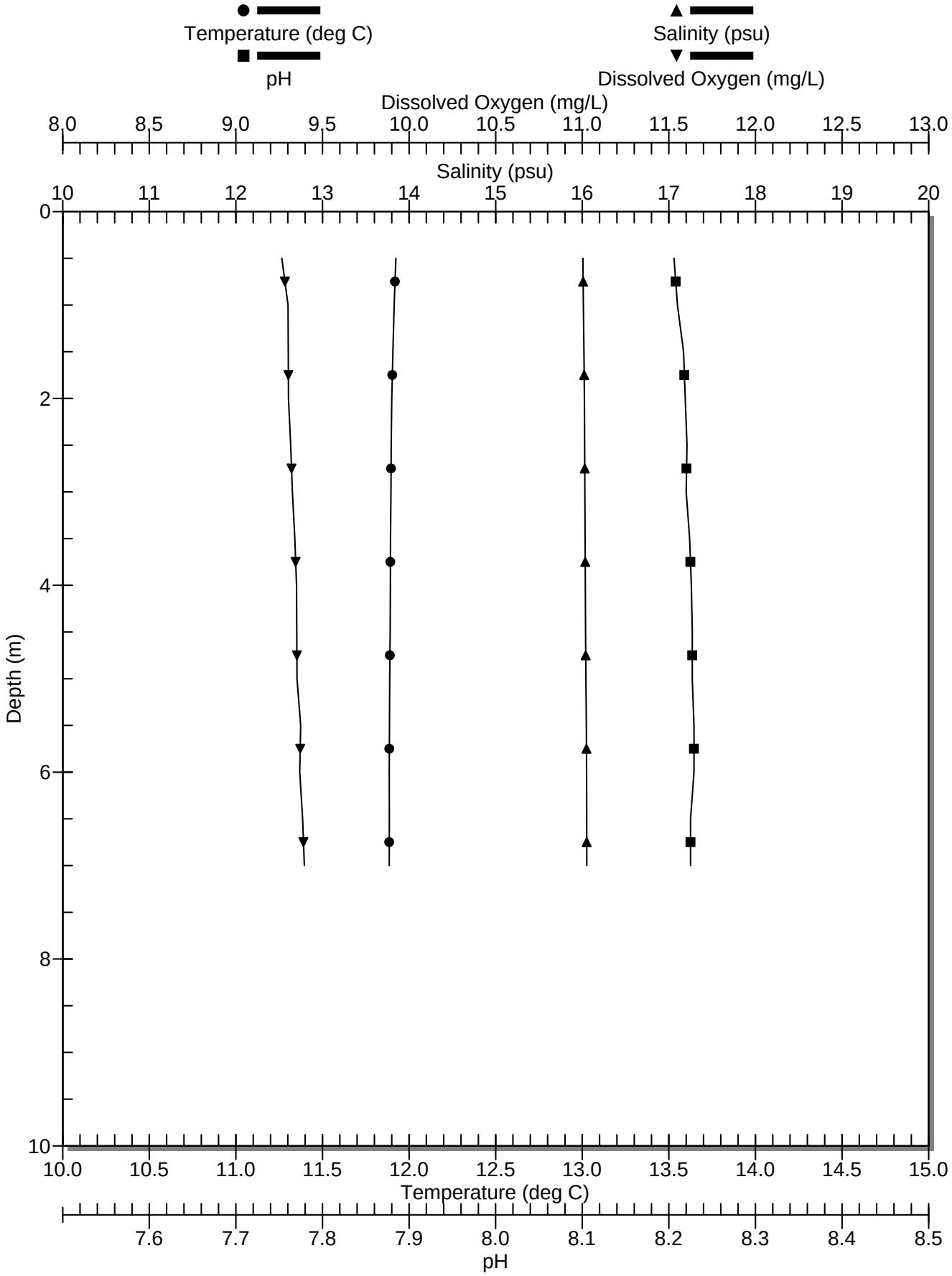
ASPLUND WPCF - Hydrographic Data - June 2011, uE3-1.cnv



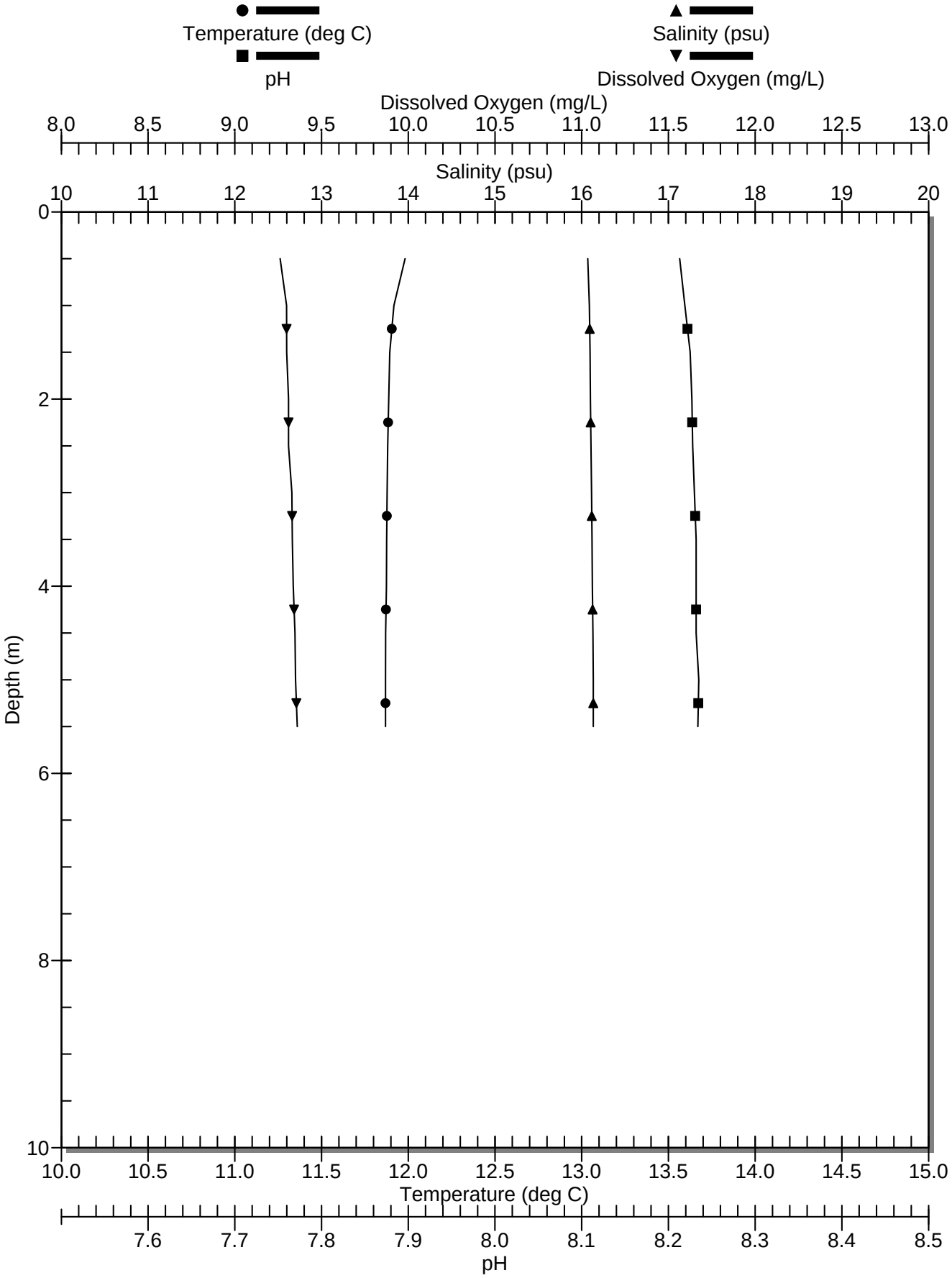
ASPLUND WPCF - Hydrographic Data - June 2011, uE3-2.cnv



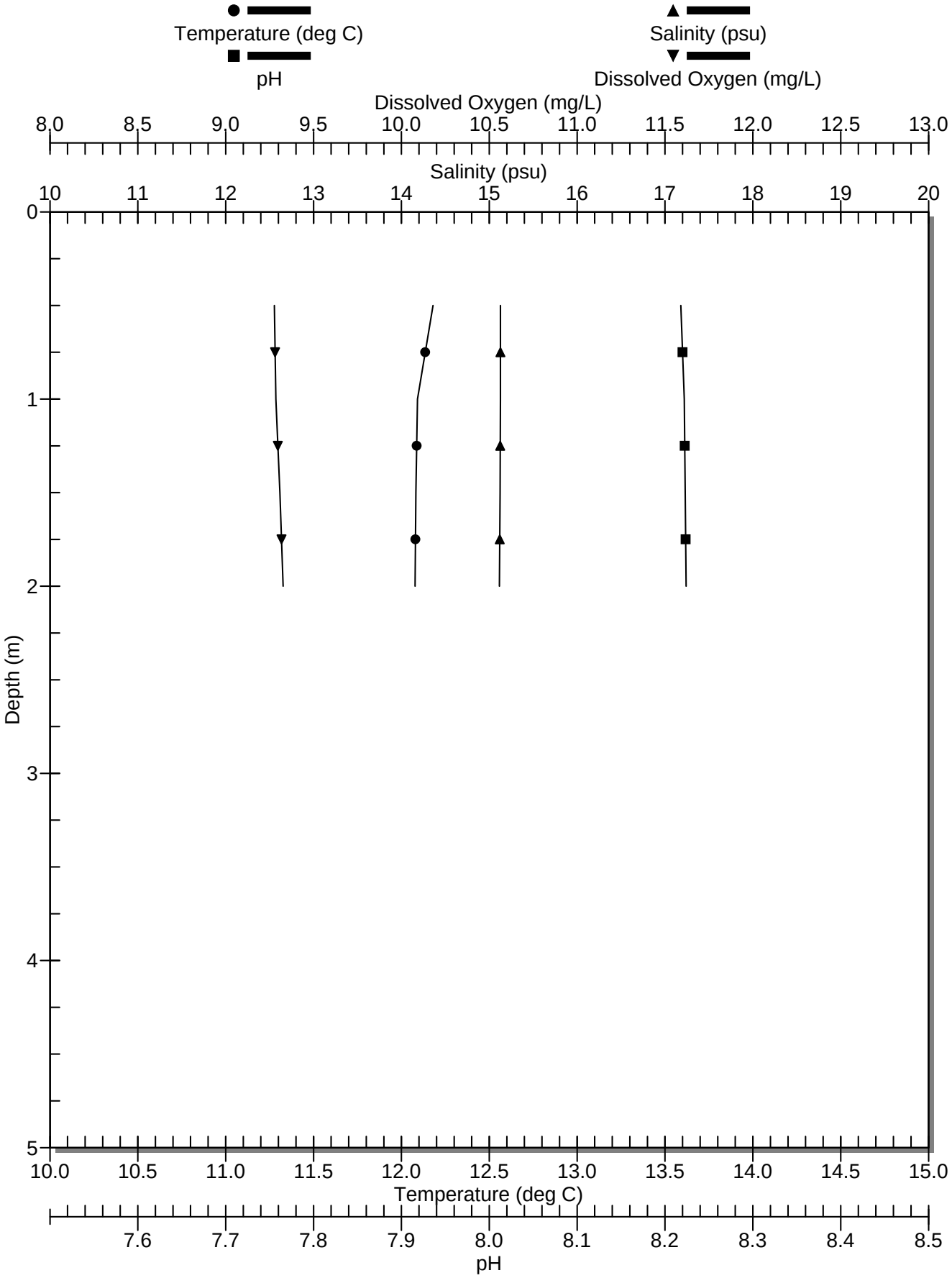
ASPLUND WPCF - Hydrographic Data - June 2011, uE3-3.cnv



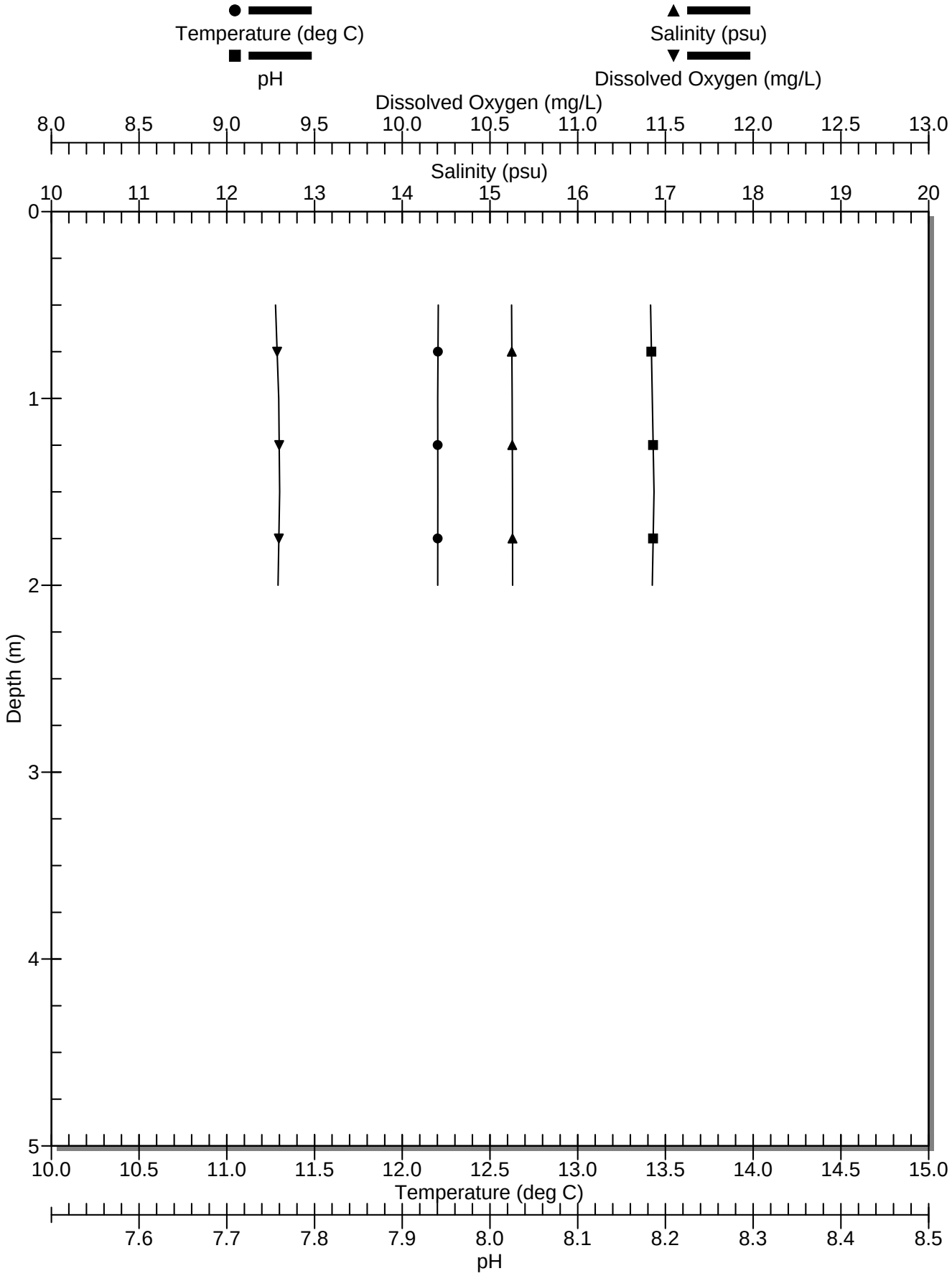
ASPLUND WPCF - Hydrographic Data - June 2011, uE3-4.cnv



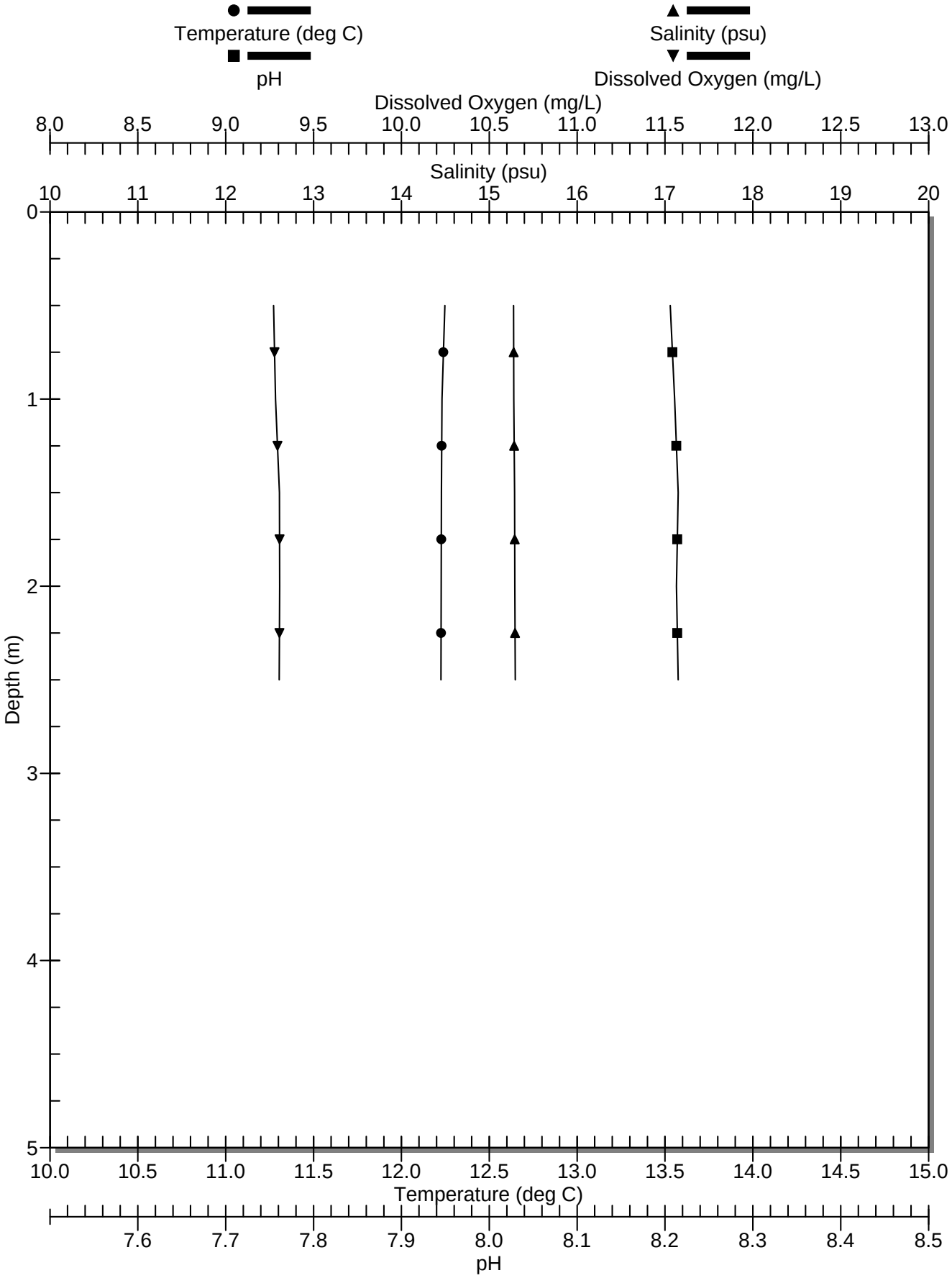
ASPLUND WPCF - Hydrographic Data - June 2011, uF1-1.cnv



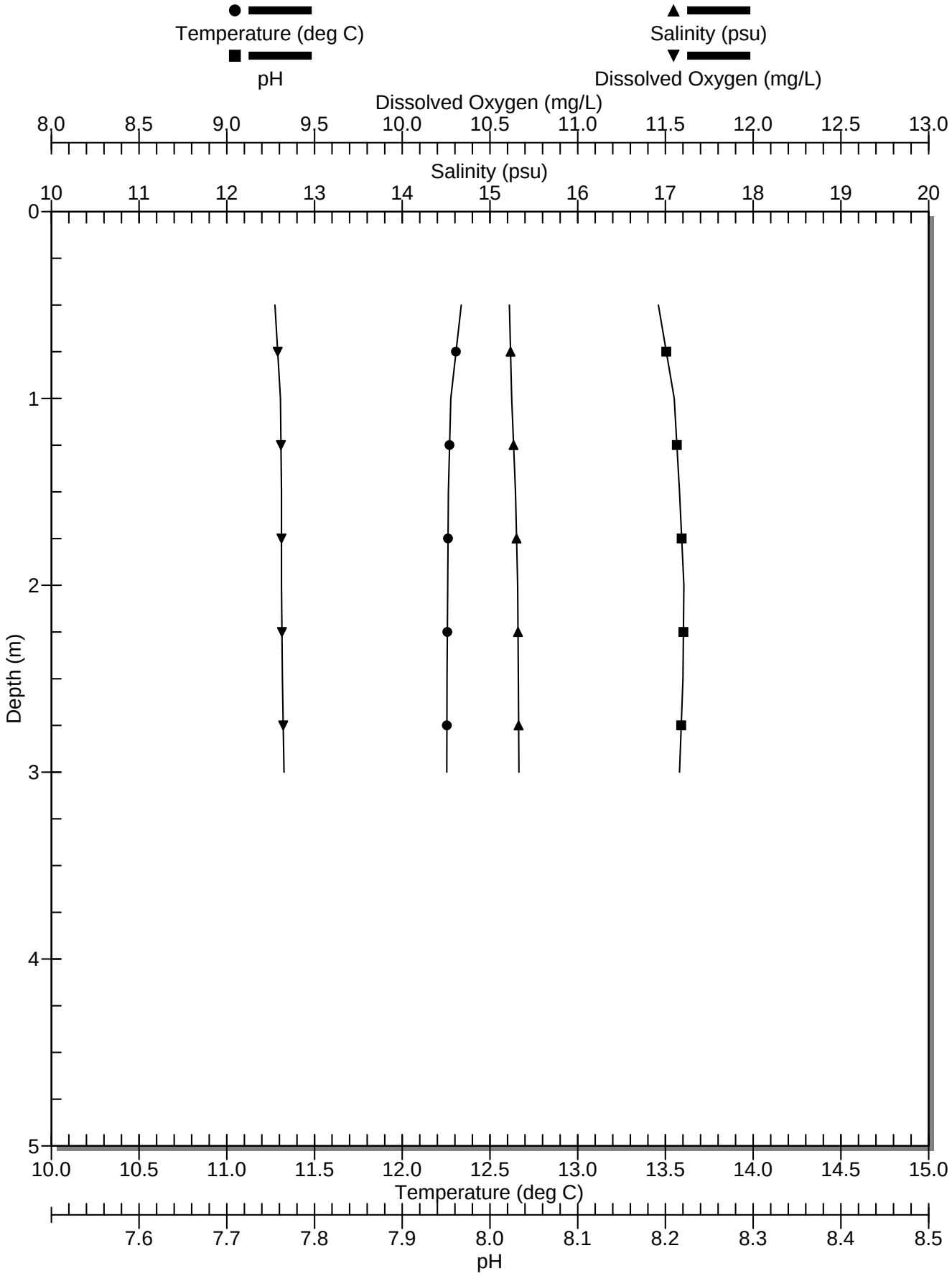
ASPLUND WPCF - Hydrographic Data - June 2011, uF1-2.cnv



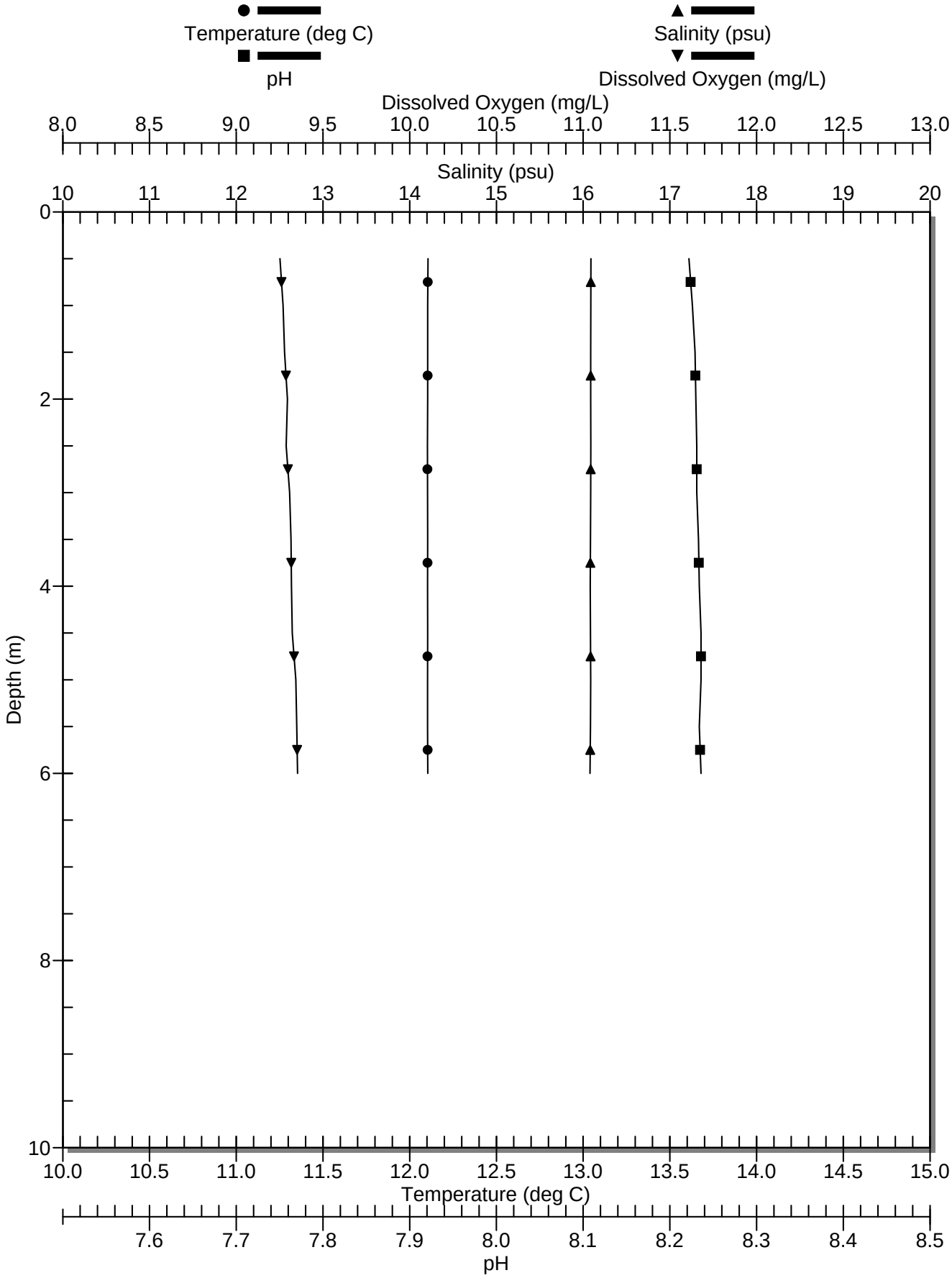
ASPLUND WPCF - Hydrographic Data - June 2011, uF1-3.cnv



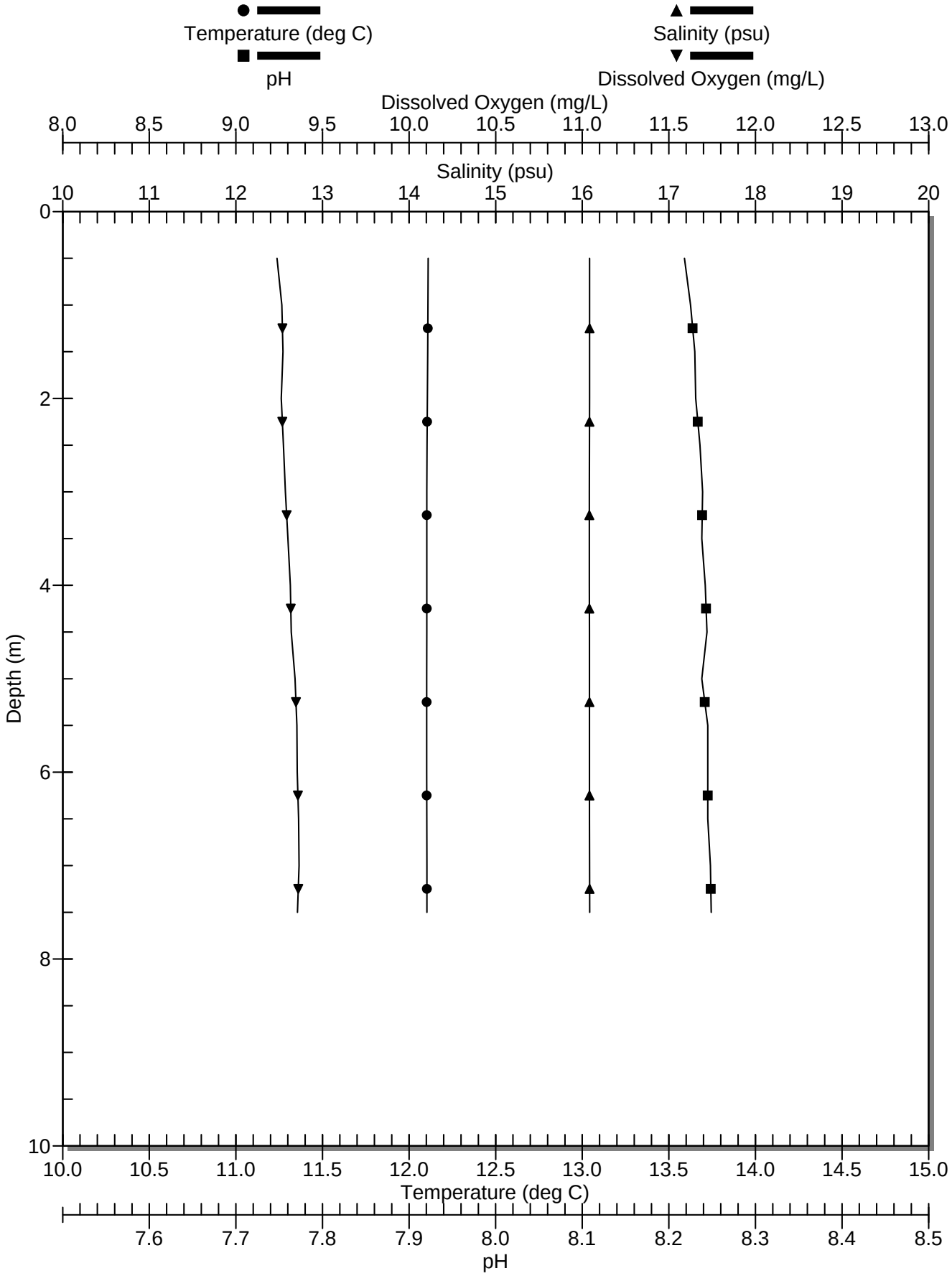
ASPLUND WPCF - Hydrographic Data - June 2011, uF1-4.cnv



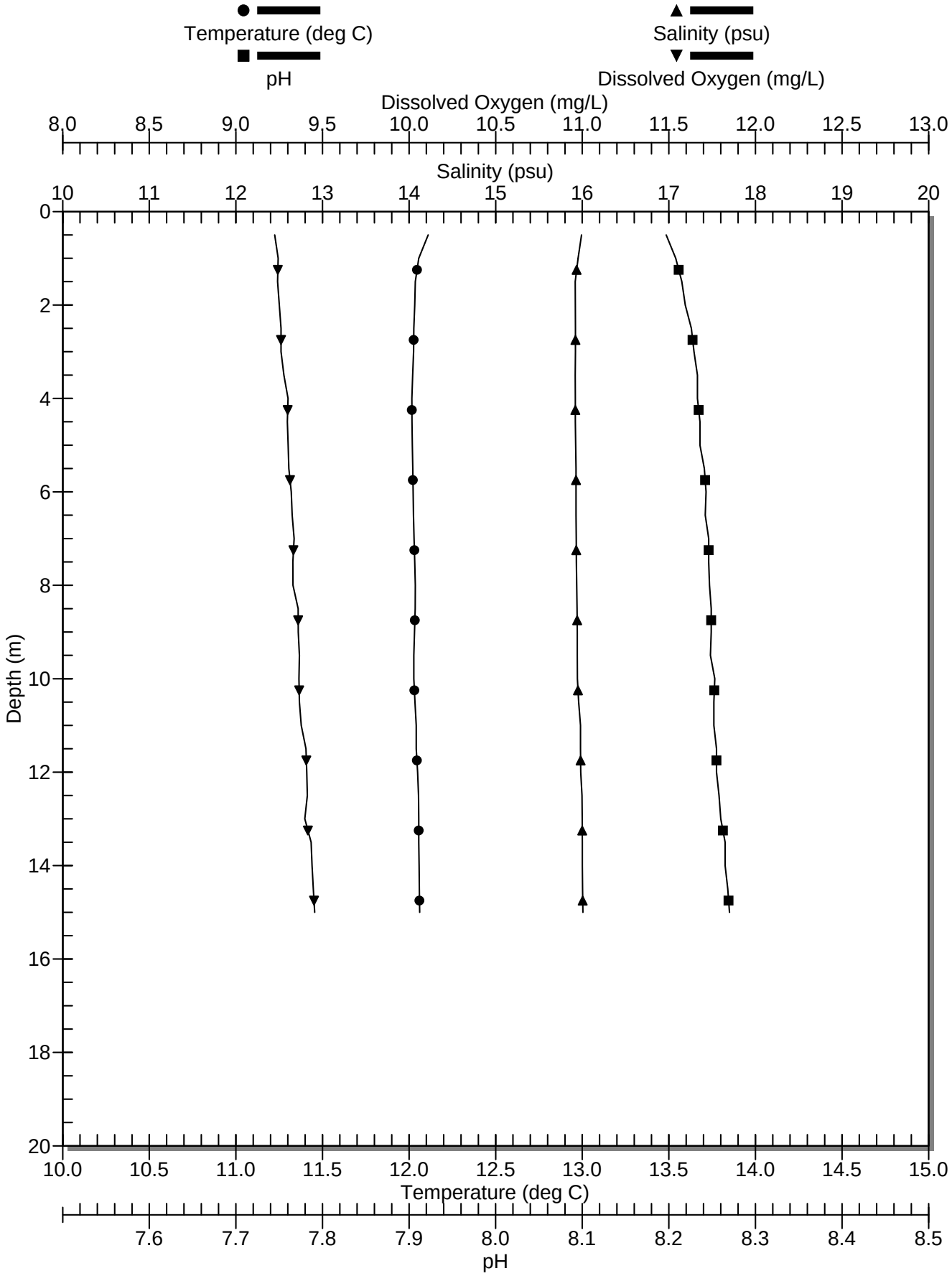
ASPLUND WPCF - Hydrographic Data - June 2011, uF2-1.cnv



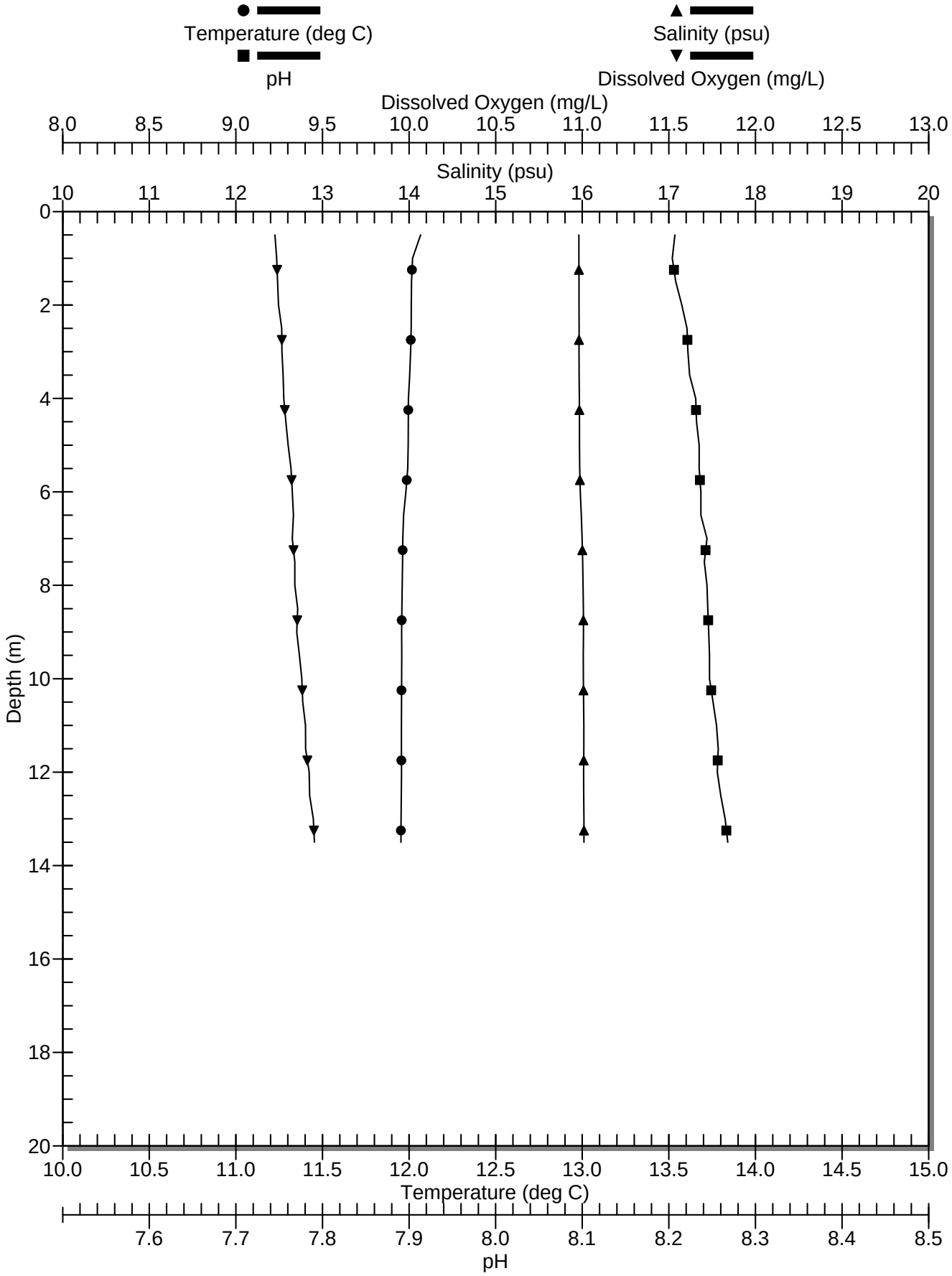
ASPLUND WPCF - Hydrographic Data - June 2011, uF2-2.cnv



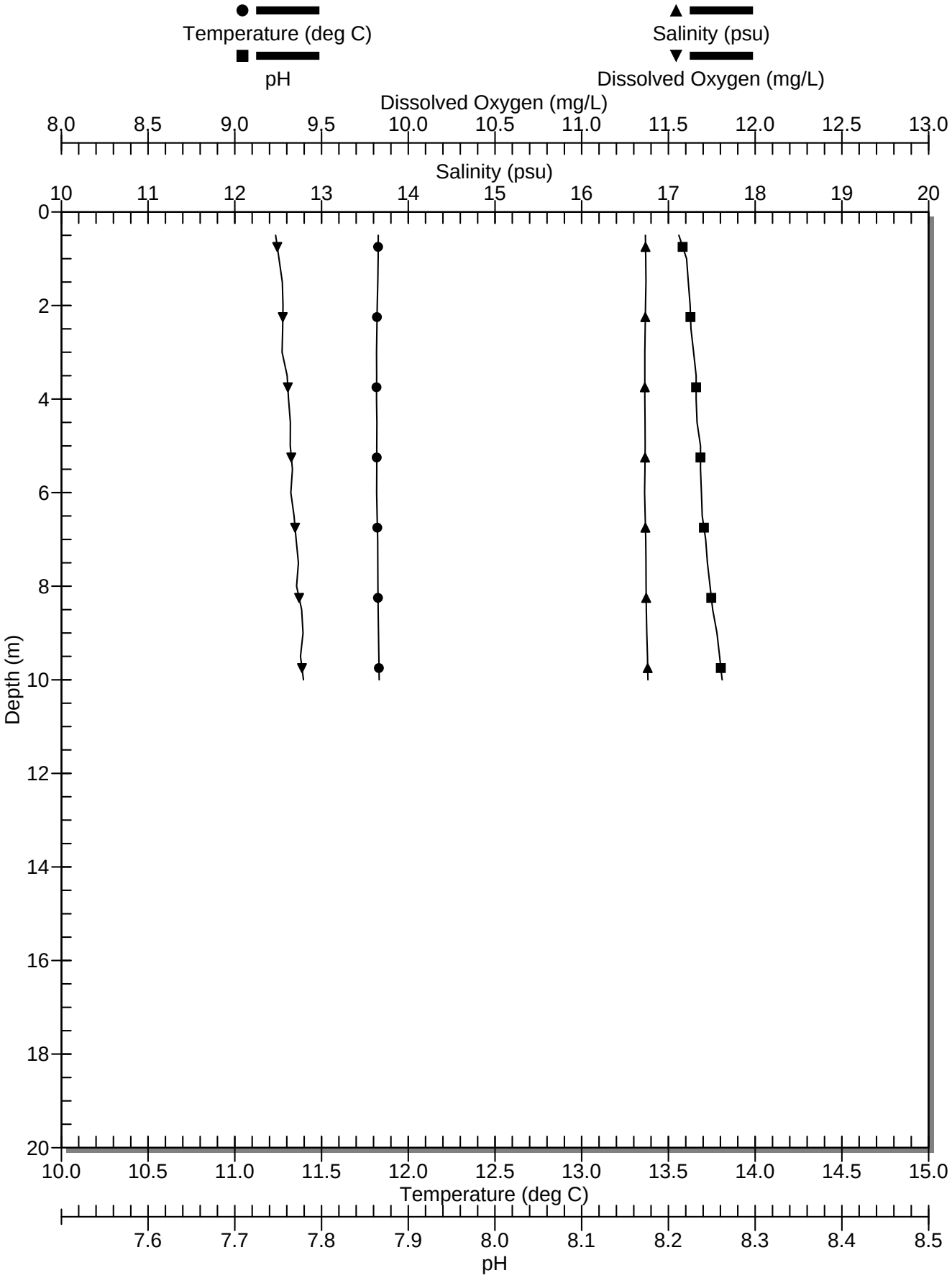
ASPLUND WPCF - Hydrographic Data - June 2011, uF2-3.cnv



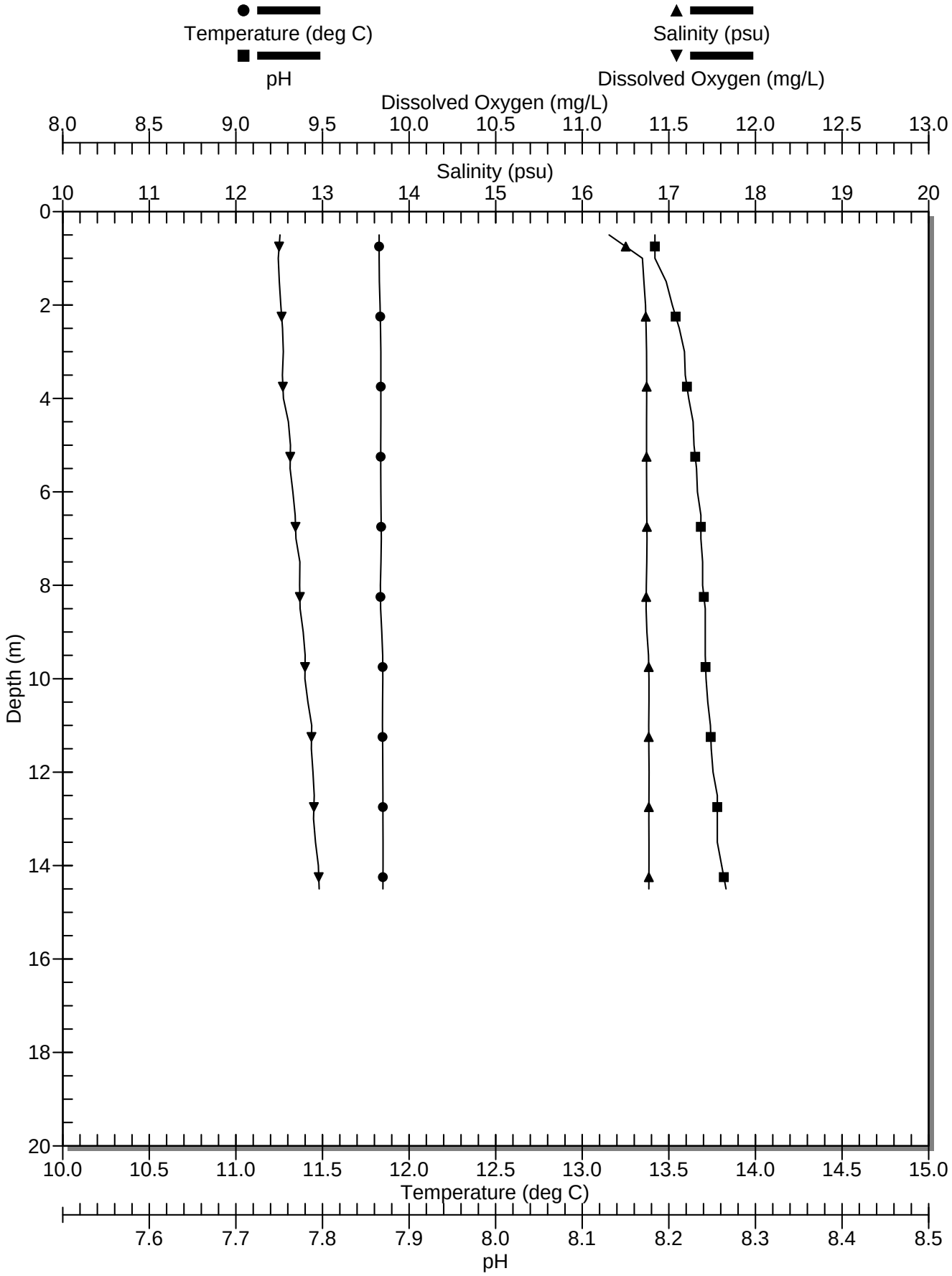
ASPLUND WPCF - Hydrographic Data - June 2011, uF2-4.cnv



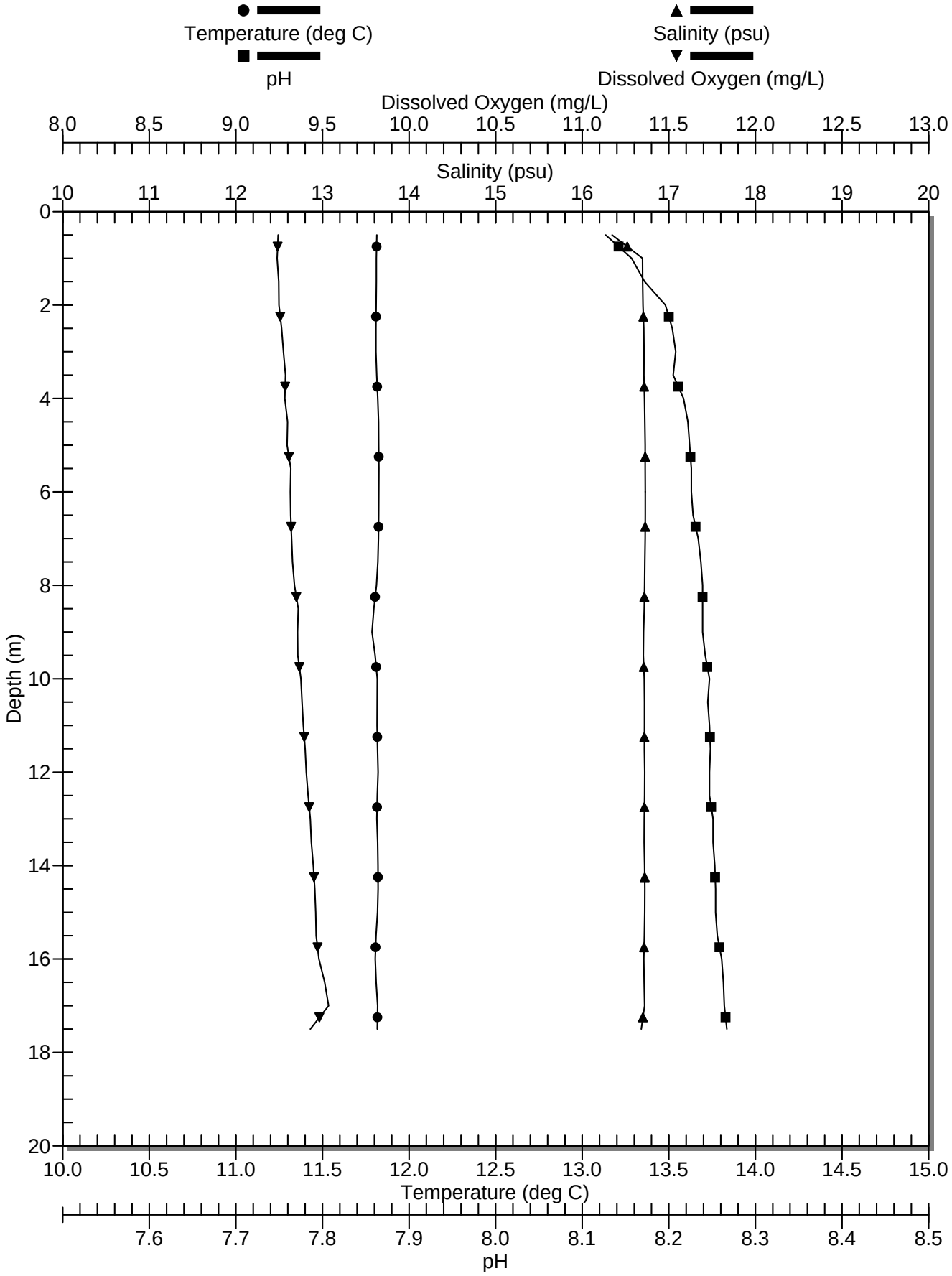
ASPLUND WPCF - Hydrographic Data - June 2011, uF3-1.cnv



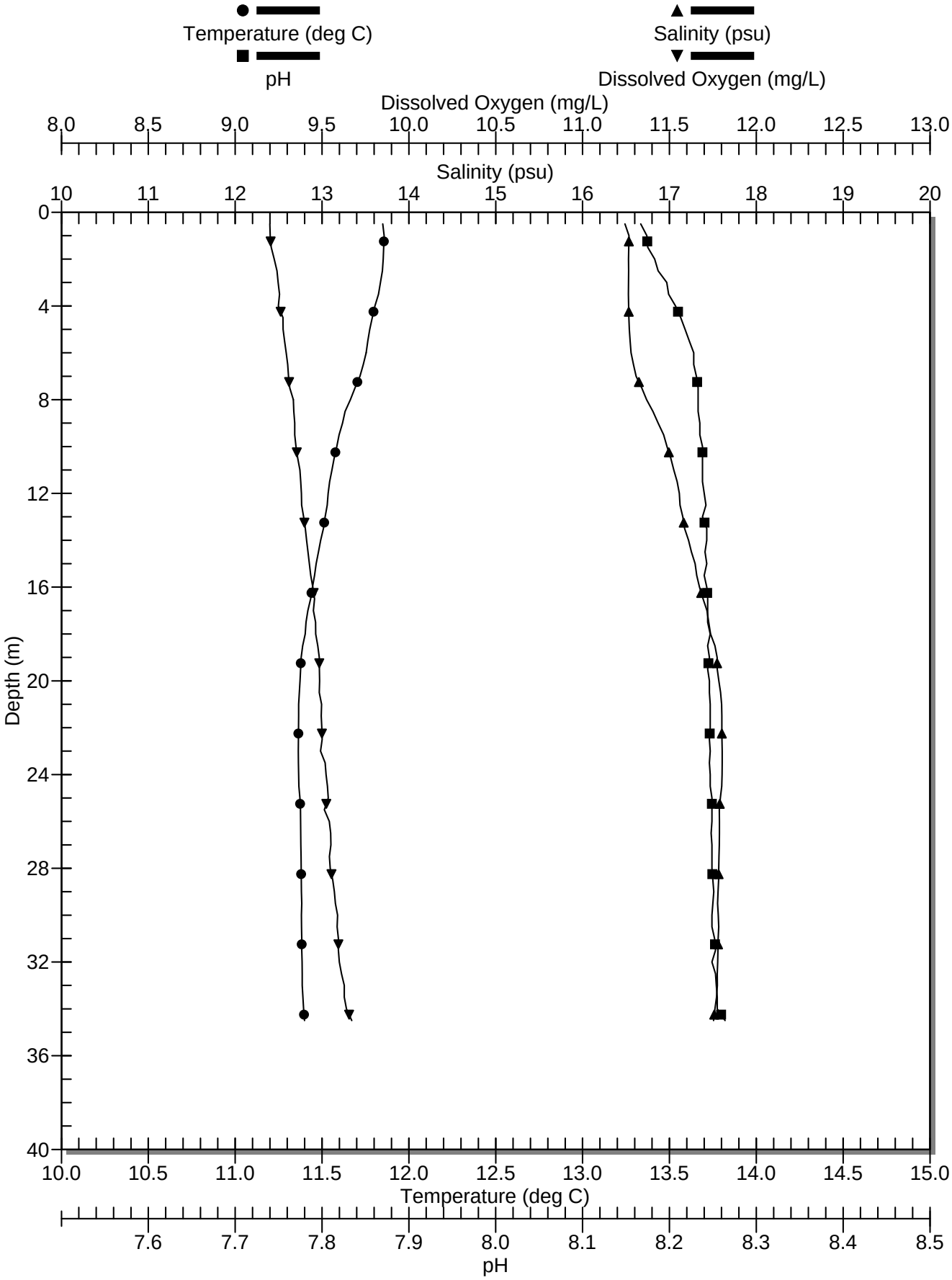
ASPLUND WPCF - Hydrographic Data - June 2011, uF3-2.cnv



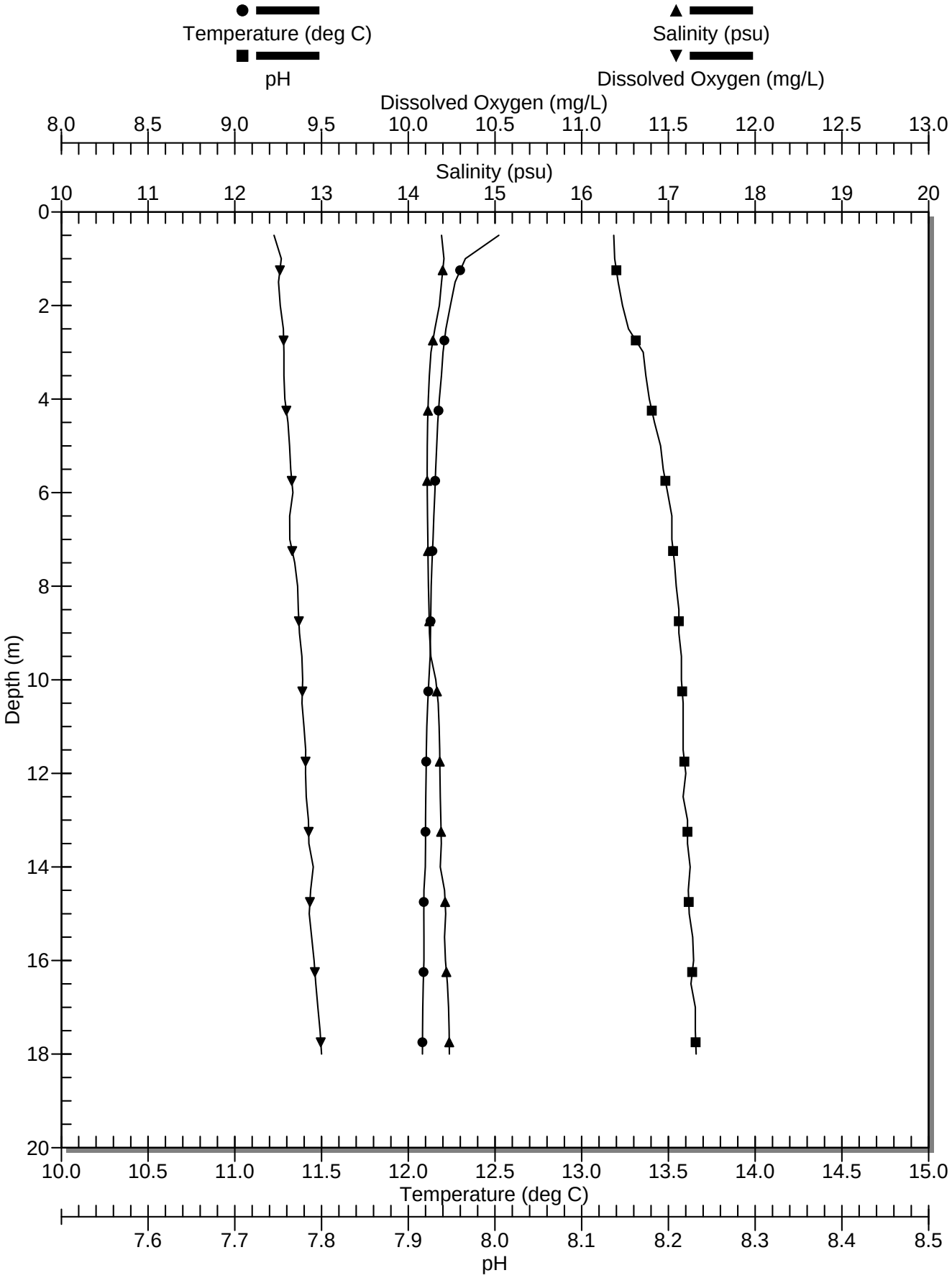
ASPLUND WPCF - Hydrographic Data - June 2011, uF3-3.cnv



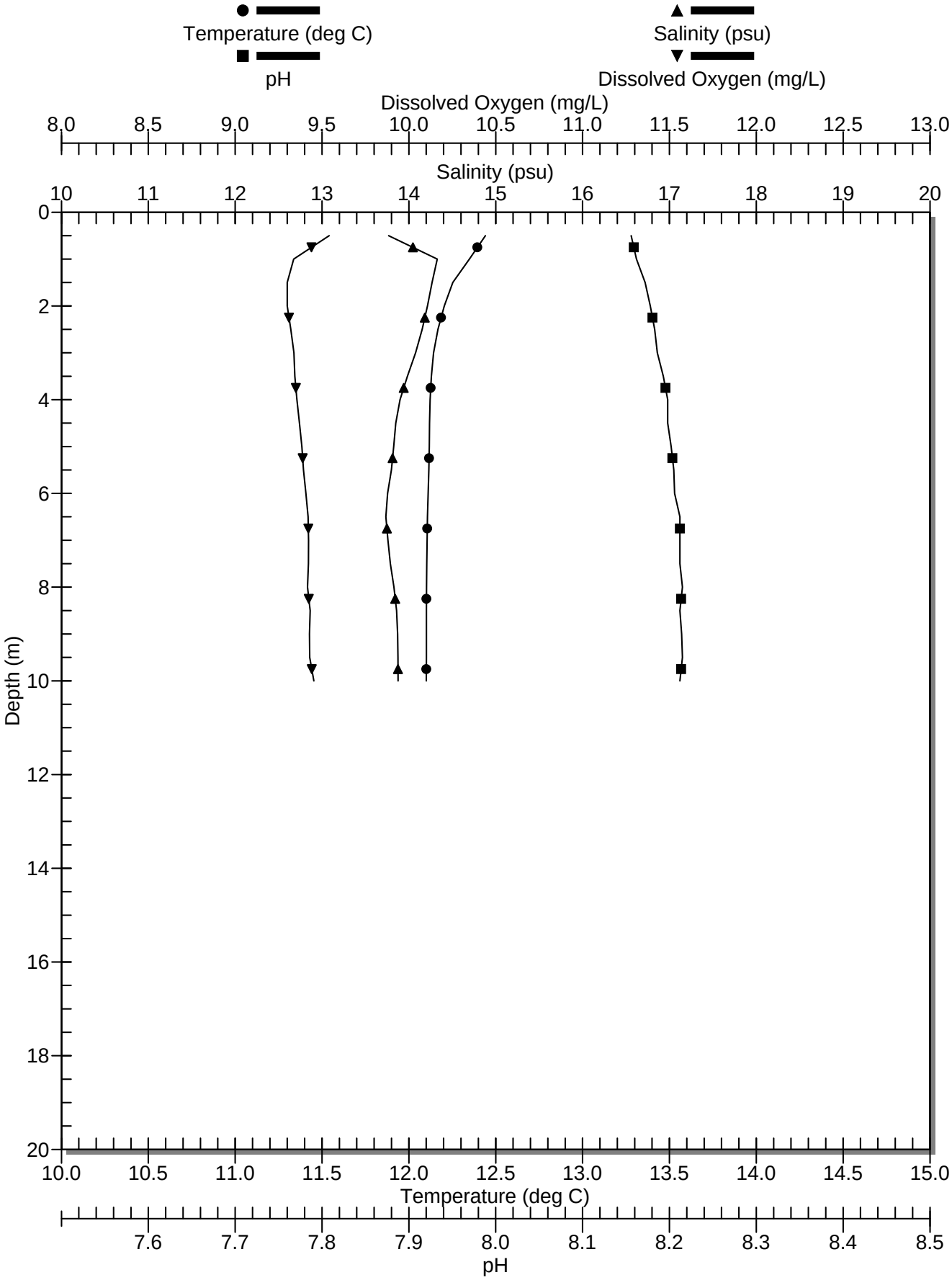
ASPLUND WPCF - Hydrographic Data - June 2011, uF3-4.cnv



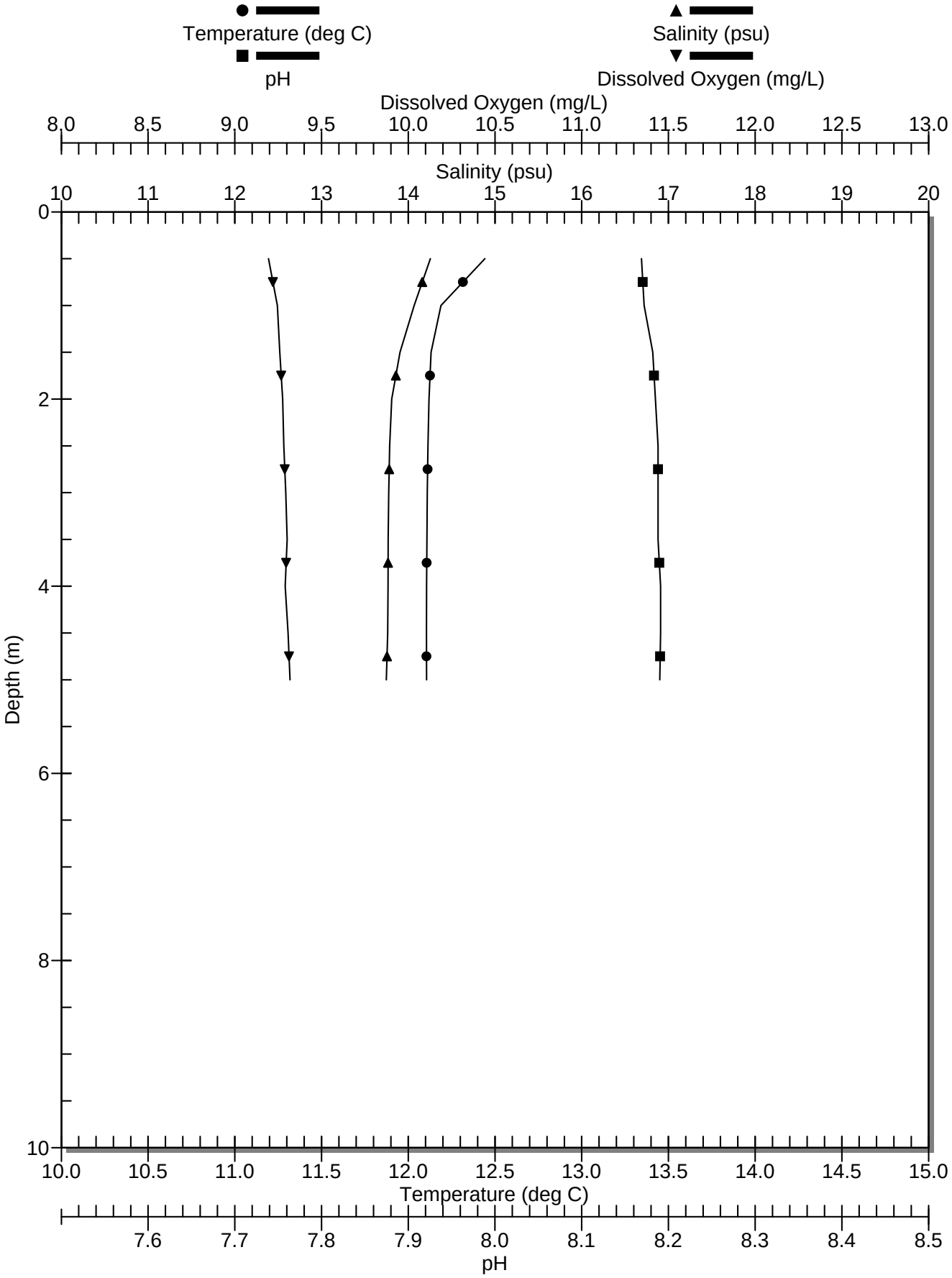
ASPLUND WPCF - Hydrographic Data - June 2011, uC1-1.cnv



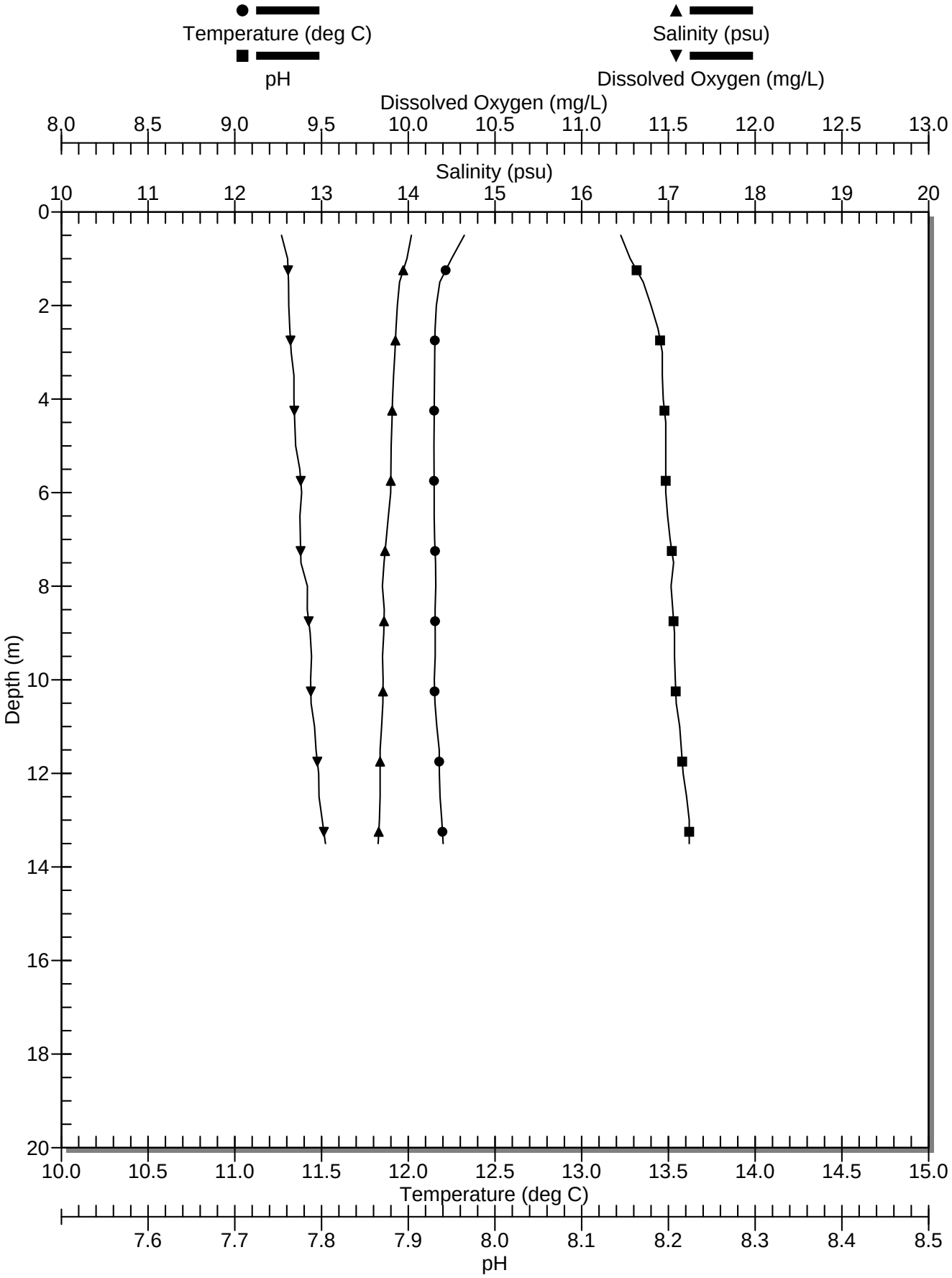
ASPLUND WPCF - Hydrographic Data - June 2011, uC1-2.cnv



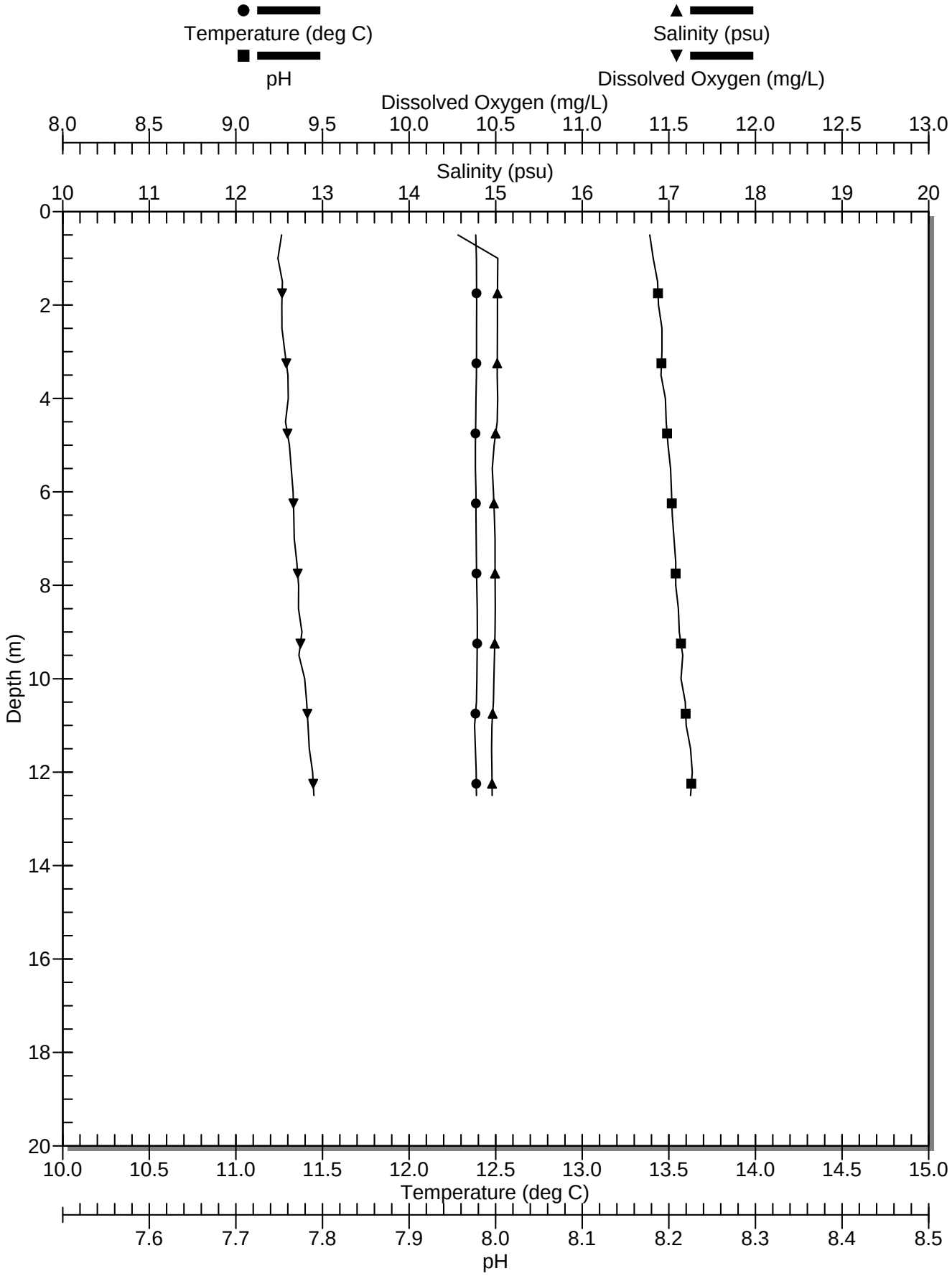
ASPLUND WPCF - Hydrographic Data - June 2011, uC1-3.cnv



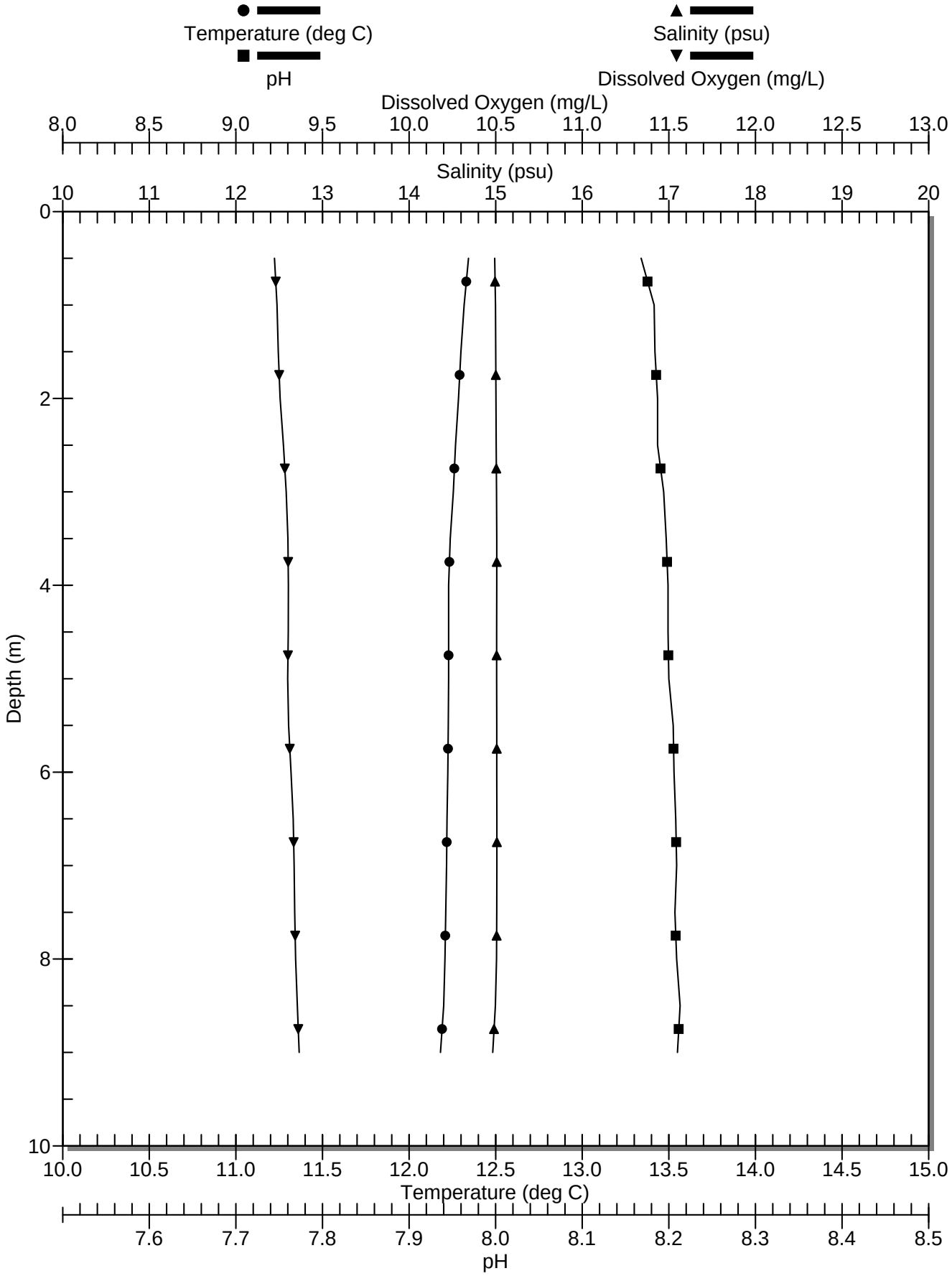
ASPLUND WPCF - Hydrographic Data - June 2011, uC1-4.cnv



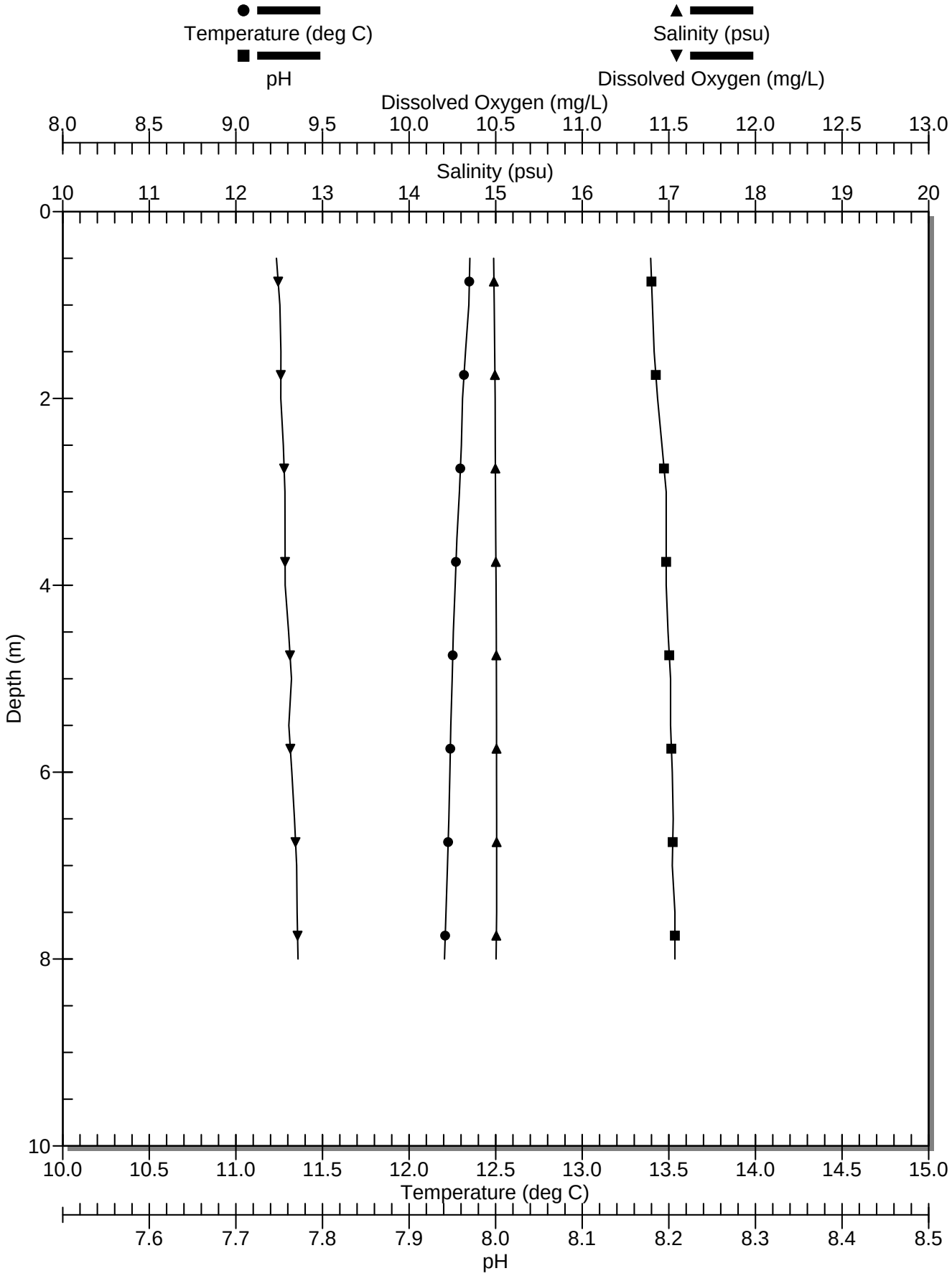
ASPLUND WPCF - Hydrographic Data - June 2011, uC2-1.cnv



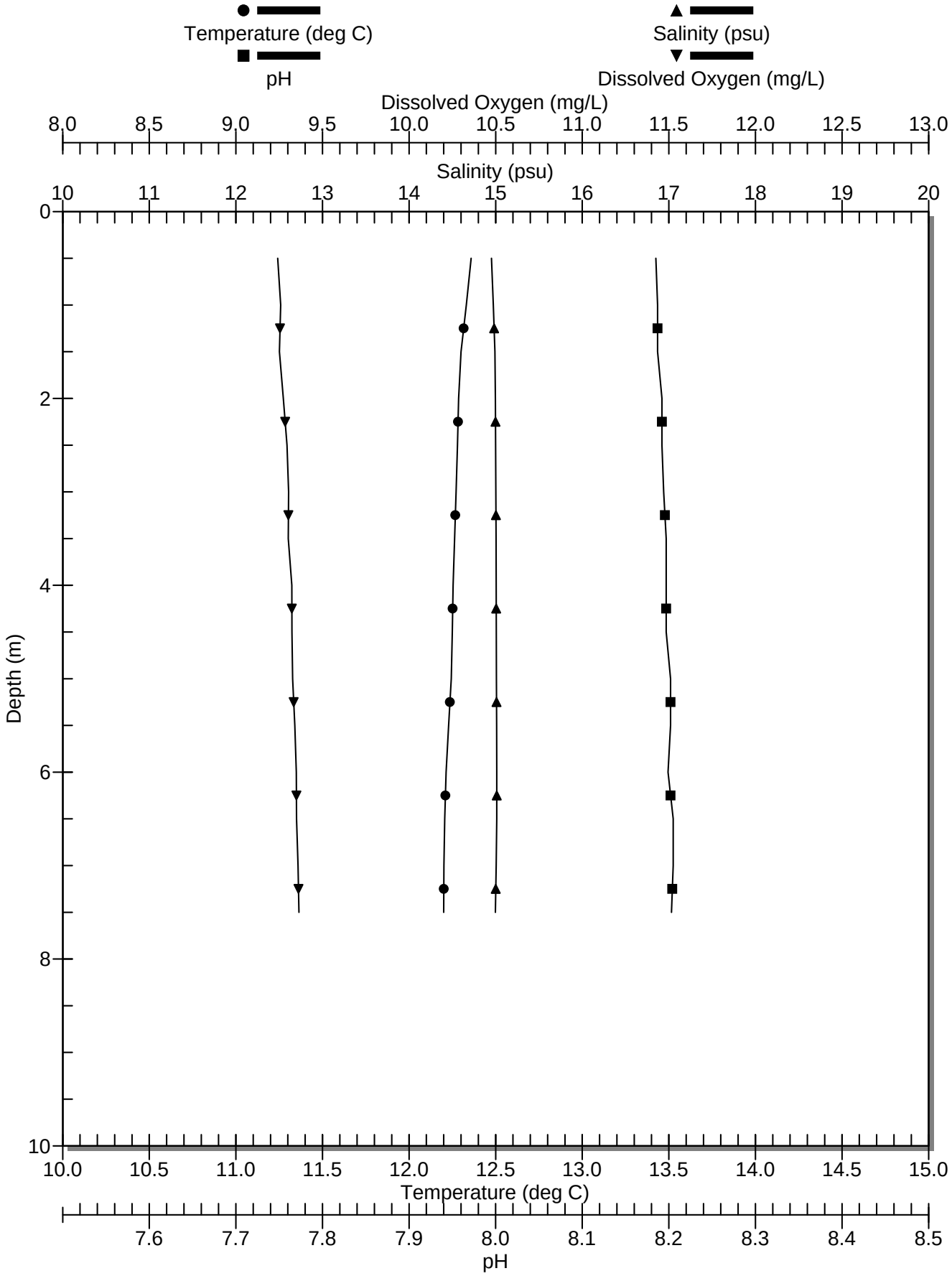
ASPLUND WPCF - Hydrographic Data - June 2011, uC2-2a.cnv



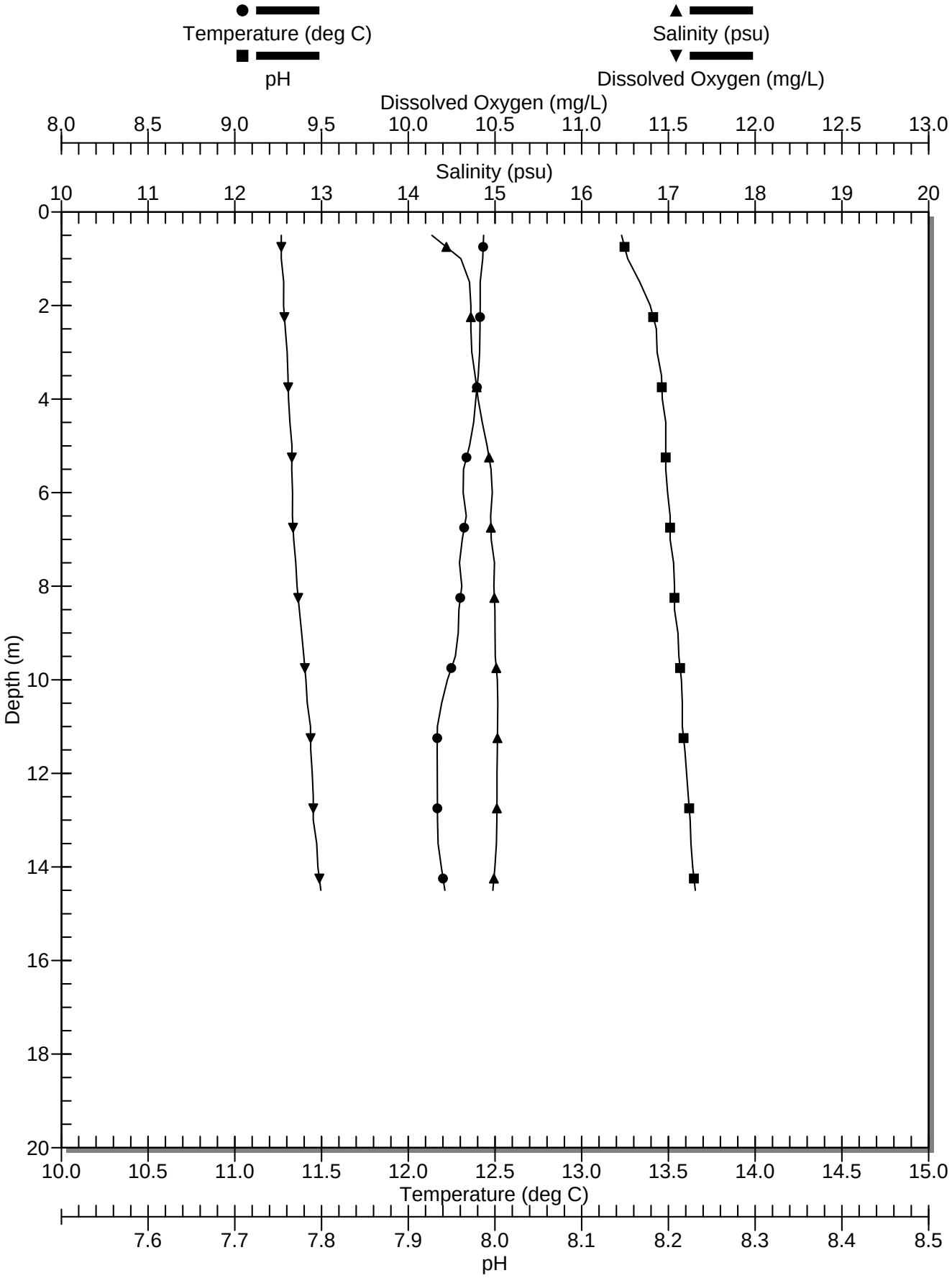
ASPLUND WPCF - Hydrographic Data - June 2011, uC2-2b.cnv



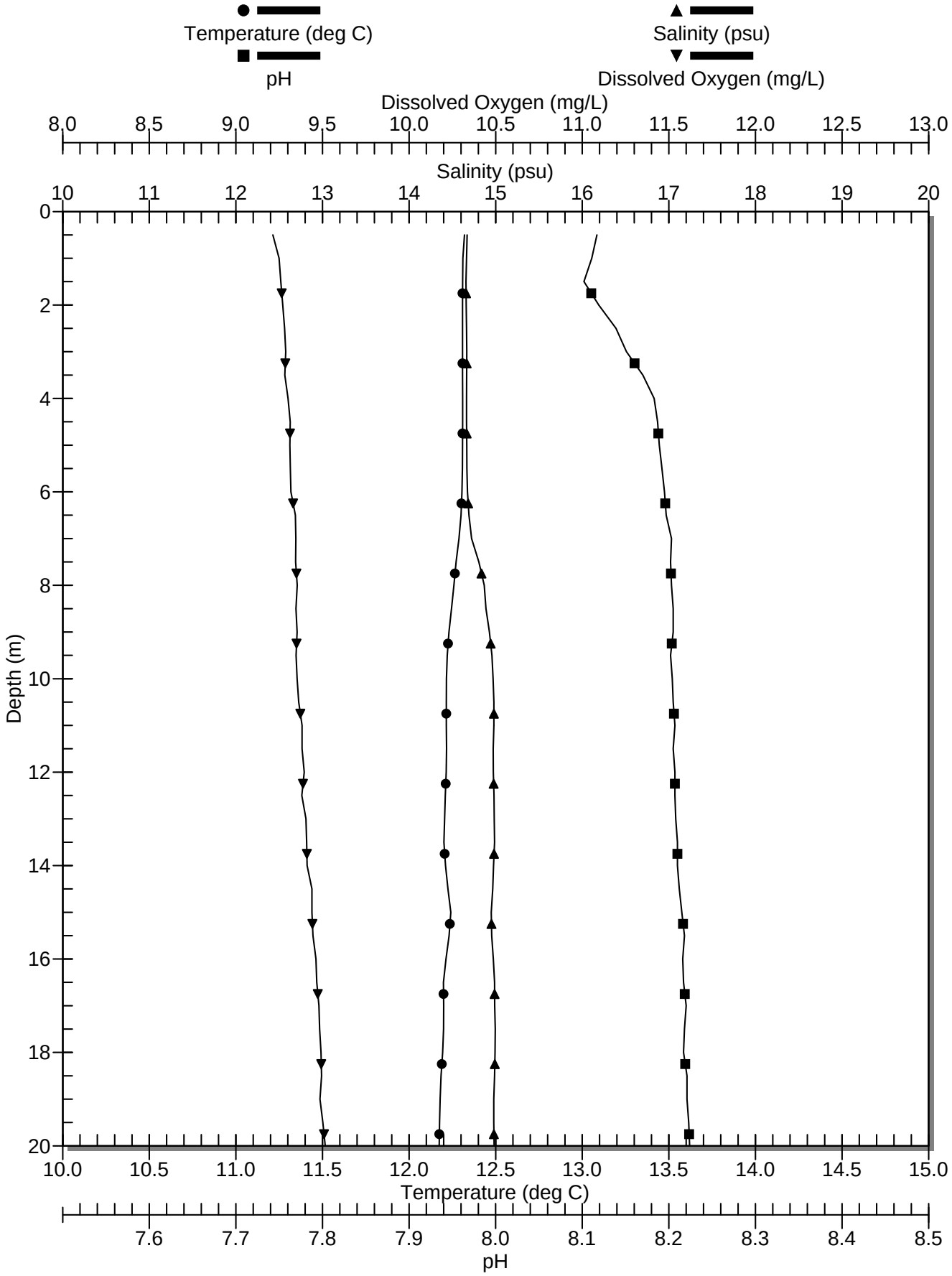
ASPLUND WPCF - Hydrographic Data - June 2011, uC2-2c.cnv



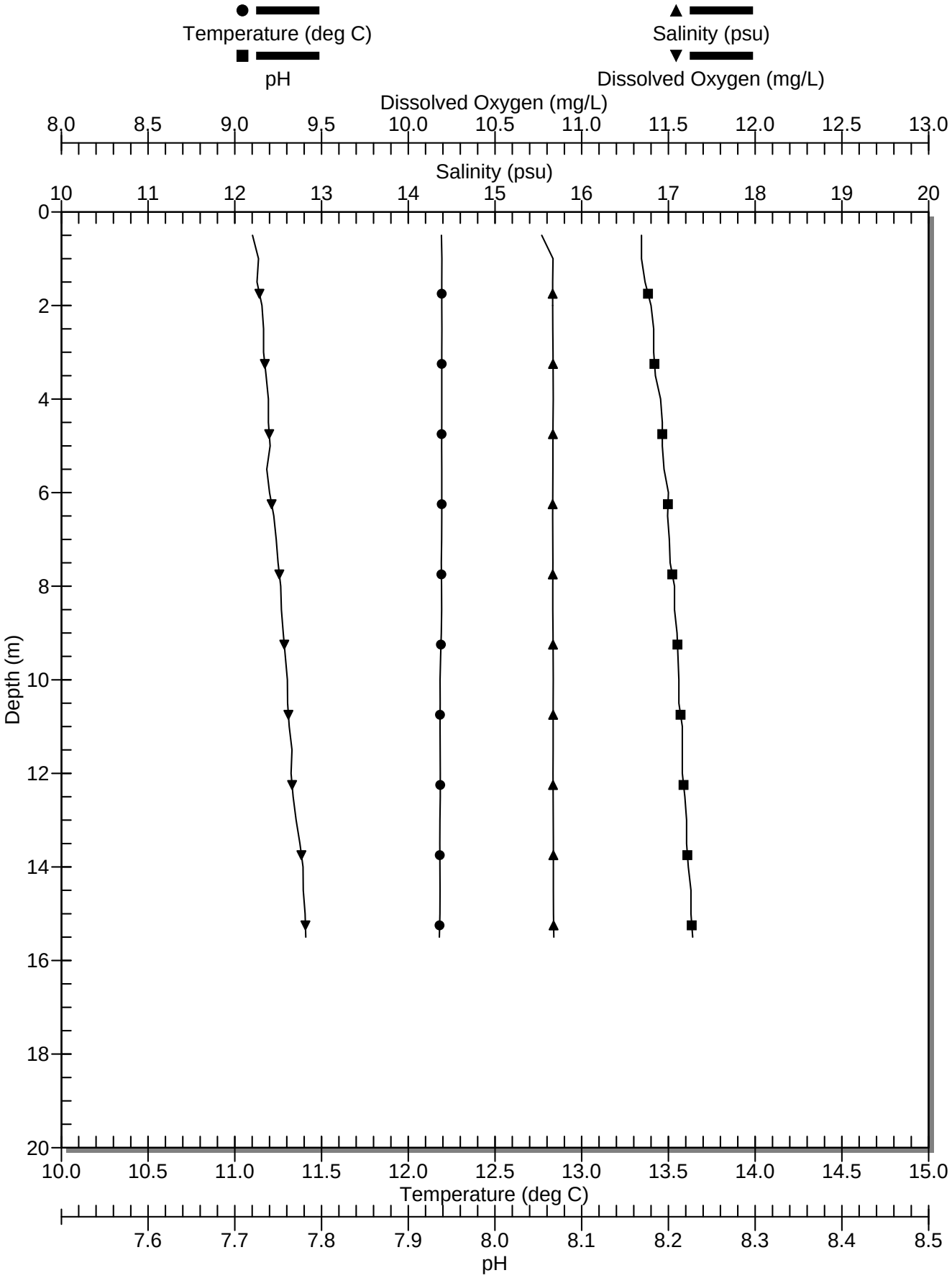
ASPLUND WPCF - Hydrographic Data - June 2011, uC2-3.cnv



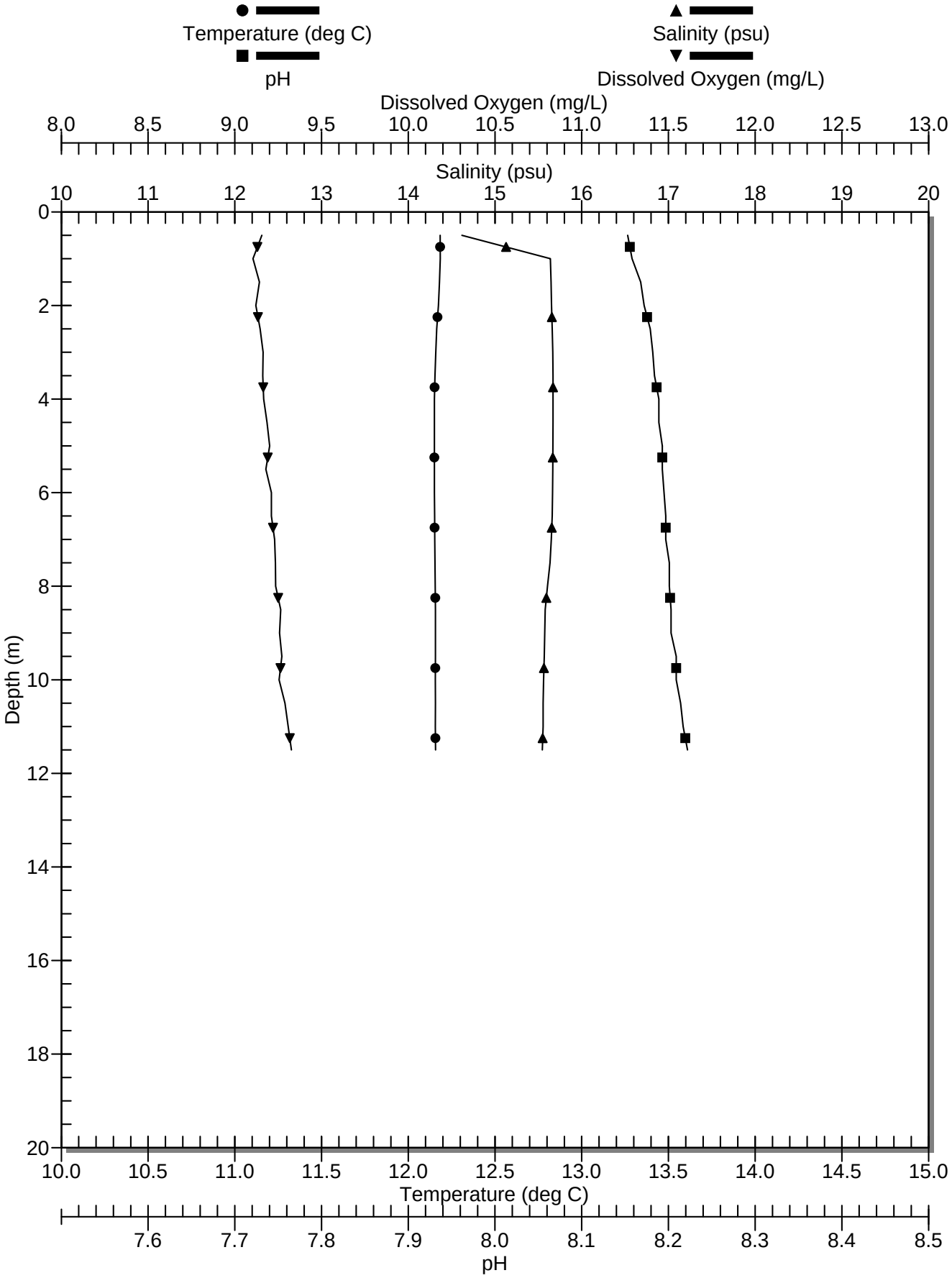
ASPLUND WPCF - Hydrographic Data - June 2011, uC2-4.cnv



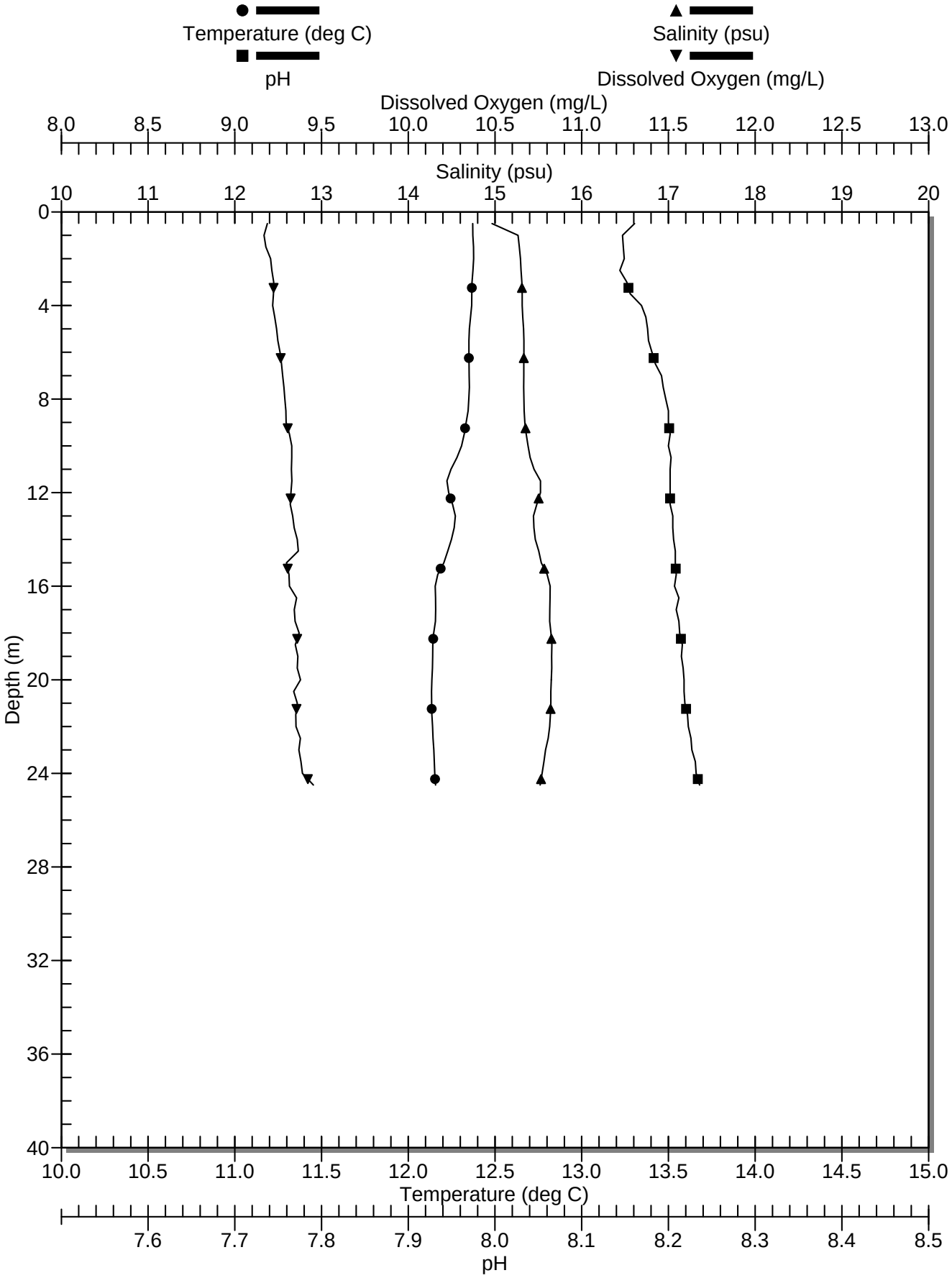
ASPLUND WPCF - Hydrographic Data - June 2011, uC3-1.cnv



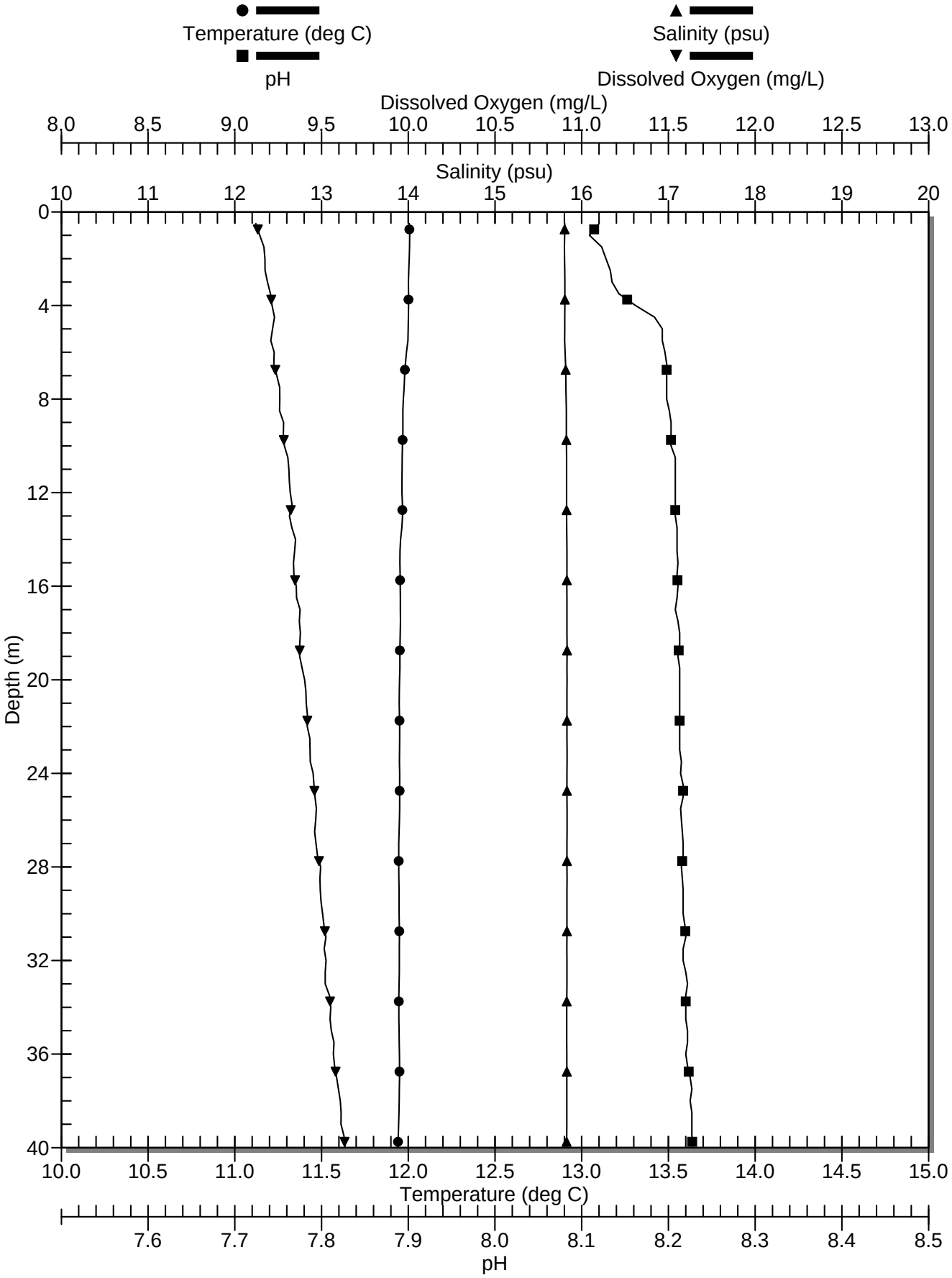
ASPLUND WPCF - Hydrographic Data - June 2011, uC3-2.cnv



ASPLUND WPCF - Hydrographic Data - June 2011, uC3-3.cnv



ASPLUND WPCF - Hydrographic Data - June 2011, uC3-4.cnv



APPENDIX C

Receiving Water Quality Monitoring

C8 Field Data Sheets

Kinnetic Laboratories, Inc.

KINNETIC LABORATORIES, INC.
DROGUE TRACKING LOG

STUDY: *ASPLUND WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 1 **of** 9
RELEASE POINT: Asplund - E1	**NUMBER RELEASED:** 1	
DGPS REFERENCE STATION INFORMATION		
STATION: *WAAS*	**COORDINATE SYSTEM:** *NAD83*	

TIME	DROGUE NO.	LATITUDE (N)	LONGITUDE (W)	DGPS*	COMMENTS
0643	1	61° 12.347'	150° 01.295'	*	E1-1
0649		12.321	01.665		
0655		12.260	02.000		E1-2
0704		12.140	02.501		
0708		12.082	02.690		E1-3
0714		11.972	03.000		
0717		11.894	03.196		1.9 km WSW
0723		11.781	03.490		E1-4
0736		11.450	04.221		
0741		11.339	04.524		
0745		11.234	04.819		3.8km SW of outfall
0751		11.063	05.375		
0803		10.814	06.428		
0811		10.723	07.180		6.1 km WSW

Reviewed By: M. [signature] Date: 6/14/11

Record Y or N for difference fix in DGPS column
Minus sign (-) indicates end of observation set

C:\Projects\MOA\MOA11\Logs\DROGUELOG2011.wpd

KINNETIC LABORATORIES, INC.
DROGUE TRACKING LOG

STUDY: *ASPLUND WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 2 **of** 9
RELEASE POINT: Outfall - E2	**NUMBER RELEASED:** 1	
DGPS REFERENCE STATION INFORMATION		
STATION: *WAAS*	**COORDINATE SYSTEM:** *NAD83*	

TIME	DROGUE NO.	LATITUDE (N)	LONGITUDE (W)	DGPS*	COMMENTS
0830	1	61° 12.345	150° 01.~~921~~ 291	*	E2-1
0835		12.309	02.148		E2-2 ZID
0839		12.206	02.715		
0841		12.189	02.795		E2-3
0847		11.963	03.485		2.1 km
0850		11.855	03.742		E2-4
0900		11.535	04.316		3.1 km WSW
0908		11.282	04.786		3.7 km
0918		11.053	05.403		4.4 km
0925		10.924	05.825		
0933		10.823	06.420		5.4 km
0948		10.758	07.615		
0957		10.783	08.330		
1005		10.807	09.043		7.5 Km
1015		10.844	09.976		8.2 km at Fire
picked	~~drogue~~				Island ~ 500 offshore

Reviewed By: M Sum Date: 6/14/11

Record Y or N for differential fix in DGPS column
Minus sign (-) indicates end of observation set

C:\Projects\MCA\MOA11\Logs\DROGUELOG2011.wpd

KINNETIC LABORATORIES, INC.
DROGUE TRACKING LOG

STUDY: *ASPLUND WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 3 **of** 9
RELEASE POINT: Outfall E3	**NUMBER RELEASED:** 1	
DGPS REFERENCE STATION INFORMATION		
STATION: *WAAS*	**COORDINATE SYSTEM:** *NAD83*	

TIME	DROGUE NO.	LATITUDE (N)	LONGITUDE (W)	DGPS*	COMMENTS
11:00		61° 12.343'	150° 01.273'	*	E3-1 @ outfall
1106		12.294	01.722		400 m WSW
11:12		12.208	02.000		~650m E3-2
11:18		12.121	02.297		1.0 km
11:23		12.030	02.526		
11:26		12.005	02.559		E3-3
1130		11.928	02.760		
1139		11.766	03.078		1.9 km
1150		11.581	03.400		E3-4 2.4 km
1155		11.442	03.695		
1210		11.132	04.439		3.6 km next to shoal
1215		11.061	04.691		
1224		10.876	05.350		4.6 km
1246		10.627	06.700		5.8 km
					picked drogue

Reviewed By: M [signature] Date: 6/14/11

Record Y or N for differential fix in DGPS column.
Minus sign (-) indicates end of observation set

KINNETIC LABORATORIES, INC.
DROGUE TRACKING LOG

STUDY: *ASPLUND WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 4 **of** 9
RELEASE POINT: Outfall - F1	**NUMBER RELEASED:** 1	

DGPS REFERENCE STATION INFORMATION

STATION: *WAAS*	**COORDINATE SYSTEM:** *NAD83*

TIME	DROGUE NO.	LATITUDE (N)	LONGITUDE (W)	DGPS*	COMMENTS
1346		61° 12.342	150° 01.278	*	F1-1 At outfall
1418		12.378	00.552		F1-2 ~650m
1428		12.327	00.078		1.1 km east
1434		12.282	149° 59.857		F1-3
1445		12.220	59.637		
1453		12.185	59.507		1.6 km
1503		12.167	59.466		F1-4
1518		12.146	59.494		
1528		12.132	59.594		
1533		12.135	59.689		picked drogue 1.5 km

Reviewed By: M [signature] Date: 6/14/11

Record Y or N for diff[illegible] in DGPS column
Minus sign ( ) indicates end of observation set

KINNETIC LABORATORIES, INC.
DROGUE TRACKING LOG

STUDY: *ASPLUND WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 5 **of** 9
RELEASE POINT: Outfall - F2	**NUMBER RELEASED:** 1	

DGPS REFERENCE STATION INFORMATION

STATION: *WAAS*	**COORDINATE SYSTEM:** *NAD83*

TIME	DROGUE NO.	LATITUDE (N)	LONGITUDE (W)	DGPS*	COMMENTS
1557	1	61° 12.339	150° 01.276	*	F2-1
1605		12.554	00.694		F2-2
1609		12.662	00.381		1.0 km ENE
1614		61° 12.758	149° 59.948		F2-3 1.4 km
1619		12.853	59.505		
1623		12.937	59.067		
1630		12.950	58.552		F2-4
1639		13.023	57.937		3.2 km ENE
1642		13.045	57.691		
1648		13.100	57.158		3.9 km
1656		13.163	56.475		4.6 km
1703		13.233	55.942		5.1 km ENE
					picked drogue

Reviewed By: M [signature] Date: 6/14/11

Record Y or N for differential fix in LGF [illegible]
Minus sign (-) indicates end of observation set

KINNETIC LABORATORIES, INC.
DROGUE TRACKING LOG

STUDY: *ASPLUND WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 6 **of** 9
RELEASE POINT: Outfall - F3	**NUMBER RELEASED:** 1	
DGPS REFERENCE STATION INFORMATION		
STATION: *WAAS*	**COORDINATE SYSTEM:** *NAD83*	

TIME	DROGUE NO.	LATITUDE (N)	LONGITUDE (W)	DGPS*	COMMENTS
1723		61° 12.341	150° 01.275	*	F3-1 Outfall
1729		12.553	00.718		F3-2 ZID
1736		12.698	00.114		F3-3 1.2 km
1758		13.250	149° 58.521		F3-4 3.0 km
1810		13.410	57.339		4.0 km
1815		13.485	56.824		4.5 km
1824		13.657	55.882		5.4 KM
1837		13.993	55.210		6.2 km
1841		14.123	55.050		
1858		14.871	54.325		7.8 km offshore part of Anch
1902		15.051	54.200		picked drogue

Reviewed By: M Swan Date: 6/14/11

Record Y or N for differential [illegible] DG[illegible]
Minus sign (-) indicates end of observation set

C:\Projects\MOA\MO[illegible]\DROGUE LOG2011.wpd

KINNETIC LABORATORIES, INC.
DROGUE TRACKING LOG

STUDY: *ASPLUND WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 7 **of** 9
RELEASE POINT: Control - C1	**NUMBER RELEASED:** 1	

DGPS REFERENCE STATION INFORMATION

STATION: *WAAS*	**COORDINATE SYSTEM:** *NAD83*

TIME	DROGUE NO.	LATITUDE (N)	LONGITUDE (W)	DGPS*	COMMENTS
1455	1	61° 13.983	149° 59.150	*	C1-1
1504		13.989	58.646		
1510		14.053	58.247		C1-2
1520		14.362	57.364		
1525		14.560	56.938		C1-3
1530		14.780	56.349		
1533		14.901	55.972		C1-4
1540		15.160	55.448		
1551		15.616	54.803		
1556		15.786	54.797		5.1 Km
1605		16.118	54.734		At center of Pt. MacDock
1609		16.305	54.535		~50m east of dock face
1616		16.685	54.211		picked drogue

Reviewed By: M Swan Date: 6/15/11

Record Y or N for differ[illegible] DGPS column
Minus sign (-) indicates end of observation set

C:\Projects\MOA[illegible]\Logs\DROGUELOG2011.wpd

KINNETIC LABORATORIES, INC.
DROGUE TRACKING LOG

STUDY: *ASPLUND WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 8 **of** 9
RELEASE POINT: Control C2	**NUMBER RELEASED:** 1	

DGPS REFERENCE STATION INFORMATION

STATION: *WAAS*	**COORDINATE SYSTEM:** *NAD83*

TIME	DROGUE NO.	LATITUDE (N)	LONGITUDE (W)	DGPS*	COMMENTS
1643	1	61° 14.001	149 59.141	*	C2-1
1649		14.099	58.328		770m
1654		14.248	57.771		1.3km C2-2
1700		14.542	57.090		
1704		14.645	56.710		
1707		14.723	56.358		C2-3
1714		14.815	55.661		3.5km from drop
1717		14.885	55.418		C2-4
1726		15.410	54.446		5.0 km
1740		16.376	54.185		
1745		16.707	54.095		6.8km
1749		16.929	54.035		7.1km picked drope

Reviewed By: M [signature] Date: 6/15/11

Record Y or N for differential fix in DGPS column
Minus sign (-) indicates end of observation set

C:\Projects\MOA\MOA11\Logs\DROGUELOG2011.wpd

KINNETIC LABORATORIES, INC.
DROGUE TRACKING LOG

STUDY: *ASPLUND WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 9 **of** 9
RELEASE POINT: Control - C3	**NUMBER RELEASED:** 1	
DGPS REFERENCE STATION INFORMATION		
STATION: *WAAS*	**COORDINATE SYSTEM:** *NAD83*	

TIME	DROGUE NO.	LATITUDE (N)	LONGITUDE (W)	DGPS*	COMMENTS
1813	1	61° 14.003	149° 59.138	*	C3-1
1818		14.043	58.450		
1822		14.152	57.770		C3-2
1834		14.691	56.020		C3-3 3.1 km
1842		15.060	54.988		4.2 km
1848		15.339	54.554		
1853		15.599	54.268		C3-4
1900		15.923	53.973		5.8 km
1903		16.053	53.872		
1909		16.371	53.605		6.6 km
1918		16.952	53.267		7.6 km picked drogue

Reviewed By: M Arevan Date: 6/15/11

Record Y or N for differential fix in DGPS column.
Minus sign (-) indicates end of observation set.

C:\Projects\MOA\MOA1\Logs\DROGUELOG2011.wpd

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 1 **of** 36
STATION: E1-1	**TIME:** 0643	
TIDE STAGE: Ebb	**DEPTH:** 11.1 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.347	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WA55
LONGITUDE (W): 150° 01.295		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: At ZID / outfall Diffuser

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	✓	01	01		01						
MID					02						
BOTTOM					03						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 1	**CSTD ON TIME:** 0643

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: overcast, westerly breeze < 5 knots

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	DATE: 6/14/11	Page 2 of 36
STATION: E1-2	TIME: 0655	
TIDE STAGE: Ebb	DEPTH: 14.8 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.260	DGPS? Circle (Y) or N	DGPS REFERENCE STN: WAAS
LONGITUDE (W): 150° 02.000		COORDINATE SYSTEM: *Nad83*

STATION LOCATION/DESCRIPTION: At ZID boundary

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	02	02	02		04						
MID					05						
BOTTOM					06						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	CAST NO.: 2	CSTD ON TIME: 0657

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)	↓		
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: overcast

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/4/11	**Page** 3 **of** 36
STATION: E1-3	**TIME:** 0708	
TIDE STAGE: Ebb	**DEPTH:** 17.2 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.082	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 150° 02.690		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: 1.3 km WSW of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	03	03	03		07						
MID					08						
BOTTOM					09						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 3	**CSTD ON TIME:** 0708

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: overcast, slight breeze

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 4 **of** 36
STATION: E1-4	**TIME:** 0723	
TIDE STAGE: Ebb	**DEPTH:** 14.4 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 11.781	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 150° 03.490		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: 2.2 km wsw of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	04	04	04	X	10						
MID	X	X	X	X	11	X	X	X	X	X	
BOTTOM	X	X	X	X	12	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 4	**CSTD ON TIME:** 0723

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	slicks/logs	river output	sporatic
FOAM (other than trace)	none		
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: light drizzle, overcast light breeze.

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 5 **of** 36
STATION: E2-1	**TIME:** 0830	
TIDE STAGE: Ebb	**DEPTH:** 9.6 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.345	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 150° 01.~~927~~ 291		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: AL At outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	05	05	05		13						
MID					14						
BOTTOM					15						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 5	**CSTD ON TIME:** 0830

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Sane

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 6 **of** 36
STATION: E2-2	**TIME:** 0835	
TIDE STAGE: Ebb	**DEPTH:** 14.3 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.309	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 150° 02.148		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: At ZID boundary

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	06	06	06		16						
MID					17						
BOTTOM					18						

QC SAMPLES COLLECTED:

CSTD Seabird: 376	**CAST NO.:** 6	**CSTD ON TIME:** 0833

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: overcast

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 2 **of** 36
STATION: E2-3	**TIME:** 0841	
TIDE STAGE: Ebb	**DEPTH:** 16.8 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.189	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 150° 02.795		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: 1.3 Km wsw of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	07	07	07		19						
MID					20						
BOTTOM					21						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 7	**CSTD ON TIME:** 0842

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	sticks, small logs	river output	
FOAM (other than trace)	none		
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: overcast, light breeze, no waves

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 8 **of** 36
STATION: E2-4	**TIME:** 0850	
TIDE STAGE: Ebb	**DEPTH:** 14.4 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61°	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 150°		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: 2.3 km WSW of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	08	08	08		22						
MID					23						
BOTTOM					24						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 8	**CSTD ON TIME:** 0850

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	sticks	river output	
FOAM (other than trace)	none		
SHEEN OR OIL	↓		
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: overcast, calm

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	Page 9 of 36
STATION: E3-1	**TIME:** 11:00	
TIDE STAGE: Ebb	**DEPTH:** 6.3 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.343	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 150° 01.273		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: At outfall Diffuser

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	09	09	09	X	25						
MID	X	X	X	X	26	X	X	X	X	X	
BOTTOM	X	X	X	X	27	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 9	**CSTD ON TIME:** 11:00

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)	↓		
SHEEN OR OIL			
ODOR			
RECREATION	~30 people on shore		
WILDLIFE	none		

WEATHER INFORMATION/COMMENTS: Overcast, slight breeze

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 10 **of** 36
STATION: E3-2	**TIME:** 11:12	
TIDE STAGE: Ebb	**DEPTH:** 6.1 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.208	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 150° 02.000		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: At ZID boundary ~ 650m from outfall.

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	10	10	10	X	28						
MID	X	X	X	X	29	X	X	X	X	X	
BOTTOM	X	X	X	X	30	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 10	**CSTD ON TIME:** 11:12

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)	↓		
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Same

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 11 **of** 36
STATION: E3-3	**TIME:** 1126	
TIDE STAGE: Ebb	**DEPTH:** 7.5 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.005	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 150° 02.559		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: 1.3 km SW of outfall, 100 m from shoal on north side.

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	11	11	11		31						
MID					32						
BOTTOM					33						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 11	**CSTD ON TIME:** 1126

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Overcast, sun trying to come out. Calm water.

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 12 **of** 36
STATION: E3-4	**TIME:** 1150	
TIDE STAGE: Ebb	**DEPTH:** 6.0 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 11.581	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 150° 03.400		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: 2.4 km WSW of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	12	12	12		34						
MID					35						
BOTTOM					36						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 12	**CSTD ON TIME:** 1150

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Overcast

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 13 **of** 36
STATION: F1-1	**TIME:** 1346	
TIDE STAGE: Flood	**DEPTH:** 2.0 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.342	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 150° 01.278		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: At outfall – sampled chemistry

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	13	13	13		37	01	01	01	01	01	
MID					38						
BOTTOM					39						

QC SAMPLES COLLECTED: none – chemistry

CSTD Seabird: 376	**CAST NO.:** 13	**CSTD ON TIME:** 1346

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)	↓		
SHEEN OR OIL	↓		
ODOR	sewage smell @	boil	
RECREATION	~10 people on	beach	
WILDLIFE	none		

WEATHER INFORMATION/COMMENTS: Sampled from zodiac @ outfall due to shallow water

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 14 **of** 36
STATION: F1-2	**TIME:** 1418	
TIDE STAGE: Flood	**DEPTH:** 2.8 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.378	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAS5
LONGITUDE (W): 150° 00.552		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: At ZID 650m east of outfall ~75m from shore

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	14	14	14	X	40	02/03	02	02	02	02	
MID	X	X	X	X	41	X	X	X	X	X	
BOTTOM	X	X	X	X	42	X	X	X	X	X	

QC SAMPLES COLLECTED: EPA 602 - duplicate sample

CSTD Seabird: 376	**CAST NO.:** 14	**CSTD ON TIME:** 1418

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: overcast, light westerly breeze

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 15 **of** 36
STATION: F1-3	**TIME:** 1434	
TIDE STAGE: Flood	**DEPTH:** 2.8 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.282	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 59.857		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: 1.3 km east of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	15	15	15	X	43	04	03	03	03	03	
MID	X	X	X	X	44	X	X	X	X	X	
BOTTOM	X	X	X	X	45	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 15	**CSTD ON TIME:** 1434

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: westerly breeze <5 knots
Overcast.

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 16 **of** 37
STATION: F1-4	**TIME:** 1503	
TIDE STAGE: Flood	**DEPTH:** 3.2 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.167	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 149° 59.466		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: 1.7 km east of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	16	16	16		46						
MID					47						
BOTTOM					48						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 16	**CSTD ON TIME:** 1503

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL			
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: wind picking up, westerly 5-10 knots, overcast

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 17 **of** 36
STATION: F2-1	**TIME:** 1557	
TIDE STAGE: Flood	**DEPTH:** 7.0 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.339	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 150° 01.276		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: At outfall Diffuser

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	17	17	17		49						
MID					50						
BOTTOM					51						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 17	**CSTD ON TIME:** 1557

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Same

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	Page 18 of 36
STATION: F2-2	**TIME:** 1605	
TIDE STAGE: Flood	**DEPTH:** 10.7 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.554	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 150° 00.694		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: At ZID Boundary

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	18	18	18	X	52						
MID	X	X	X	X	53	X	X	X	X	X	
BOTTOM	X	X	X	X	54	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 18	**CSTD ON TIME:** 1600

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION	A few people on shore		
WILDLIFE	none		

WEATHER INFORMATION/COMMENTS: 5-10 knot westerly overcast

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 19 **of** 36
STATION: F2-3	**TIME:** 1614	
TIDE STAGE: Flood	**DEPTH:** 16.3 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.758	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 59.948		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: 1.4 km NE of Outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	19	19	19		55						
MID					56						
BOTTOM					57						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 19	**CSTD ON TIME:** 1615

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: partly cloudy, ~5 knot W.

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	Page 20 of 36
STATION: F2-4	**TIME:** 1630	
TIDE STAGE: Flood	**DEPTH:** 16.7 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.950	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 58.552		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: ~2.6 km NE of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	20	20	20		58						
MID					59						
BOTTOM					60						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 20	**CSTD ON TIME:** 1630

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Same

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 21 **of** 36
STATION: F3-1	**TIME:** 1723	
TIDE STAGE: Flood	**DEPTH:** 9.4 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.341	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 150° 01.275		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: At outfall Diffuser

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	21	21	21	X	61						
MID	X	X	X	X	62	X	X	X	X	X	
BOTTOM	X	X	X	X	63	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 21	**CSTD ON TIME:** 1724

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)	↓		
SHEEN OR OIL			
ODOR			
RECREATION	6 people on	beach	
WILDLIFE	none		

WEATHER INFORMATION/COMMENTS: Overcast, ~5kt westerly

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	Page 22 of 36
STATION: F3-2	**TIME:** 1729	
TIDE STAGE: Flood	**DEPTH:** 12.9 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.553	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 150° 00.718		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: At ZID Boundary 650 NE of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	22	22	22	X	64						
MID	X	X	X	X	65	X	X	X	X	X	
BOTTOM	X	X	X	X	66	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 22	**CSTD ON TIME:** 1729

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Sone

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	**Page** 23 **of** 36
STATION: F3-3	**TIME:** 1736	
TIDE STAGE: Flood	**DEPTH:** 20.0 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 12.698	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 150° 00.114		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: 1.2 Km NE of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	23	23	23		67						
MID					68						
BOTTOM					69						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 23	**CSTD ON TIME:** 1737

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)	↓		
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Same

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/14/11	Page 24 of 36
STATION: F3-4	**TIME:** 1758	
TIDE STAGE: Flood	**DEPTH:** 47.1 Feet Meters (Circle unit) Fathoms	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 13.250	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 58.521		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: 3.0 km NE of outfall

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	24	24	24	X	70						
MID	X	X	X	X	71	X	X	X	X	X	
BOTTOM	X	X	X	X	72	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 24	**CSTD ON TIME:** 1759

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Same

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 25 **of** 36
STATION: C1-1	**TIME:** 1455	
TIDE STAGE: Flood	**DEPTH:** 10.9 Feet (Meters) Fathoms (~~Circle~~ unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 13.983	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): ~~150~~ 149 ~~13~~ 59.150		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: At Control Drop.

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	25	25	25		73	05	04	04	04	04	
MID					74						
BOTTOM					75						

QC SAMPLES COLLECTED: none – chemistry suite

CSTD Seabird: 376	**CAST NO.:** 25	**CSTD ON TIME:** 1456

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: partly sunny, easterly breeze 5 knots.

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 26 **of** 36
STATION: C1-2	**TIME:** 1510	
TIDE STAGE: Flood	**DEPTH:** 10.9 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.053	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:**
LONGITUDE (W): 149° 58.247		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: C-Station VOA 009 ~800 m from control Drop

Dupes: TSS + cyanide

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	26	26	26		76	06	05	05/06	05	05/06	
MID					77						
BOTTOM					78						

QC SAMPLES COLLECTED: C-station (DI field blank) VOA009

Dupes: TSS + cyanide

CSTD Seabird: 376	**CAST NO.:** 26	**CSTD ON TIME:** 1509

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: partly cloudy - easterly wind.

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	Page 27 of 36
STATION: C1-3	**TIME:** 1525	
TIDE STAGE: Flood	**DEPTH:** 5.0 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.560	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 56.938	Y	**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: 2.3 km from drop point

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	27	27	27	X	79	07	06	07	06	07	
MID	X	X	X	X	80	X	X	X	X	X	
BOTTOM	X	X	X	X	81	X	X	X	X	X	

QC SAMPLES COLLECTED: none - chemistry suite

CSTD Seabird: 376	**CAST NO.:** 27	**CSTD ON TIME:** 1524

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)	↓		
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Partly sunny, easterly < 5 knots

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 28 **of** 36
STATION: C1-4	**TIME:** 1533	
TIDE STAGE: Flood	**DEPTH:** 13.3 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.901	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 55.972		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: 3.3 Km from drop site

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	28	28	28		82						
MID					83						
BOTTOM					84						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 28	**CSTD ON TIME:** 1533

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Some

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 29 **of** 36
STATION: C2-1	**TIME:** 1643	
TIDE STAGE: Flood	**DEPTH:** 14.1 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.001	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 59.141		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: At Control Drop

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	29	29	29	X	85						
MID	X	X	X	X	86	X	X	X	X	X	
BOTTOM	X	X	X	X	87	X	X	X	X	X	

QC SAMPLES COLLECTED:

CSTD Seabird: 376	**CAST NO.:** 29	**CSTD ON TIME:** 1643

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	None		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS:

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	Page 30 of 36
STATION: C2-2	**TIME:** 1654	
TIDE STAGE: Flood	**DEPTH:** 9.2 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.248	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 57.771		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: 1.3 km from drop.

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	30/31/32	30/31/32	30/31/32		88						01
MID					89						02
BOTTOM					90						03

QC SAMPLES COLLECTED: Field Triplicates, Triplicate CTD cast

CSTD Seabird: 376	**CAST NO.:** 30/31/32	**CSTD ON TIME:** 1654

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	logs, sticks	rivers	
FOAM (other than trace)	none		
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: overcast, light rain
1-2 ft waves SE winds 10 knots

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 31 **of** 36
STATION: C2-3	**TIME:** 1707	
TIDE STAGE: Flood	**DEPTH:** 12.3 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.723	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 56.358		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: ~ 2.7 Km from drop

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	37	33	33		91 92 93						
MID					94						
BOTTOM					95						

QC SAMPLES COLLECTED: Triplicate turb. @ surface

CSTD Seabird: 376	**CAST NO.:** 33	**CSTD ON TIME:** 1708

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Same

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	Page 32 of 36
STATION: C2-4	**TIME:** 1717	
TIDE STAGE: Flood	**DEPTH:** 26.7 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.885	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 55.418		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: Mid-channel, mouth of Masu Dock

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	34	34	34		96						
MID					97						
BOTTOM					98						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 34	**CSTD ON TIME:** 1717

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: SE winds 10-15 knots
1 foot waves, drizzle + overcast

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	Page 33 of 36
STATION: C3-1	**TIME:** 1813	
TIDE STAGE: Flood	**DEPTH:** 12.8 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.003	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 59.138		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: At Control Drop

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	35	35, 36, 37	35, 36, 37		99, 100, 101						
MID					102						
BOTTOM					103						

QC SAMPLES COLLECTED: Lab Triplicates from Same bottle

CSTD Seabird: 376	**CAST NO.:** 35	**CSTD ON TIME:** 1813

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	logs / sticks	rivers	
FOAM (other than trace)	none		
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Overcast 1-2' waves chop, 10-15 knots winds @ pt.

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	Page 34 of 36
STATION: C3-2	**TIME:** 1822	
TIDE STAGE: Flood	**DEPTH:** 12.3 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.152	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 149° 57.770	(Y)	**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: NE of control drop

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	38	38	38	X	104						
MID	X	X	X	X	105	X	X	X	X	X	
BOTTOM	X	X	X	X	106	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 396	**CAST NO.:** 36	**CSTD ON TIME:** 1824

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	logs / sticks	river	
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: same

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 35 **of** 36
STATION: C3-3	**TIME:** 1834	
TIDE STAGE: Flood	**DEPTH:** 19.8 Feet (Meters) Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 14.691	**DGPS?** Circle (Y) or N	**DGPS REFERENCE STN:** WAAS	
LONGITUDE (W): 149° 56.020		**COORDINATE SYSTEM:** *Nad83*	

STATION LOCATION/DESCRIPTION: 3.1 km NE of drop pt.

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	37	39	39	X	107						
MID	X	X	X	X	108	X	X	X	X	X	
BOTTOM	X	X	X	X	109	X	X	X	X	X	

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 37	**CSTD ON TIME:** 1836

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)	↓		
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: 1-2' wave, 5-10 knot NE winds cloudy + overcast.

KINNETIC LABORATORIES, INC.
HYDROGRAPHIC FIELD LOG

STUDY: *Asplund WPCF - NPDES 2011*	**DATE:** 6/15/11	**Page** 36 **of** 36
STATION: C3-4	**TIME:** 1853	
TIDE STAGE: Flood	**DEPTH:** 46.5 Feet Meters Fathoms (Circle unit)	

NAVIGATIONAL INFORMATION

LATITUDE (N): 61° 15.599	**DGPS?** Circle Y or N	**DGPS REFERENCE STN:** WAAS
LONGITUDE (W): 149° 54.268		**COORDINATE SYSTEM:** *Nad83*

STATION LOCATION/DESCRIPTION: Mid Channel, just south of Port of Masu

SAMPLE COLLECTION INFORMATION (Record suffix of SAMPID for each sample collected.)

DEPTH	ANALYSIS TYPE										
	TRC	FECAL	COLOR	DO	TURB/ pH	EPA 602	PAH	TSS	METALS	CYANIDE	SAL (QC)
SURFACE	38	40	40		110						
MID					111						
BOTTOM					112						

QC SAMPLES COLLECTED: none

CSTD Seabird: 376	**CAST NO.:** 38	**CSTD ON TIME:** 1853

STANDARD OBSERVATIONS

PARAMETER	TYPE	SOURCE	EXTENT OR NUMBER
FLOATING MATERIAL	none		
FOAM (other than trace)			
SHEEN OR OIL			
ODOR			
RECREATION			
WILDLIFE			

WEATHER INFORMATION/COMMENTS: Cloudy 5-10 SE winds