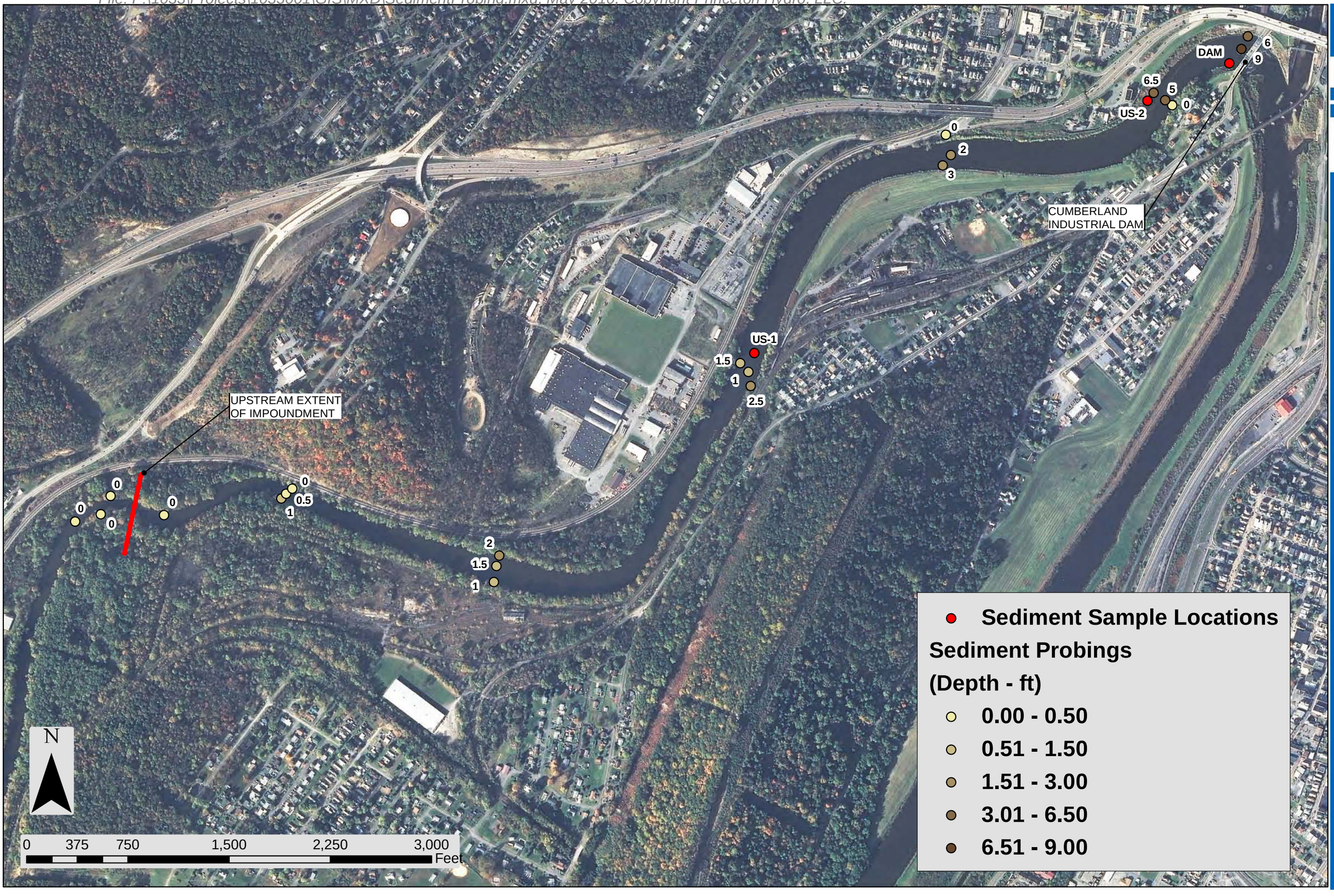

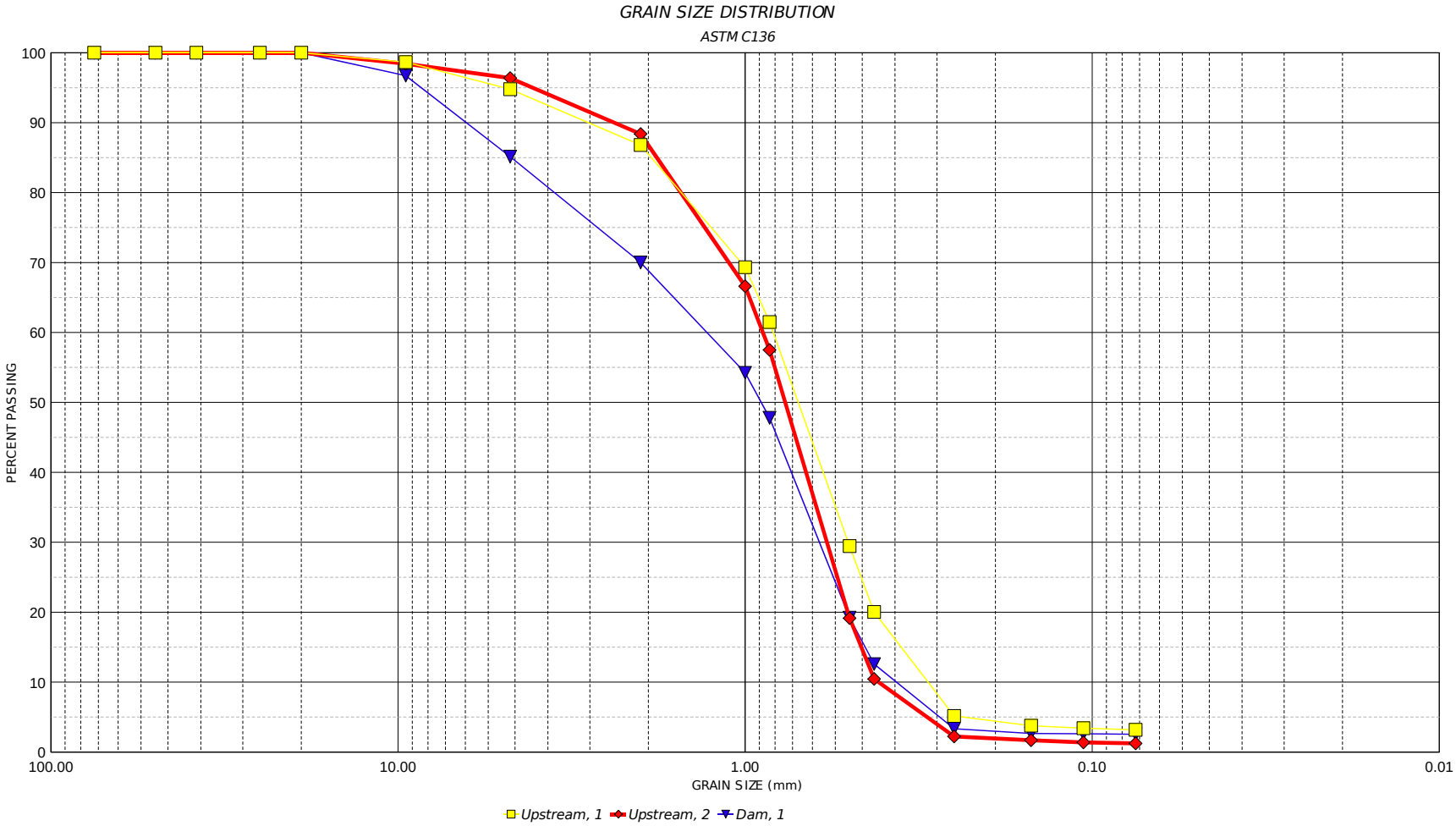

Project: 1033 T:1, City of Cumberland, Cumberland Feasibility Study **Location:** Cumberland, MD

Sample	Depth	% Moist. (D2216/2974)	% Org. (D2974)	% Fines (C117)	Plasticity (D4318)	USC Gravel		USC Sand			USC	USC	USCS
						% Coarse	% Fine	% Coarse	% Medium	%Fine	% Fines	% Fineness	Description
Upstream, 1	0-2	30.0	NT	3.2	NT	0.0	5.2	8.0	66.8	16.9	3.2	2.4	SP - poorly graded sand
Upstream, 2	0-2	33.0	NT	1.2	NT	0.0	3.6	8.0	77.9	10.5	1.2	2.5	SP - poorly graded sand
Dam, 1	0-2	26.0	NT	2.5	NT	0.0	14.9	15.1	57.4	12.6	2.5	5.0	SP - poorly graded sand

'file:///Q:/1033/Projects/1033001/Laboratory/C136_3samples.ods'#$ASTM C 136 Results

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Cumberland Maryland

Lot #: C9K060597

Mr. Geoffrey Goll

Princeton Hydro
1108 Old York Road
Suite 1
Ringoes nton, NJ 08551

TESTAMERICA LABORATORIES, INC.

Christina M. Kovitch
Project Manager

November 23, 2009

NELAC REPORTING:

At the time of analysis the laboratory was in compliance with the current NELAC standards and held accreditation for all analyses performed unless noted by a qualifier. The labs accreditation numbers are listed below. The format and contents of the report meets all applicable NELAC standards except as noted in the narrative and shall not be reproduced except in full, without the written approval of the laboratory. The table below presents a summary of the certifications held by TestAmerica Pittsburgh. Our primary accreditation authority for the Non-potable water and Solid & Hazardous waste programs is Pennsylvania DEP. A more detailed parameter list is available upon request. Please ask your project manager for this information when required.

Certifying State/Program	Certificate #	Program Types	TestAmerica
NFESC	NA	NAVY	X
US Dept of Agriculture	(#P330-07-00101)	Foreign Soil Import Permit	X
Arkansas	(#88-0690)	WW	X
		HW	X
California – NELAC	04224CA	WW	X
		HW	X
Connecticut	(#PH-0688)	WW	X
		HW	X
Florida – NELAC	(#E871008-04)	WW	X
		HW	X
Illinois – NELAC	(#002064)	WW	X
		HW	X
Kansas – NELAC	(#E-10350)	WW	X
		HW	X
Louisiana – NELAC	(#04041)	WW	X
		HW	X
New Hampshire – NELAC	(#203008)	WW	X
		–	–
New Jersey – NELAC	(PA-005)	WW	X
		HW	X
New York – NELAC	(#11182)	WW	X
		HW	X
North Carolina	(#434)	WW	X
		HW	X
Pennsylvania - NELAC	(#02-00416)	WW	X
		HW	X
South Carolina	(#89014002)	WW	X
		HW	X
Utah – NELAC	(STLP)	WW	X
		HW	X
West Virginia	(#142)	WW	X
		HW	X
Wisconsin	998027800	WW	X
		HW	X

The codes utilized for program types are described below:

HW Hazardous Waste certification
WW Non-potable Water and/or Wastewater certification
X Laboratory has some form of certification under the specific program. Many states certify laboratories for specific parameters or tests within a category. The information in the table indicates the lab is certified in a general category of testing. Please contact the laboratory if parameter specific certification information is required.

Updated: 2/5/2009 C:\Documents and Settings\derubeisn\My Documents\NELAC NARRATIVE Pttsburgh.doc

CASE NARRATIVE
Princeton Hydro

Lot # C9K060597

PCB's:
There were no problems associated with the analysis.

Metals:
The method blanks had analytes detected at concentrations between the MDL and the reporting limit. The results were flagged with a "B" qualifier. Any sample associated with a method blank that had the same analyte detected had the result flagged with a "J" qualifier.

The concentration of iron in the method blank was greater than the reporting limit. All associated samples had iron concentrations greater than 10x the method blank concentration.

General Chemistry:
There were no problems associated with the analysis.

C9K060597

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☑

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Princeton Hydro	Geoff Goll	5/11/09	146957
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** _____ **of** _____
1108 Old York Rd PO Box 720	(908) 237-5660		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Ringoes NJ 08551			
Project Name and Location (State)	**Carrier/Waybill Number**		
Comberland MD			
Contract/Purchase Order/Quote No.			
84453			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: VOA	Diss. Furans	Metals, BNA, TCL	Pesticides, PCB	Special Instructions/ Conditions of Receipt
DAM	5/11/09	—			X		X						X	X	X	X	See Quote
US 1	5/11/09	1600			X		X						X	X	X	X	" "
US 2	5/11/09	1645			X		X						X	X	X	X	" "

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Paul Woodworth	11/6/09	1:32	1. Received By:	11/6/09	1:32
2. Relinquished By:	11/6/09	9:05	2. Received By:	11/6/09	1605
3. Relinquished By:			3. Received By:		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

CASE NARRATIVE
Princeton Hydro

Lot # C9K060597

Sample Receiving:
TestAmerica's Pittsburgh laboratory received samples on November 6, 2009. The cooler was received within the proper temperature range.

Note: The initial weight extracted for the sediment samples was adjusted to account for the percent moisture of each sample whenever possible.

If project specific QC was not required for samples contained in this report, when batch QC was completed on these samples, anomalous results will be discussed below.

GC/MS Volatiles:
All non-CCC compounds that have >15% RSD were evaluated to see if a better curve could be drawn using a quadratic curve. All compounds <30% RSD will use an average response factor curve if no visible improvement is accomplished using a quadratic curve. A quadratic curve will be used for a compound where it is determined to be the "best-fit" evaluation.

The following compounds had the %D > 25% in the calibration verification standard CC31113, but were within expected performance range for these compounds: bromoform 30.4%, dibromochloromethane 30.4%, and dichlorodifluoromethane 34.5%.

The method blanks had analytes detected at concentrations between the MDL and the reporting limit. The results were flagged with a "J" qualifier. Any sample associated with a method blank that had the same analyte detected had the result flagged with a "B" qualifier.

GC/MS Semivolatiles:
All non-CCC compounds that have >15% RSD were evaluated to see if a better curve could be drawn using a quadratic curve. All compounds <30% RSD will use an average response factor curve if no visible improvement is accomplished using a quadratic curve. A quadratic curve will be used for a compound where it is determined to be the "best-fit" evaluation.

Due to the concentrations of target compounds detected, the samples were analyzed at dilutions.

The matrix spike and matrix spike duplicate of sample US1 recovered outside control limits for pentachlorophenol.

Pesticides:
The matrix spike duplicate of sample US1 recovered outside control limits for lindane.

METHODS SUMMARY

C9K060597

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Hexavalent Chromium	SW846 7196A	SW846 3060A
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Organochlorine Pesticides	SW846 8081B	
PCBs by SW-846 8082A	SW846 8082A	
Semivolatile Organics GCMS BNA 8270C	SW846 8270C	
Total Residue as Percent Solids	SM20 2540G	
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Trivalent Chromium Trivalent Chromium	SW846 6010B	WET NONE
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B

References:

SM20 "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER", 20TH EDITION."

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

C9K060597

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LN2ME	001	DAM	11/03/09	
LN2MG	002	US1	11/03/09	16:00
LN2MK	003	US2	11/03/09	16:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

GC/MS Volatiles

Lot-Sample #...: C9K060597-001 **Work Order #...:** LN2ME1AC **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9317032
Prep Date.....: 11/13/09 **Analysis Date..:** 11/13/09
Prep Batch #...: 9317045 **Analysis Time..:** 09:17
Dilution Factor: 1
% Moisture.....: 26 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**13 J,B**	**27**	**ug/kg**	**6.7**
Benzene	ND	6.7	ug/kg	0.91
Bromodichloromethane	ND	6.7	ug/kg	0.75
Bromoform	ND	6.7	ug/kg	0.59
Bromomethane	ND	6.7	ug/kg	0.99
2-Butanone	ND	6.7	ug/kg	1.2
Carbon disulfide	ND	6.7	ug/kg	0.69
Carbon tetrachloride	ND	6.7	ug/kg	0.60
Chlorobenzene	ND	6.7	ug/kg	1.0
Chloroethane	ND	6.7	ug/kg	2.1
Chloroform	ND	6.7	ug/kg	0.79
Chloromethane	ND	6.7	ug/kg	1.1
Cyclohexane	ND	6.7	ug/kg	0.50
Dibromochloromethane	ND	6.7	ug/kg	0.95
1,2-Dibromo-3-chloro-propane	ND	6.7	ug/kg	1.0
1,2-Dibromoethane	ND	6.7	ug/kg	1.2
1,3-Dichlorobenzene	ND	6.7	ug/kg	0.88
1,4-Dichlorobenzene	ND	6.7	ug/kg	0.86
1,2-Dichlorobenzene	ND	6.7	ug/kg	1.1
Dichlorodifluoromethane	ND	6.7	ug/kg	0.89
1,1-Dichloroethane	ND	6.7	ug/kg	0.77
1,2-Dichloroethane	ND	6.7	ug/kg	0.82
1,1-Dichloroethene	ND	6.7	ug/kg	1.1
cis-1,2-Dichloroethene	ND	6.7	ug/kg	0.94
trans-1,2-Dichloroethene	ND	6.7	ug/kg	0.80
1,2-Dichloropropane	ND	6.7	ug/kg	0.73
cis-1,3-Dichloropropene	ND	6.7	ug/kg	0.91
trans-1,3-Dichloropropene	ND	6.7	ug/kg	0.80
Ethylbenzene	ND	6.7	ug/kg	0.86
2-Hexanone	ND	6.7	ug/kg	0.93
Isopropylbenzene	ND	6.7	ug/kg	0.91
Methyl acetate	ND	6.7	ug/kg	1.2
Methylene chloride	ND	6.7	ug/kg	0.90
Methylcyclohexane	ND	6.7	ug/kg	0.97
4-Methyl-2-pentanone	ND	6.7	ug/kg	0.88
Methyl tert-butyl ether	ND	6.7	ug/kg	1.0
Styrene	ND	6.7	ug/kg	0.95

(Continued on next page)

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

GC/MS Volatiles

Lot-Sample #...: C9K060597-001 **Work Order #...:** LN2ME1AC **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	6.7	ug/kg	0.96
1,2,4-Trichloro-benzene	ND	6.7	ug/kg	1.2
Tetrachloroethene	ND	6.7	ug/kg	0.91
1,1,1-Trichloroethane	ND	6.7	ug/kg	0.65
1,1,2-Trichloroethane	ND	6.7	ug/kg	1.1
Trichloroethene	ND	6.7	ug/kg	0.88
Trichlorofluoromethane	ND	6.7	ug/kg	1.2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	6.7	ug/kg	1.4
Toluene	ND	6.7	ug/kg	0.98
Vinyl chloride	ND	6.7	ug/kg	0.63
Xylenes (total)	ND	20	ug/kg	3.0

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	101	(52 - 124)
Toluene-d8	102	(72 - 127)
4-Bromofluorobenzene	93	(63 - 120)
Dibromofluoromethane	104	(68 - 121)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Cash in Advance / Prepaid Sales

Client Sample ID: US1

GC/MS Volatiles

Lot-Sample #...: C9K060597-002 **Work Order #...:** LN2MG1AL **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9317032
Prep Date.....: 11/13/09 **Analysis Date..:** 11/13/09
Prep Batch #...: 9317045 **Analysis Time..:** 09:40
Dilution Factor: 1
% Moisture.....: 26 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	27	ug/kg	6.8
Benzene	ND	6.8	ug/kg	0.91
Bromodichloromethane	ND	6.8	ug/kg	0.76
Bromoform	ND	6.8	ug/kg	0.60
Bromomethane	ND	6.8	ug/kg	1.0
2-Butanone	ND	6.8	ug/kg	1.2
Carbon disulfide	ND	6.8	ug/kg	0.69
Carbon tetrachloride	ND	6.8	ug/kg	0.60
Chlorobenzene	ND	6.8	ug/kg	1.0
Chloroethane	ND	6.8	ug/kg	2.1
Chloroform	ND	6.8	ug/kg	0.79
Chloromethane	ND	6.8	ug/kg	1.2
Cyclohexane	ND	6.8	ug/kg	0.50
Dibromochloromethane	ND	6.8	ug/kg	0.96
1,2-Dibromo-3-chloro-propane	ND	6.8	ug/kg	1.0
1,2-Dibromoethane	ND	6.8	ug/kg	1.2
1,3-Dichlorobenzene	ND	6.8	ug/kg	0.89
1,4-Dichlorobenzene	ND	6.8	ug/kg	0.86
1,2-Dichlorobenzene	ND	6.8	ug/kg	1.1
Dichlorodifluoromethane	ND	6.8	ug/kg	0.90
1,1-Dichloroethane	ND	6.8	ug/kg	0.78
1,2-Dichloroethane	ND	6.8	ug/kg	0.83
1,1-Dichloroethene	ND	6.8	ug/kg	1.1
cis-1,2-Dichloroethene	ND	6.8	ug/kg	0.95
trans-1,2-Dichloroethene	ND	6.8	ug/kg	0.81
1,2-Dichloropropane	ND	6.8	ug/kg	0.74
cis-1,3-Dichloropropene	ND	6.8	ug/kg	0.92
trans-1,3-Dichloropropene	ND	6.8	ug/kg	0.81
Ethylbenzene	ND	6.8	ug/kg	0.87
2-Hexanone	ND	6.8	ug/kg	0.93
Isopropylbenzene	ND	6.8	ug/kg	0.92
Methyl acetate	ND	6.8	ug/kg	1.2
Methylene chloride	**5.7 J,B**	**6.8**	**ug/kg**	**0.91**
Methylcyclohexane	ND	6.8	ug/kg	0.98
4-Methyl-2-pentanone	ND	6.8	ug/kg	0.88
Methyl tert-butyl ether	ND	6.8	ug/kg	1.0
Styrene	ND	6.8	ug/kg	0.95

(Continued on next page)

Cash in Advance / Prepaid Sales

Client Sample ID: US1

GC/MS Volatiles

Lot-Sample #...: C9K060597-002 **Work Order #...:** LN2MG1AL **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	6.8	ug/kg	0.97
1,2,4-Trichloro-benzene	ND	6.8	ug/kg	1.2
Tetrachloroethene	ND	6.8	ug/kg	0.92
1,1,1-Trichloroethane	ND	6.8	ug/kg	0.66
1,1,2-Trichloroethane	ND	6.8	ug/kg	1.1
Trichloroethene	ND	6.8	ug/kg	0.89
Trichlorofluoromethane	ND	6.8	ug/kg	1.2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	6.8	ug/kg	1.4
Toluene	ND	6.8	ug/kg	0.99
Vinyl chloride	ND	6.8	ug/kg	0.64
Xylenes (total)	ND	20	ug/kg	3.0

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	103	(52 - 124)
Toluene-d8	98	(72 - 127)
4-Bromofluorobenzene	92	(63 - 120)
Dibromofluoromethane	103	(68 - 121)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Cash in Advance / Prepaid Sales

Client Sample ID: US2

GC/MS Volatiles

Lot-Sample #...: C9K060597-003 **Work Order #...:** LN2MK1AL **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9317032
Prep Date.....: 11/13/09 **Analysis Date..:** 11/13/09
Prep Batch #...: 9317045 **Analysis Time..:** 10:04
Dilution Factor: 1
% Moisture.....: 24 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**14 J,B**	**26**	**ug/kg**	**6.6**
Benzene	ND	6.6	ug/kg	0.89
Bromodichloromethane	ND	6.6	ug/kg	0.74
Bromoform	ND	6.6	ug/kg	0.58
Bromomethane	ND	6.6	ug/kg	0.97
2-Butanone	ND	6.6	ug/kg	1.2
Carbon disulfide	ND	6.6	ug/kg	0.67
Carbon tetrachloride	ND	6.6	ug/kg	0.59
Chlorobenzene	ND	6.6	ug/kg	1.0
Chloroethane	ND	6.6	ug/kg	2.0
Chloroform	ND	6.6	ug/kg	0.77
Chloromethane	ND	6.6	ug/kg	1.1
Cyclohexane	ND	6.6	ug/kg	0.49
Dibromochloromethane	ND	6.6	ug/kg	0.94
1,2-Dibromo-3-chloro-propane	ND	6.6	ug/kg	0.99
1,2-Dibromoethane	ND	6.6	ug/kg	1.1
1,3-Dichlorobenzene	ND	6.6	ug/kg	0.86
1,4-Dichlorobenzene	ND	6.6	ug/kg	0.84
1,2-Dichlorobenzene	ND	6.6	ug/kg	1.1
Dichlorodifluoromethane	ND	6.6	ug/kg	0.88
1,1-Dichloroethane	ND	6.6	ug/kg	0.76
1,2-Dichloroethane	ND	6.6	ug/kg	0.81
1,1-Dichloroethene	ND	6.6	ug/kg	1.1
cis-1,2-Dichloroethene	ND	6.6	ug/kg	0.93
trans-1,2-Dichloroethene	ND	6.6	ug/kg	0.79
1,2-Dichloropropane	ND	6.6	ug/kg	0.72
cis-1,3-Dichloropropene	ND	6.6	ug/kg	0.89
trans-1,3-Dichloropropene	ND	6.6	ug/kg	0.79
Ethylbenzene	ND	6.6	ug/kg	0.85
2-Hexanone	ND	6.6	ug/kg	0.91
Isopropylbenzene	ND	6.6	ug/kg	0.89
Methyl acetate	ND	6.6	ug/kg	1.2
Methylene chloride	**4.1 J,B**	**6.6**	**ug/kg**	**0.89**
Methylcyclohexane	ND	6.6	ug/kg	0.96
4-Methyl-2-pentanone	ND	6.6	ug/kg	0.86
Methyl tert-butyl ether	ND	6.6	ug/kg	0.99
Styrene	ND	6.6	ug/kg	0.93

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Cash in Advance / Prepaid Sales

Client Sample ID: US2

GC/MS Volatiles

Lot-Sample #...: C9K060597-003 **Work Order #...:** LN2MK1AL **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	6.6	ug/kg	0.95
1,2,4-Trichloro-benzene	ND	6.6	ug/kg	1.2
Tetrachloroethene	ND	6.6	ug/kg	0.90
1,1,1-Trichloroethane	ND	6.6	ug/kg	0.64
1,1,2-Trichloroethane	ND	6.6	ug/kg	1.1
Trichloroethene	ND	6.6	ug/kg	0.87
Trichlorofluoromethane	ND	6.6	ug/kg	1.2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	6.6	ug/kg	1.4
Toluene	ND	6.6	ug/kg	0.96
Vinyl chloride	ND	6.6	ug/kg	0.62
Xylenes (total)	ND	20	ug/kg	3.0

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	102	(52 - 124)
Toluene-d8	98	(72 - 127)
4-Bromofluorobenzene	92	(63 - 120)
Dibromofluoromethane	105	(68 - 121)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: C9K060597 **Work Order #...:** LPEA71AA **Matrix.....:** SOLID
MB Lot-Sample #: C9K130000-045
Prep Date.....: 11/13/09 **Analysis Time..:** 05:44
Analysis Date..: 11/13/09 **Prep Batch #...:** 9317045
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	**9.5 J**	**20**	**ug/kg**	**SW846 8260B**
Benzene	ND	5.0	ug/kg	SW846 8260B
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260B
Bromoform	ND	5.0	ug/kg	SW846 8260B
Bromomethane	ND	5.0	ug/kg	SW846 8260B
2-Butanone	ND	5.0	ug/kg	SW846 8260B
Carbon disulfide	ND	5.0	ug/kg	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260B
Chlorobenzene	ND	5.0	ug/kg	SW846 8260B
Chloroethane	ND	5.0	ug/kg	SW846 8260B
Chloroform	ND	5.0	ug/kg	SW846 8260B
Chloromethane	ND	5.0	ug/kg	SW846 8260B
Cyclohexane	ND	5.0	ug/kg	SW846 8260B
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	5.0	ug/kg	SW846 8260B
1,2-Dibromoethane	ND	5.0	ug/kg	SW846 8260B
1,3-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,4-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
Dichlorodifluoromethane	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
cis-1,2-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
trans-1,2-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
2-Hexanone	ND	5.0	ug/kg	SW846 8260B
Isopropylbenzene	ND	5.0	ug/kg	SW846 8260B
Methyl acetate	ND	5.0	ug/kg	SW846 8260B
Methylene chloride	**3.4 J**	**5.0**	**ug/kg**	**SW846 8260B**
Methylcyclohexane	ND	5.0	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/kg	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/kg	SW846 8260B
Styrene	ND	5.0	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B
1,2,4-Trichloro-benzene	**1.5 J**	**5.0**	**ug/kg**	**SW846 8260B**

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: C9K060597 **Work Order #...:** LPEA71AA **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
Trichloroethene	ND	5.0	ug/kg	SW846 8260B
Trichlorofluoromethane	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
Vinyl chloride	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	15	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	113	(52 - 124)
Toluene-d8	101	(72 - 127)
4-Bromofluorobenzene	93	(63 - 120)
Dibromofluoromethane	101	(68 - 121)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: C9K060597 **Work Order #...:** LPEA71AC **Matrix.....:** SOLID
LCS Lot-Sample#: C9K130000-045
Prep Date.....: 11/13/09 **Analysis Date..:** 11/13/09
Prep Batch #...: 9317045 **Analysis Time..:** 06:55
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**95**	**(77 - 120)**	**SW846 8260B**
Chlorobenzene	**96**	**(79 - 120)**	**SW846 8260B**
1,1-Dichloroethene	**76**	**(59 - 129)**	**SW846 8260B**
Trichloroethene	**98**	**(76 - 119)**	**SW846 8260B**
Toluene	**99**	**(78 - 124)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	104	(52 - 124)
Toluene-d8	102	(72 - 127)
4-Bromofluorobenzene	93	(63 - 120)
Dibromofluoromethane	101	(68 - 121)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: C9K060597 **Work Order #...:** LN2F61D6-MS **Matrix.....:** SOLID
MS Lot-Sample #: C9K060574-001 LN2F61D7-MSD
Date Sampled...: 11/04/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9317032
Prep Date.....: 11/13/09 **Analysis Date..:** 11/13/09
Prep Batch #...: 9317045 **Analysis Time..:** 07:19
Dilution Factor: 1 **% Moisture.....:** 46

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**99**	**(77 - 120)**			**SW846 8260B**
	101	**(77 - 120)**	**2.2**	**(0-20)**	**SW846 8260B**
Chlorobenzene	**101**	**(79 - 120)**			**SW846 8260B**
	101	**(79 - 120)**	**0.59**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**79**	**(59 - 129)**			**SW846 8260B**
	76	**(59 - 129)**	**4.2**	**(0-25)**	**SW846 8260B**
Trichloroethene	**103**	**(76 - 119)**			**SW846 8260B**
	103	**(76 - 119)**	**0.55**	**(0-21)**	**SW846 8260B**
Toluene	**105**	**(78 - 124)**			**SW846 8260B**
	106	**(78 - 124)**	**0.71**	**(0-21)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	104	(52 - 124)
	103	(52 - 124)
Toluene-d8	98	(72 - 127)
	98	(72 - 127)
4-Bromofluorobenzene	91	(63 - 120)
	89	(63 - 120)
Dibromofluoromethane	94	(68 - 121)
	96	(68 - 121)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

GC/MS Semivolatiles

Lot-Sample #...: C9K060597-001 **Work Order #...:** LN2ME1AD **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314317
Prep Date.....: 11/10/09 **Analysis Date..:** 11/11/09
Prep Batch #...: 9314572 **Analysis Time..:** 09:53
Dilution Factor: 3.75
% Moisture.....: 26 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**26 J**	**34**	**ug/kg**	**5.4**
Acenaphthylene	**11 J**	**34**	**ug/kg**	**6.7**
Acetophenone	**24 J**	**170**	**ug/kg**	**7.7**
Anthracene	**120**	**34**	**ug/kg**	**5.9**
Atrazine	ND	170	ug/kg	8.0
Benzo(a)anthracene	**1400**	**34**	**ug/kg**	**5.4**
Benzo(a)pyrene	**470**	**34**	**ug/kg**	**9.4**
Benzo(b)fluoranthene	**610**	**34**	**ug/kg**	**6.8**
Benzo(ghi)perylene	**61**	**34**	**ug/kg**	**2.5**
Benzo(k)fluoranthene	ND	34	ug/kg	7.0
Benzaldehyde	**140 J**	**170**	**ug/kg**	**4.4**
1,1'-Biphenyl	**90 J**	**170**	**ug/kg**	**7.7**
bis(2-Chloroethoxy) methane	ND	170	ug/kg	6.7
bis(2-Chloroethyl)-ether	ND	34	ug/kg	2.9
bis(2-Ethylhexyl) phthalate	**76 J**	**170**	**ug/kg**	**14**
4-Bromophenyl phenyl ether	ND	170	ug/kg	7.1
Butyl benzyl phthalate	**29 J**	**170**	**ug/kg**	**12**
Caprolactam	ND	860	ug/kg	22
Carbazole	**110**	**34**	**ug/kg**	**4.4**
4-Chloroaniline	ND	170	ug/kg	5.2
4-Chloro-3-methylphenol	ND	170	ug/kg	5.0
2-Chloronaphthalene	ND	34	ug/kg	4.5
2-Chlorophenol	ND	170	ug/kg	5.2
4-Chlorophenyl phenyl ether	ND	170	ug/kg	7.4
Chrysene	**2900**	**34**	**ug/kg**	**5.9**
Dibenz(a,h)anthracene	**89**	**34**	**ug/kg**	**7.4**
Dibenzofuran	**47 J**	**170**	**ug/kg**	**5.7**
3,3'-Dichlorobenzidine	ND	170	ug/kg	32
2,4-Dichlorophenol	ND	34	ug/kg	6.8
Diethyl phthalate	ND	170	ug/kg	9.5
2,4-Dimethylphenol	ND	170	ug/kg	7.1
Dimethyl phthalate	ND	170	ug/kg	5.7
Di-n-butyl phthalate	**44 J**	**170**	**ug/kg**	**9.4**

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Cash in Advance / Prepaid Sales

Client Sample ID: DAM

GC/MS Semivolatiles

Lot-Sample #...: C9K060597-001 **Work Order #...:** LN2ME1AD **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
4,6-Dinitro-2-methylphenol	ND	860	ug/kg	160
2,4-Dinitrophenol	ND	860	ug/kg	54
2,4-Dinitrotoluene	ND	170	ug/kg	7.9
2,6-Dinitrotoluene	ND	170	ug/kg	8.6
Di-n-octyl phthalate	ND	170	ug/kg	4.3
Fluoranthene	**940**	**34**	**ug/kg**	**2.8**
Fluorene	**100**	**34**	**ug/kg**	**5.1**
Hexachlorobenzene	ND	34	ug/kg	6.4
Hexachlorobutadiene	ND	34	ug/kg	7.1
Hexachlorocyclopenta-diene	ND	170	ug/kg	6.4
Hexachloroethane	ND	170	ug/kg	5.7
Indeno(1,2,3-cd)pyrene	**51**	**34**	**ug/kg**	**1.8**
Isophorone	ND	170	ug/kg	6.5
2-Methylnaphthalene	**210**	**34**	**ug/kg**	**6.6**
2-Methylphenol	ND	170	ug/kg	6.2
4-Methylphenol	**99 J**	**170**	**ug/kg**	**7.4**
Naphthalene	**200**	**34**	**ug/kg**	**4.9**
2-Nitroaniline	ND	860	ug/kg	10
3-Nitroaniline	ND	860	ug/kg	5.5
4-Nitroaniline	ND	860	ug/kg	8.2
Nitrobenzene	ND	34	ug/kg	8.5
2-Nitrophenol	ND	170	ug/kg	6.4
4-Nitrophenol	ND	860	ug/kg	99
N-Nitrosodi-n-propyl-amine	ND	34	ug/kg	9.3
N-Nitrosodiphenylamine	ND	34	ug/kg	6.9
2,2'-oxybis (1-Chloropropane)	ND	34	ug/kg	7.3
Pentachlorophenol	ND	170	ug/kg	29
Phenanthrene	**1000**	**34**	**ug/kg**	**4.0**
Phenol	**66**	**34**	**ug/kg**	**6.7**
Pyrene	**980**	**34**	**ug/kg**	**8.9**
2,4,5-Trichloro-phenol	ND	170	ug/kg	4.1
2,4,6-Trichloro-phenol	ND	170	ug/kg	8.4

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Cash in Advance / Prepaid Sales

Client Sample ID: DAM

GC/MS Semivolatiles

Lot-Sample #...: C9K060597-001 **Work Order #...:** LN2ME1AD **Matrix.....:** SOLID

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	88	(27 - 110)
Terphenyl-d14	108	(21 - 130)
2-Fluorobiphenyl	96	(28 - 108)
2-Fluorophenol	95	(28 - 107)
Phenol-d5	95	(30 - 112)
2,4,6-Tribromophenol	78	(21 - 116)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Cash in Advance / Prepaid Sales

Client Sample ID: US1

GC/MS Semivolatiles

Lot-Sample #...: C9K060597-002 **Work Order #...:** LN2MG1AM **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314317
Prep Date.....: 11/10/09 **Analysis Date..:** 11/11/09
Prep Batch #...: 9314572 **Analysis Time..:** 10:14
Dilution Factor: 3.48
% Moisture.....: 26 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	32	ug/kg	5.0
Acenaphthylene	ND	32	ug/kg	6.3
Acetophenone	ND	160	ug/kg	7.2
Anthracene	**7.4 J**	**32**	**ug/kg**	**5.5**
Atrazine	ND	160	ug/kg	7.4
Benzo(a)anthracene	**11 J**	**32**	**ug/kg**	**5.0**
Benzo(a)pyrene	ND	32	ug/kg	8.8
Benzo(b)fluoranthene	**19 J**	**32**	**ug/kg**	**6.4**
Benzo(ghi)perylene	ND	32	ug/kg	2.3
Benzo(k)fluoranthene	ND	32	ug/kg	6.5
Benzaldehyde	ND	160	ug/kg	4.1
1,1'-Biphenyl	**29 J**	**160**	**ug/kg**	**7.2**
bis(2-Chloroethoxy) methane	ND	160	ug/kg	6.3
bis(2-Chloroethyl)-ether	ND	32	ug/kg	2.8
bis(2-Ethylhexyl) phthalate	**48 J**	**160**	**ug/kg**	**13**
4-Bromophenyl phenyl ether	ND	160	ug/kg	6.7
Butyl benzyl phthalate	**35 J**	**160**	**ug/kg**	**11**
Caprolactam	**21 J**	**800**	**ug/kg**	**21**
Carbazole	ND	32	ug/kg	4.1
4-Chloroaniline	ND	160	ug/kg	4.9
4-Chloro-3-methylphenol	ND	160	ug/kg	4.7
2-Chloronaphthalene	ND	32	ug/kg	4.2
2-Chlorophenol	ND	160	ug/kg	4.8
4-Chlorophenyl phenyl ether	ND	160	ug/kg	6.9
Chrysene	**34**	**32**	**ug/kg**	**5.5**
Dibenz(a,h)anthracene	ND	32	ug/kg	6.9
Dibenzofuran	ND	160	ug/kg	5.3
3,3'-Dichlorobenzidine	ND	160	ug/kg	30
2,4-Dichlorophenol	ND	32	ug/kg	6.4
Diethyl phthalate	ND	160	ug/kg	8.9
2,4-Dimethylphenol	ND	160	ug/kg	6.6
Dimethyl phthalate	ND	160	ug/kg	5.3
Di-n-butyl phthalate	**39 J**	**160**	**ug/kg**	**8.8**

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Cash in Advance / Prepaid Sales

Client Sample ID: US1

GC/MS Semivolatiles

Lot-Sample #...: C9K060597-002 **Work Order #...:** LN2MG1AM **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
4,6-Dinitro-2-methylphenol	ND	800	ug/kg	150
2,4-Dinitrophenol	ND	800	ug/kg	50
2,4-Dinitrotoluene	ND	160	ug/kg	7.4
2,6-Dinitrotoluene	ND	160	ug/kg	8.0
Di-n-octyl phthalate	ND	160	ug/kg	4.0
Fluoranthene	**34**	**32**	**ug/kg**	**2.7**
Fluorene	ND	32	ug/kg	4.7
Hexachlorobenzene	ND	32	ug/kg	6.0
Hexachlorobutadiene	ND	32	ug/kg	6.7
Hexachlorocyclopenta-diene	ND	160	ug/kg	6.0
Hexachloroethane	ND	160	ug/kg	5.3
Indeno(1,2,3-cd)pyrene	ND	32	ug/kg	1.7
Isophorone	ND	160	ug/kg	6.1
2-Methylnaphthalene	**76**	**32**	**ug/kg**	**6.2**
2-Methylphenol	ND	160	ug/kg	5.8
4-Methylphenol	ND	160	ug/kg	6.9
Naphthalene	**51**	**32**	**ug/kg**	**4.6**
2-Nitroaniline	ND	800	ug/kg	9.6
3-Nitroaniline	ND	800	ug/kg	5.1
4-Nitroaniline	ND	800	ug/kg	7.7
Nitrobenzene	ND	32	ug/kg	7.9
2-Nitrophenol	ND	160	ug/kg	6.0
4-Nitrophenol	ND	800	ug/kg	93
N-Nitrosodi-n-propyl-amine	ND	32	ug/kg	8.7
N-Nitrosodiphenylamine	ND	32	ug/kg	6.4
2,2'-oxybis (1-Chloropropane)	ND	32	ug/kg	6.9
Pentachlorophenol	ND	160	ug/kg	27
Phenanthrene	**82**	**32**	**ug/kg**	**3.8**
Phenol	ND	32	ug/kg	6.2
Pyrene	**34**	**32**	**ug/kg**	**8.3**
2,4,5-Trichloro-phenol	ND	160	ug/kg	3.9
2,4,6-Trichloro-phenol	ND	160	ug/kg	7.8

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Cash in Advance / Prepaid Sales

Client Sample ID: US1

GC/MS Semivolatiles

Lot-Sample #...: C9K060597-002 **Work Order #...:** LN2MG1AM **Matrix.....:** SOLID

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	82	(27 - 110)
Terphenyl-d14	100	(21 - 130)
2-Fluorobiphenyl	83	(28 - 108)
2-Fluorophenol	85	(28 - 107)
Phenol-d5	86	(30 - 112)
2,4,6-Tribromophenol	58	(21 - 116)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Cash in Advance / Prepaid Sales

Client Sample ID: US2

GC/MS Semivolatiles

Lot-Sample #...: C9K060597-003 **Work Order #...:** LN2MK1AM **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314317
Prep Date.....: 11/10/09 **Analysis Date..:** 11/11/09
Prep Batch #...: 9314572 **Analysis Time..:** 11:19
Dilution Factor: 3.75
% Moisture.....: 24 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**140**	**33**	**ug/kg**	**5.3**
Acenaphthylene	**23 J**	**33**	**ug/kg**	**6.6**
Acetophenone	**14 J**	**160**	**ug/kg**	**7.6**
Anthracene	**140**	**33**	**ug/kg**	**5.8**
Atrazine	ND	160	ug/kg	7.8
Benzo(a)anthracene	**350**	**33**	**ug/kg**	**5.3**
Benzo(a)pyrene	**300**	**33**	**ug/kg**	**9.2**
Benzo(b)fluoranthene	**460**	**33**	**ug/kg**	**6.7**
Benzo(ghi)perylene	**190**	**33**	**ug/kg**	**2.4**
Benzo(k)fluoranthene	ND	33	ug/kg	6.9
Benzaldehyde	ND	160	ug/kg	4.3
1,1'-Biphenyl	**38 J**	**160**	**ug/kg**	**7.5**
bis(2-Chloroethoxy) methane	ND	160	ug/kg	6.6
bis(2-Chloroethyl)-ether	ND	33	ug/kg	2.9
bis(2-Ethylhexyl) phthalate	**63 J**	**160**	**ug/kg**	**14**
4-Bromophenyl phenyl ether	ND	160	ug/kg	7.0
Butyl benzyl phthalate	**12 J**	**160**	**ug/kg**	**12**
Caprolactam	ND	840	ug/kg	22
Carbazole	**34**	**33**	**ug/kg**	**4.3**
4-Chloroaniline	ND	160	ug/kg	5.1
4-Chloro-3-methylphenol	ND	160	ug/kg	4.9
2-Chloronaphthalene	ND	33	ug/kg	4.5
2-Chlorophenol	ND	160	ug/kg	5.1
4-Chlorophenyl phenyl ether	ND	160	ug/kg	7.3
Chrysene	**410**	**33**	**ug/kg**	**5.8**
Dibenz(a,h)anthracene	**61**	**33**	**ug/kg**	**7.3**
Dibenzofuran	**8.7 J**	**160**	**ug/kg**	**5.6**
3,3'-Dichlorobenzidine	ND	160	ug/kg	31
2,4-Dichlorophenol	ND	33	ug/kg	6.7
Diethyl phthalate	ND	160	ug/kg	9.3
2,4-Dimethylphenol	ND	160	ug/kg	6.9
Dimethyl phthalate	ND	160	ug/kg	5.6
Di-n-butyl phthalate	**40 J**	**160**	**ug/kg**	**9.2**

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Cash in Advance / Prepaid Sales

Client Sample ID: US2

GC/MS Semivolatiles

Lot-Sample #...: C9K060597-003 **Work Order #...:** LN2MK1AM **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
4,6-Dinitro-2-methylphenol	ND	840	ug/kg	160
2,4-Dinitrophenol	ND	840	ug/kg	53
2,4-Dinitrotoluene	ND	160	ug/kg	7.7
2,6-Dinitrotoluene	ND	160	ug/kg	8.4
Di-n-octyl phthalate	**68 J**	**160**	**ug/kg**	**4.2**
Fluoranthene	**810**	**33**	**ug/kg**	**2.8**
Fluorene	**110**	**33**	**ug/kg**	**5.0**
Hexachlorobenzene	ND	33	ug/kg	6.2
Hexachlorobutadiene	ND	33	ug/kg	7.0
Hexachlorocyclopenta-diene	ND	160	ug/kg	6.3
Hexachloroethane	ND	160	ug/kg	5.6
Indeno(1,2,3-cd)pyrene	**160**	**33**	**ug/kg**	**1.8**
Isophorone	ND	160	ug/kg	6.4
2-Methylnaphthalene	**96**	**33**	**ug/kg**	**6.5**
2-Methylphenol	ND	160	ug/kg	6.1
4-Methylphenol	ND	160	ug/kg	7.2
Naphthalene	**73**	**33**	**ug/kg**	**4.8**
2-Nitroaniline	ND	840	ug/kg	10
3-Nitroaniline	ND	840	ug/kg	5.4
4-Nitroaniline	ND	840	ug/kg	8.1
Nitrobenzene	ND	33	ug/kg	8.3
2-Nitrophenol	ND	160	ug/kg	6.3
4-Nitrophenol	ND	840	ug/kg	97
N-Nitrosodi-n-propyl-amine	ND	33	ug/kg	9.2
N-Nitrosodiphenylamine	ND	33	ug/kg	6.8
2,2'-oxybis (1-Chloropropane)	ND	33	ug/kg	7.2
Pentachlorophenol	ND	160	ug/kg	29
Phenanthrene	**670**	**33**	**ug/kg**	**3.9**
Phenol	ND	33	ug/kg	6.6
Pyrene	**660**	**33**	**ug/kg**	**8.8**
2,4,5-Trichloro-phenol	ND	160	ug/kg	4.1
2,4,6-Trichloro-phenol	ND	160	ug/kg	8.2

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Cash in Advance / Prepaid Sales

Client Sample ID: US2

GC/MS Semivolatiles

Lot-Sample #...: C9K060597-003 **Work Order #...:** LN2MK1AM **Matrix.....:** SOLID

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	93	(27 - 110)
Terphenyl-d14	99	(21 - 130)
2-Fluorobiphenyl	99	(28 - 108)
2-Fluorophenol	94	(28 - 107)
Phenol-d5	94	(30 - 112)
2,4,6-Tribromophenol	58	(21 - 116)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN7TF1AA **Matrix.....:** SOLID
MB Lot-Sample #: C9K100000-572
Prep Date.....: 11/10/09 **Analysis Time..:** 09:10
Analysis Date..: 11/11/09 **Prep Batch #...:** 9314572
Dilution Factor: 0.5

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	3.4	ug/kg	SW846 8270C
Acenaphthylene	ND	3.4	ug/kg	SW846 8270C
Acetophenone	ND	16	ug/kg	SW846 8270C
Anthracene	ND	3.4	ug/kg	SW846 8270C
Atrazine	ND	16	ug/kg	SW846 8270C
Benzo(a)anthracene	ND	3.4	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	3.4	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	3.4	ug/kg	SW846 8270C
Benzo(ghi)perylene	ND	3.4	ug/kg	SW846 8270C
Benzo(k)fluoranthene	ND	3.4	ug/kg	SW846 8270C
Benzaldehyde	ND	16	ug/kg	SW846 8270C
1,1'-Biphenyl	ND	16	ug/kg	SW846 8270C
bis(2-Chloroethoxy) methane	ND	16	ug/kg	SW846 8270C
bis(2-Chloroethyl)-ether	ND	3.4	ug/kg	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	16	ug/kg	SW846 8270C
4-Bromophenyl phenyl ether	ND	16	ug/kg	SW846 8270C
Butyl benzyl phthalate	ND	16	ug/kg	SW846 8270C
Caprolactam	ND	85	ug/kg	SW846 8270C
Carbazole	ND	3.4	ug/kg	SW846 8270C
4-Chloroaniline	ND	16	ug/kg	SW846 8270C
4-Chloro-3-methylphenol	ND	16	ug/kg	SW846 8270C
2-Chloronaphthalene	ND	3.4	ug/kg	SW846 8270C
2-Chlorophenol	ND	16	ug/kg	SW846 8270C
4-Chlorophenyl phenyl ether	ND	16	ug/kg	SW846 8270C
Chrysene	ND	3.4	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	3.4	ug/kg	SW846 8270C
Dibenzofuran	ND	16	ug/kg	SW846 8270C
3,3'-Dichlorobenzidine	ND	16	ug/kg	SW846 8270C
2,4-Dichlorophenol	ND	3.4	ug/kg	SW846 8270C
Diethyl phthalate	ND	16	ug/kg	SW846 8270C
2,4-Dimethylphenol	ND	16	ug/kg	SW846 8270C
Dimethyl phthalate	ND	16	ug/kg	SW846 8270C
Di-n-butyl phthalate	ND	16	ug/kg	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	85	ug/kg	SW846 8270C
2,4-Dinitrophenol	ND	85	ug/kg	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN7TF1AA **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2,4-Dinitrotoluene	ND	16	ug/kg	SW846 8270C
2,6-Dinitrotoluene	ND	16	ug/kg	SW846 8270C
Di-n-octyl phthalate	ND	16	ug/kg	SW846 8270C
Fluoranthene	ND	3.4	ug/kg	SW846 8270C
Fluorene	ND	3.4	ug/kg	SW846 8270C
Hexachlorobenzene	ND	3.4	ug/kg	SW846 8270C
Hexachlorobutadiene	ND	3.4	ug/kg	SW846 8270C
Hexachlorocyclopenta-diene	ND	16	ug/kg	SW846 8270C
Hexachloroethane	ND	16	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	3.4	ug/kg	SW846 8270C
Isophorone	ND	16	ug/kg	SW846 8270C
2-Methylnaphthalene	ND	3.4	ug/kg	SW846 8270C
2-Methylphenol	ND	16	ug/kg	SW846 8270C
4-Methylphenol	ND	16	ug/kg	SW846 8270C
Naphthalene	ND	3.4	ug/kg	SW846 8270C
2-Nitroaniline	ND	85	ug/kg	SW846 8270C
3-Nitroaniline	ND	85	ug/kg	SW846 8270C
4-Nitroaniline	ND	85	ug/kg	SW846 8270C
Nitrobenzene	ND	3.4	ug/kg	SW846 8270C
2-Nitrophenol	ND	16	ug/kg	SW846 8270C
4-Nitrophenol	ND	85	ug/kg	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	3.4	ug/kg	SW846 8270C
N-Nitrosodiphenylamine	ND	3.4	ug/kg	SW846 8270C
2,2'-oxybis (1-Chloropropane)	ND	3.4	ug/kg	SW846 8270C
Pentachlorophenol	ND	16	ug/kg	SW846 8270C
Phenanthrene	ND	3.4	ug/kg	SW846 8270C
Phenol	ND	3.4	ug/kg	SW846 8270C
Pyrene	ND	3.4	ug/kg	SW846 8270C
2,4,5-Trichloro-phenol	ND	16	ug/kg	SW846 8270C
2,4,6-Trichloro-phenol	ND	16	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	66	(27 - 110)
Terphenyl-d14	94	(21 - 130)
2-Fluorobiphenyl	73	(28 - 108)
2-Fluorophenol	68	(28 - 107)
Phenol-d5	73	(30 - 112)
2,4,6-Tribromophenol	46	(21 - 116)

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN7TF1AA **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN7TF1AC **Matrix.....:** SOLID
LCS Lot-Sample#: C9K100000-572
Prep Date.....: 11/10/09 **Analysis Date..:** 11/12/09
Prep Batch #...: 9314572 **Analysis Time..:** 09:35
Dilution Factor: 0.5

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Acenaphthene	**73**	**(42 - 104)**	**SW846 8270C**
1,4-Dichlorobenzene	**74**	**(41 - 101)**	**SW846 8270C**
1,2,4-Trichloro-benzene	**73**	**(41 - 105)**	**SW846 8270C**
4-Bromophenyl phenyl ether	**74**	**(43 - 111)**	**SW846 8270C**
Butyl benzyl phthalate	**79**	**(40 - 117)**	**SW846 8270C**
4-Chloro-3-methylphenol	**63**	**(43 - 110)**	**SW846 8270C**
2-Chlorophenol	**70**	**(40 - 105)**	**SW846 8270C**
2,4-Dinitrotoluene	**84**	**(48 - 118)**	**SW846 8270C**
Hexachloroethane	**75**	**(40 - 102)**	**SW846 8270C**
4-Methylphenol	**70**	**(43 - 107)**	**SW846 8270C**
Naphthalene	**74**	**(42 - 104)**	**SW846 8270C**
4-Nitrophenol	**87**	**(27 - 131)**	**SW846 8270C**
N-Nitrosodi-n-propyl-amine	**75**	**(42 - 108)**	**SW846 8270C**
Pentachlorophenol	**85**	**(18 - 125)**	**SW846 8270C**
Phenol	**67**	**(39 - 105)**	**SW846 8270C**
Pyrene	**76**	**(39 - 113)**	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	78	(27 - 110)
Terphenyl-d14	82	(21 - 130)
2-Fluorobiphenyl	78	(28 - 108)
2-Fluorophenol	80	(28 - 107)
Phenol-d5	77	(30 - 112)
2,4,6-Tribromophenol	79	(21 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN2MG1CA-MS **Matrix.....:** SOLID
MS Lot-Sample #: C9K060597-002 LN2MG1CC-MSD
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314317
Prep Date.....: 11/10/09 **Analysis Date..:** 11/11/09
Prep Batch #...: 9314572 **Analysis Time..:** 10:36
Dilution Factor: 3.48 **% Moisture.....:** 26

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Acenaphthene	**80**	**(42 - 104)**			**SW846 8270C**
	82	**(42 - 104)**	**3.1**	**(0-34)**	**SW846 8270C**
1,4-Dichlorobenzene	**66**	**(41 - 101)**			**SW846 8270C**
	70	**(41 - 101)**	**5.9**	**(0-32)**	**SW846 8270C**
1,2,4-Trichloro- benzene	**69**	**(41 - 105)**			**SW846 8270C**
	75	**(41 - 105)**	**7.2**	**(0-36)**	**SW846 8270C**
4-Bromophenyl phenyl ether	**78**	**(43 - 111)**			**SW846 8270C**
	85	**(43 - 111)**	**8.7**	**(0-20)**	**SW846 8270C**
Butyl benzyl phthalate	**86**	**(40 - 117)**			**SW846 8270C**
	94	**(40 - 117)**	**8.6**	**(0-34)**	**SW846 8270C**
4-Chloro-3-methylphenol	**77**	**(43 - 110)**			**SW846 8270C**
	83	**(43 - 110)**	**7.6**	**(0-31)**	**SW846 8270C**
2-Chlorophenol	**74**	**(40 - 105)**			**SW846 8270C**
	76	**(40 - 105)**	**3.3**	**(0-37)**	**SW846 8270C**
2,4-Dinitrotoluene	**84**	**(48 - 118)**			**SW846 8270C**
	85	**(48 - 118)**	**1.4**	**(0-33)**	**SW846 8270C**
Hexachloroethane	**67**	**(40 - 102)**			**SW846 8270C**
	65	**(40 - 102)**	**2.4**	**(0-34)**	**SW846 8270C**
4-Methylphenol	**77**	**(43 - 107)**			**SW846 8270C**
	83	**(43 - 107)**	**8.1**	**(0-36)**	**SW846 8270C**
Naphthalene	**81**	**(42 - 104)**			**SW846 8270C**
	88	**(42 - 104)**	**7.2**	**(0-25)**	**SW846 8270C**
4-Nitrophenol	**61**	**(27 - 131)**			**SW846 8270C**
	67	**(27 - 131)**	**9.4**	**(0-33)**	**SW846 8270C**
N-Nitrosodi-n-propyl- amine	**75**	**(42 - 108)**			**SW846 8270C**
	81	**(42 - 108)**	**7.1**	**(0-32)**	**SW846 8270C**
Pentachlorophenol	**16 a**	**(18 - 125)**			**SW846 8270C**
	17 a	**(18 - 125)**	**8.7**	**(0-34)**	**SW846 8270C**
Phenol	**70**	**(39 - 105)**			**SW846 8270C**
	76	**(39 - 105)**	**7.5**	**(0-40)**	**SW846 8270C**
Pyrene	**83**	**(39 - 113)**			**SW846 8270C**
	89	**(39 - 113)**	**6.7**	**(0-28)**	**SW846 8270C**

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN2MG1CA-MS **Matrix.....:** SOLID
MS Lot-Sample #: C9K060597-002 LN2MG1CC-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	77	(27 - 110)
	81	(27 - 110)
Terphenyl-d14	93	(21 - 130)
	96	(21 - 130)
2-Fluorobiphenyl	84	(28 - 108)
	86	(28 - 108)
2-Fluorophenol	79	(28 - 107)
	80	(28 - 107)
Phenol-d5	82	(30 - 112)
	86	(30 - 112)
2,4,6-Tribromophenol	70	(21 - 116)
	72	(21 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

GC Semivolatiles

Lot-Sample #...: C9K060597-001 **Work Order #...:** LN2ME1A6 **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314318
Prep Date.....: 11/10/09 **Analysis Date..:** 11/19/09
Prep Batch #...: 9314573 **Analysis Time..:** 18:46
Dilution Factor: 0.75
% Moisture.....: 26 **Method.....:** SW846 8081B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
alpha-BHC	ND	1.7	ug/kg	0.27
beta-BHC	**0.81 J**	**1.7**	**ug/kg**	**0.44**
delta-BHC	ND	1.7	ug/kg	0.26
gamma-BHC (Lindane)	ND	1.7	ug/kg	0.29
Heptachlor	ND	1.7	ug/kg	0.37
Aldrin	ND	1.7	ug/kg	0.30
Heptachlor epoxide	ND	1.7	ug/kg	0.33
Endosulfan I	**0.87 J,PG**	**1.7**	**ug/kg**	**0.32**
Dieldrin	ND	1.7	ug/kg	0.28
4,4'-DDE	ND	1.7	ug/kg	0.25
Endrin	ND	1.7	ug/kg	0.33
Endrin ketone	ND	1.7	ug/kg	0.26
Endrin aldehyde	ND	1.7	ug/kg	0.33
Endosulfan II	ND	1.7	ug/kg	0.30
4,4'-DDD	ND	1.7	ug/kg	0.22
Endosulfan sulfate	ND	1.7	ug/kg	0.18
4,4'-DDT	ND	1.7	ug/kg	0.25
Methoxychlor	ND	3.3	ug/kg	0.35
alpha-Chlordane	ND	1.7	ug/kg	0.33
gamma-Chlordane	ND	1.7	ug/kg	0.33
Toxaphene	ND	67	ug/kg	11

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	70	(45 - 130)
Decachlorobiphenyl	100	(45 - 130)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

PG The percent difference between the original and confirmation analyses is greater than 40%.

Cash in Advance / Prepaid Sales

Client Sample ID: US1

GC Semivolatiles

Lot-Sample #...: C9K060597-002 **Work Order #...:** LN2MG1AH **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314318
Prep Date.....: 11/10/09 **Analysis Date..:** 11/19/09
Prep Batch #...: 9314573 **Analysis Time..:** 19:15
Dilution Factor: 0.7
% Moisture.....: 26 **Method.....:** SW846 8081B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
alpha-BHC	ND	1.6	ug/kg	0.26
beta-BHC	ND	1.6	ug/kg	0.41
delta-BHC	ND	1.6	ug/kg	0.24
gamma-BHC (Lindane)	ND	1.6	ug/kg	0.28
Heptachlor	ND	1.6	ug/kg	0.35
Aldrin	ND	1.6	ug/kg	0.28
Heptachlor epoxide	ND	1.6	ug/kg	0.31
Endosulfan I	**0.32 J,PG**	**1.6**	**ug/kg**	**0.30**
Dieldrin	ND	1.6	ug/kg	0.26
4,4'-DDE	**0.59 J**	**1.6**	**ug/kg**	**0.24**
Endrin	ND	1.6	ug/kg	0.31
Endrin ketone	ND	1.6	ug/kg	0.25
Endrin aldehyde	ND	1.6	ug/kg	0.31
Endosulfan II	ND	1.6	ug/kg	0.28
4,4'-DDD	ND	1.6	ug/kg	0.21
Endosulfan sulfate	ND	1.6	ug/kg	0.16
4,4'-DDT	ND	1.6	ug/kg	0.24
Methoxychlor	ND	3.1	ug/kg	0.33
alpha-Chlordane	ND	1.6	ug/kg	0.31
gamma-Chlordane	ND	1.6	ug/kg	0.31
Toxaphene	ND	63	ug/kg	11

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	54	(45 - 130)
Decachlorobiphenyl	77	(45 - 130)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

PG The percent difference between the original and confirmation analyses is greater than 40%.

Cash in Advance / Prepaid Sales

Client Sample ID: US2

GC Semivolatiles

Lot-Sample #...: C9K060597-003 **Work Order #...:** LN2MK1AH **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314318
Prep Date.....: 11/10/09 **Analysis Date..:** 11/19/09
Prep Batch #...: 9314573 **Analysis Time..:** 20:40
Dilution Factor: 0.75
% Moisture.....: 24 **Method.....:** SW846 8081B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
alpha-BHC	ND	1.7	ug/kg	0.27
beta-BHC	ND	1.7	ug/kg	0.43
delta-BHC	ND	1.7	ug/kg	0.25
gamma-BHC (Lindane)	ND	1.7	ug/kg	0.29
Heptachlor	ND	1.7	ug/kg	0.37
Aldrin	ND	1.7	ug/kg	0.29
Heptachlor epoxide	ND	1.7	ug/kg	0.32
Endosulfan I	**0.55 J,PG**	**1.7**	**ug/kg**	**0.31**
Dieldrin	**0.28 J,PG**	**1.7**	**ug/kg**	**0.27**
4,4'-DDE	**0.88 J,PG**	**1.7**	**ug/kg**	**0.25**
Endrin	ND	1.7	ug/kg	0.32
Endrin ketone	ND	1.7	ug/kg	0.26
Endrin aldehyde	ND	1.7	ug/kg	0.32
Endosulfan II	ND	1.7	ug/kg	0.29
4,4'-DDD	**0.68 J**	**1.7**	**ug/kg**	**0.22**
Endosulfan sulfate	ND	1.7	ug/kg	0.17
4,4'-DDT	**1.2 J,PG**	**1.7**	**ug/kg**	**0.25**
Methoxychlor	ND	3.3	ug/kg	0.34
alpha-Chlordane	ND	1.7	ug/kg	0.33
gamma-Chlordane	**0.36 J,PG**	**1.7**	**ug/kg**	**0.33**
Toxaphene	ND	66	ug/kg	11

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	55	(45 - 130)
Decachlorobiphenyl	82	(45 - 130)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

PG The percent difference between the original and confirmation analyses is greater than 40%.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN7TG1AA **Matrix.....:** SOLID
MB Lot-Sample #: C9K100000-573
Prep Date.....: 11/10/09 **Analysis Time..:** 23:01
Analysis Date..: 11/19/09 **Prep Batch #...:** 9314573
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
alpha-BHC	ND	1.7	ug/kg	SW846 8081B
beta-BHC	ND	1.7	ug/kg	SW846 8081B
delta-BHC	ND	1.7	ug/kg	SW846 8081B
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081B
Heptachlor	ND	1.7	ug/kg	SW846 8081B
Aldrin	ND	1.7	ug/kg	SW846 8081B
Heptachlor epoxide	ND	1.7	ug/kg	SW846 8081B
Endosulfan I	ND	1.7	ug/kg	SW846 8081B
Dieldrin	ND	1.7	ug/kg	SW846 8081B
4,4'-DDE	ND	1.7	ug/kg	SW846 8081B
Endrin	ND	1.7	ug/kg	SW846 8081B
Endrin ketone	ND	1.7	ug/kg	SW846 8081B
Endrin aldehyde	ND	1.7	ug/kg	SW846 8081B
Endosulfan II	ND	1.7	ug/kg	SW846 8081B
4,4'-DDD	ND	1.7	ug/kg	SW846 8081B
Endosulfan sulfate	ND	1.7	ug/kg	SW846 8081B
4,4'-DDT	ND	1.7	ug/kg	SW846 8081B
Methoxychlor	ND	3.3	ug/kg	SW846 8081B
alpha-Chlordane	ND	1.7	ug/kg	SW846 8081B
gamma-Chlordane	ND	1.7	ug/kg	SW846 8081B
Toxaphene	ND	67	ug/kg	SW846 8081B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	78	(45 - 130)
Decachlorobiphenyl	98	(45 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN7TG1AC **Matrix.....:** SOLID
LCS Lot-Sample#: C9K100000-573
Prep Date.....: 11/10/09 **Analysis Date..:** 11/19/09
Prep Batch #...: 9314573 **Analysis Time..:** 23:29
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
gamma-BHC (Lindane)	**82**	**(66 - 124)**	**SW846 8081B**
Heptachlor	**80**	**(70 - 128)**	**SW846 8081B**
Aldrin	**85**	**(70 - 123)**	**SW846 8081B**
Dieldrin	**85**	**(70 - 123)**	**SW846 8081B**
Endrin	**86**	**(70 - 127)**	**SW846 8081B**
4,4'-DDT	**105**	**(61 - 126)**	**SW846 8081B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	81	(45 - 130)
Decachlorobiphenyl	101	(45 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN2MG1CD-MS **Matrix.....:** SOLID
MS Lot-Sample #: C9K060597-002 LN2MG1CE-MSD
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314318
Prep Date.....: 11/10/09 **Analysis Date..:** 11/19/09
Prep Batch #...: 9314573 **Analysis Time..:** 19:43
Dilution Factor: 0.7 **% Moisture.....:** 26

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
gamma-BHC (Lindane)	**66**	**(66 - 124)**			**SW846 8081B**
	64 a	**(66 - 124)**	**2.6**	**(0-20)**	**SW846 8081B**
Heptachlor	**71**	**(70 - 128)**			**SW846 8081B**
	73	**(70 - 128)**	**3.4**	**(0-20)**	**SW846 8081B**
Aldrin	**70**	**(70 - 123)**			**SW846 8081B**
	77	**(70 - 123)**	**9.6**	**(0-20)**	**SW846 8081B**
Dieldrin	**76**	**(70 - 123)**			**SW846 8081B**
	84	**(70 - 123)**	**10**	**(0-20)**	**SW846 8081B**
Endrin	**82**	**(70 - 127)**			**SW846 8081B**
	93	**(70 - 127)**	**12**	**(0-20)**	**SW846 8081B**
4,4'-DDT	**76**	**(61 - 126)**			**SW846 8081B**
	76	**(61 - 126)**	**0.39**	**(0-37)**	**SW846 8081B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	54	(45 - 130)
	63	(45 - 130)
Decachlorobiphenyl	74	(45 - 130)
	92	(45 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

GC Semivolatiles

Lot-Sample #...: C9K060597-001 **Work Order #...:** LN2ME1A7 **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314319
Prep Date.....: 11/10/09 **Analysis Date..:** 11/18/09
Prep Batch #...: 9314576 **Analysis Time..:** 15:18
Dilution Factor: 0.75
% Moisture.....: 26 **Method.....:** SW846 8082A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	17	ug/kg	2.5
Aroclor 1221	ND	17	ug/kg	3.2
Aroclor 1232	ND	17	ug/kg	2.9
Aroclor 1242	**21**	**17**	**ug/kg**	**2.7**
Aroclor 1248	ND	17	ug/kg	1.6
Aroclor 1254	ND	17	ug/kg	2.4
Aroclor 1260	**11 J**	**17**	**ug/kg**	**2.4**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	89	(35 - 140)
Decachlorobiphenyl	103	(35 - 140)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Cash in Advance / Prepaid Sales

Client Sample ID: US1

GC Semivolatiles

Lot-Sample #...: C9K060597-002 **Work Order #...:** LN2MG1AJ **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314319
Prep Date.....: 11/10/09 **Analysis Date..:** 11/18/09
Prep Batch #...: 9314576 **Analysis Time..:** 15:39
Dilution Factor: 0.7
% Moisture.....: 26 **Method.....:** SW846 8082A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	16	ug/kg	2.3
Aroclor 1221	ND	16	ug/kg	3.0
Aroclor 1232	ND	16	ug/kg	2.7
Aroclor 1242	ND	16	ug/kg	2.6
Aroclor 1248	ND	16	ug/kg	1.5
Aroclor 1254	ND	16	ug/kg	2.2
Aroclor 1260	ND	16	ug/kg	2.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	73	(35 - 140)
Decachlorobiphenyl	82	(35 - 140)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Cash in Advance / Prepaid Sales

Client Sample ID: US2

GC Semivolatiles

Lot-Sample #...: C9K060597-003 **Work Order #...:** LN2MK1AJ **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314319
Prep Date.....: 11/10/09 **Analysis Date..:** 11/18/09
Prep Batch #...: 9314576 **Analysis Time..:** 16:39
Dilution Factor: 0.75
% Moisture.....: 24 **Method.....:** SW846 8082A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	16	ug/kg	2.5
Aroclor 1221	ND	16	ug/kg	3.1
Aroclor 1232	ND	16	ug/kg	2.8
Aroclor 1242	ND	16	ug/kg	2.7
Aroclor 1248	ND	16	ug/kg	1.6
Aroclor 1254	ND	16	ug/kg	2.3
Aroclor 1260	ND	16	ug/kg	2.3

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	77	(35 - 140)
Decachlorobiphenyl	87	(35 - 140)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN7TH1AA **Matrix.....:** SOLID
MB Lot-Sample #: C9K100000-576
Prep Date.....: 11/10/09 **Analysis Time..:** 18:41
Analysis Date..: 11/18/09 **Prep Batch #...:** 9314576
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	17	ug/kg	SW846 8082A
Aroclor 1221	ND	17	ug/kg	SW846 8082A
Aroclor 1232	ND	17	ug/kg	SW846 8082A
Aroclor 1242	ND	17	ug/kg	SW846 8082A
Aroclor 1248	ND	17	ug/kg	SW846 8082A
Aroclor 1254	ND	17	ug/kg	SW846 8082A
Aroclor 1260	ND	17	ug/kg	SW846 8082A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	111	(35 - 140)
Decachlorobiphenyl	120	(35 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN7TH1AC **Matrix.....:** SOLID
LCS Lot-Sample#: C9K100000-576
Prep Date.....: 11/10/09 **Analysis Date..:** 11/18/09
Prep Batch #...: 9314576 **Analysis Time..:** 19:01
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aroclor 1016	**92**	**(55 - 130)**	**SW846 8082A**
Aroclor 1260	**93**	**(54 - 130)**	**SW846 8082A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	118	(35 - 140)
Decachlorobiphenyl	126	(35 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: C9K060597 **Work Order #...:** LN2MG1CF-MS **Matrix.....:** SOLID
MS Lot-Sample #: C9K060597-002 LN2MG1CG-MSD
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:** 9314319
Prep Date.....: 11/10/09 **Analysis Date..:** 11/18/09
Prep Batch #...: 9314576 **Analysis Time..:** 15:59
Dilution Factor: 0.7 **% Moisture.....:** 26

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**77**	**(55 - 130)**			**SW846 8082A**
	73	**(55 - 130)**	**5.4**	**(0-35)**	**SW846 8082A**
Aroclor 1260	**77**	**(54 - 130)**			**SW846 8082A**
	72	**(54 - 130)**	**7.2**	**(0-29)**	**SW846 8082A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	103	(35 - 140)
	92	(35 - 140)
Decachlorobiphenyl	107	(35 - 140)
	98	(35 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

TOTAL Metals

Lot-Sample #...: C9K060597-001 **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 26

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9320032						
Mercury	**0.098**	**0.033**	**mg/kg**	**SW846 7471A**	**11/16/09**	**LN2ME1A5**
		Dilution Factor: 0.75		Analysis Time..: 08:48	MS Run #.....: 9320021	
		MDL.....: 0.011				
Prep Batch #...: 9322204						
Silver	**0.17 B**	**0.47**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AE**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.055				
Aluminum	**5980 J**	**18.8**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AF**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 1.0				
Arsenic	**8.6**	**0.94**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AG**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.21				
Barium	**57.1**	**18.8**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AH**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.047				
Beryllium	**1.5**	**0.38**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AJ**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.014				
Calcium	**1970 J**	**470**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AK**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.92				
Cadmium	**0.28 B**	**0.47**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AL**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.023				
Cobalt	**25.4**	**4.7**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AM**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.084				

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Cash in Advance / Prepaid Sales

Client Sample ID: DAM

TOTAL Metals

Lot-Sample #...: C9K060597-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	**13.3**	**0.47**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AN**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.080				
Copper	**18.7**	**2.4**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AP**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.32				
Iron	**32300 J**	**9.4**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AQ**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 2.8				
Potassium	**780**	**470**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AR**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 39.7				
Magnesium	**531**	**470**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AT**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 2.1				
Manganese	**284 J**	**1.4**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AU**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.045				
Sodium	**147 B**	**470**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AV**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 7.7				
Nickel	**48.8**	**3.8**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AW**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.36				
Lead	**15.6**	**0.28**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1AX**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.14				
Selenium	**0.70**	**0.47**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1A0**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.19				

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Cash in Advance / Prepaid Sales

Client Sample ID: DAM

TOTAL Metals

Lot-Sample #...: C9K060597-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Thallium	ND	0.94	mg/kg	SW846 6010B	11/18-11/19/09	LN2ME1A1
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.19				
Antimony	**0.23 B**	**0.94**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1A2**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.15				
Vanadium	**14.6**	**4.7**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1A3**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.17				
Zinc	**140 J**	**1.9**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2ME1A4**
		Dilution Factor: 0.7		Analysis Time..: 22:34	MS Run #.....: 9322124	
		MDL.....: 0.21				
Prep Batch #...: 9324374						
Trivalent Chromium	**13.3**	**0.47**	**mg/kg**	**SW846 6010B**	**11/19/09**	**LN2ME1CA**
		Dilution Factor: 0.7		Analysis Time..: 00:00	MS Run #.....:	
		MDL.....: 0.053				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Cash in Advance / Prepaid Sales

Client Sample ID: US1

TOTAL Metals

Lot-Sample #...: C9K060597-002 **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 26

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9320032						
Mercury	**0.045**	**0.031**	**mg/kg**	**SW846 7471A**	**11/16/09**	**LN2MG1AG**
		Dilution Factor: 0.69		Analysis Time..: 08:49	MS Run #.....: 9320021	
		MDL.....: 0.010				
Prep Batch #...: 9322204						
Silver	**0.23 B**	**0.47**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AN**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.055				
Aluminum	**5660 J**	**18.9**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AP**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 1.0				
Arsenic	**9.8**	**0.95**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AQ**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.21				
Barium	**51.9**	**18.9**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AR**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.047				
Beryllium	**1.5**	**0.38**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AT**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.014				
Calcium	**1300 J**	**474**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AU**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.93				
Cadmium	**0.37 B**	**0.47**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AV**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.023				
Cobalt	**31.0**	**4.7**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AW**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.084				

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Cash in Advance / Prepaid Sales

Client Sample ID: US1

TOTAL Metals

Lot-Sample #...: C9K060597-002 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	**14.4**	**0.47**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AX**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.081				
Copper	**17.6**	**2.4**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1A0**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.32				
Iron	**36700 J**	**9.5**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1A1**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 2.8				
Potassium	**836**	**474**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1A2**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 40.0				
Magnesium	**667**	**474**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1A3**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 2.1				
Manganese	**577 J**	**1.4**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1A4**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.045				
Sodium	**78.0 B**	**474**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1A5**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 7.8				
Nickel	**61.9**	**3.8**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1A6**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.36				
Lead	**17.7**	**0.28**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1A7**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.14				
Selenium	**0.47**	**0.47**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AA**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.20				

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Cash in Advance / Prepaid Sales

Client Sample ID: US1

TOTAL Metals

Lot-Sample #...: C9K060597-002 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Thallium	ND	0.95	mg/kg	SW846 6010B	11/18-11/19/09	LN2MG1AC
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.20				
Antimony	ND	0.95	mg/kg	SW846 6010B	11/18-11/19/09	LN2MG1AD
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.16				
Vanadium	**17.8**	**4.7**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AE**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.18				
Zinc	**164 J**	**1.9**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MG1AF**
		Dilution Factor: 0.7		Analysis Time..: 22:40	MS Run #.....: 9322124	
		MDL.....: 0.21				

Prep Batch #...: 9324374

Trivalent Chromium	**14.4**	**0.47**	**mg/kg**	**SW846 6010B**	**11/19/09**	**LN2MG1A9**
		Dilution Factor: 0.7		Analysis Time..: 00:00	MS Run #.....:	
		MDL.....: 0.053				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Cash in Advance / Prepaid Sales

Client Sample ID: US2

TOTAL Metals

Lot-Sample #...: C9K060597-003 **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 24

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9320032						
Mercury	**0.12**	**0.043**	**mg/kg**	**SW846 7471A**	**11/16/09**	**LN2MK1AG**
		Dilution Factor: 1		Analysis Time..: 08:54	MS Run #.....: 9320021	
		MDL.....: 0.014				
Prep Batch #...: 9322204						
Silver	**0.17 B**	**0.49**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AN**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.057				
Aluminum	**5240 J**	**19.8**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AP**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 1.1				
Arsenic	**7.7**	**0.99**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AQ**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.22				
Barium	**62.2**	**19.8**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AR**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.049				
Beryllium	**1.5**	**0.40**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AT**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.015				
Calcium	**4890 J**	**494**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AU**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.97				
Cadmium	**0.31 B**	**0.49**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AV**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.024				
Cobalt	**21.2**	**4.9**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AW**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.088				

(Continued on next page)

Cash in Advance / Prepaid Sales

Client Sample ID: US2

TOTAL Metals

Lot-Sample #...: C9K060597-003 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	**14.2**	**0.49**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AX**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.084				
Copper	**14.5**	**2.5**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1A0**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.34				
Iron	**30100 J**	**9.9**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1A1**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 2.9				
Potassium	**689**	**494**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1A2**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 41.7				
Magnesium	**830**	**494**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1A3**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 2.2				
Manganese	**322 J**	**1.5**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1A4**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.047				
Sodium	**85.5 B**	**494**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1A5**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 8.1				
Nickel	**44.9**	**4.0**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1A6**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.38				
Lead	**16.3**	**0.30**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1A7**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.14				
Selenium	**0.65**	**0.49**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AA**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.20				

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Cash in Advance / Prepaid Sales

Client Sample ID: US2

TOTAL Metals

Lot-Sample #...: C9K060597-003 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Thallium	ND	0.99	mg/kg	SW846 6010B	11/18-11/19/09	LN2MK1AC
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.20				
Antimony	ND	0.99	mg/kg	SW846 6010B	11/18-11/19/09	LN2MK1AD
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.16				
Vanadium	**19.7**	**4.9**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AE**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.18				
Zinc	**127 J**	**2.0**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LN2MK1AF**
		Dilution Factor: 0.75		Analysis Time..: 22:56	MS Run #.....: 9322124	
		MDL.....: 0.22				

Prep Batch #...: 9324374

Trivalent Chromium	**14.2**	**0.49**	**mg/kg**	**SW846 6010B**	**11/19/09**	**LN2MK1A9**
		Dilution Factor: 0.75		Analysis Time..: 00:00	MS Run #.....:	
		MDL.....: 0.056				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: C9K160000-032 **Prep Batch #...:** 9320032						
Mercury	ND	0.016	mg/kg	SW846 7471A	11/16/09	LPJKF1AA
		Dilution Factor: 0.5				
		Analysis Time..: 08:32				
MB Lot-Sample #: C9K180000-204 **Prep Batch #...:** 9322204						
Silver	ND	0.25	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AG
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Aluminum	**1.2 B**	**10.0**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LPND61AH**
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Arsenic	ND	0.50	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AJ
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Barium	ND	10.0	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AK
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Beryllium	ND	0.20	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AL
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Calcium	**1.5 B**	**250**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LPND61AM**
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Cadmium	ND	0.25	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AN
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Cobalt	ND	2.5	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AP
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Chromium	ND	0.25	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AQ
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Copper	ND	1.2	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AR
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Iron	**20.1**	**5.0**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LPND61AT**
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Potassium	ND	250	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AU
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Magnesium	ND	250	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AV
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Manganese	**0.14 B**	**0.75**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LPND61AW**
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Sodium	ND	250	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AX
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Nickel	ND	2.0	mg/kg	SW846 6010B	11/18-11/19/09	LPND61A0
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Lead	ND	0.15	mg/kg	SW846 6010B	11/18-11/19/09	LPND61A1
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Selenium	ND	0.25	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AC
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Thallium	ND	0.50	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AD
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Antimony	ND	0.50	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AA
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				
Vanadium	ND	2.5	mg/kg	SW846 6010B	11/18-11/19/09	LPND61AE
		Dilution Factor: 0.5				
		Analysis Time..: 20:44				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc	**0.47 B**	**1.0**	**mg/kg**	**SW846 6010B**	**11/18-11/19/09**	**LPND61AF**

Dilution Factor: 0.5
Analysis Time..: 20:44

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: C9K160000-032 **Prep Batch #...:** 9320032					
Mercury	98	(80 - 120)	SW846 7471A	11/16/09	LPJKF1AC
		Dilution Factor: 0.5	Analysis Time..: 08:34		
LCS Lot-Sample#: C9K180000-204 **Prep Batch #...:** 9322204					
Silver	101	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61A7
		Dilution Factor: 1	Analysis Time..: 20:50		
Aluminum	98	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61A8
		Dilution Factor: 1	Analysis Time..: 20:50		
Arsenic	98	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61A9
		Dilution Factor: 1	Analysis Time..: 20:50		
Barium	98	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CA
		Dilution Factor: 1	Analysis Time..: 20:50		
Beryllium	100	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CC
		Dilution Factor: 1	Analysis Time..: 20:50		
Calcium	100	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CD
		Dilution Factor: 1	Analysis Time..: 20:50		
Cadmium	98	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CE
		Dilution Factor: 1	Analysis Time..: 20:50		
Cobalt	96	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CF
		Dilution Factor: 1	Analysis Time..: 20:50		
Chromium	99	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CG
		Dilution Factor: 1	Analysis Time..: 20:50		
Copper	102	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CH
		Dilution Factor: 1	Analysis Time..: 20:50		
Iron	96	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CJ
		Dilution Factor: 1	Analysis Time..: 20:50		
Potassium	101	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CK
		Dilution Factor: 1	Analysis Time..: 20:50		

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Magnesium	100	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CL
		Dilution Factor: 1	Analysis Time..: 20:50		
Manganese	99	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CM
		Dilution Factor: 1	Analysis Time..: 20:50		
Sodium	99	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CN
		Dilution Factor: 1	Analysis Time..: 20:50		
Nickel	96	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CP
		Dilution Factor: 1	Analysis Time..: 20:50		
Lead	98	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61CQ
		Dilution Factor: 1	Analysis Time..: 20:50		
Selenium	96	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61A3
		Dilution Factor: 1	Analysis Time..: 20:50		
Thallium	98	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61A4
		Dilution Factor: 1	Analysis Time..: 20:50		
Antimony	98	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61A2
		Dilution Factor: 1	Analysis Time..: 20:50		
Vanadium	100	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61A5
		Dilution Factor: 1	Analysis Time..: 20:50		
Zinc	101	(80 - 120)	SW846 6010B	11/18-11/19/09	LPND61A6
		Dilution Factor: 1	Analysis Time..: 20:50		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID
Date Sampled...: 11/04/09 **Date Received..:** 11/06/09

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: C9K060475-003 **Prep Batch #...:** 9322204							
						% Moisture.....: 14	
Silver	90	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61CC
	95	(75 - 125)	5.6	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61CD
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Aluminum	NC	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61CF
	NC	(75 - 125)		(0-20)	SW846 6010B	11/18-11/19/09	LN1D61CG
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Arsenic	86	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61CJ
	91	(75 - 125)	5.5	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61CK
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Barium	91	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61CM
	95	(75 - 125)	3.3	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61CN
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Beryllium	89	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61CQ
	94	(75 - 125)	5.3	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61CR
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Calcium	109	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61CU
	103	(75 - 125)	3.9	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61CV
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Cadmium	86	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61CX
	90	(75 - 125)	4.9	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61C0
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID
Date Sampled...: 11/04/09 **Date Received..:** 11/06/09

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Cobalt	84	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61C2
	87	(75 - 125)	3.4	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61C3
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Chromium	103	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61C5
	109	(75 - 125)	2.9	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61C6
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Copper	107	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61C8
	95	(75 - 125)	5.7	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61C9
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Iron	NC	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61DC
	NC	(75 - 125)		(0-20)	SW846 6010B	11/18-11/19/09	LN1D61DD
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Potassium	95	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61DF
	96	(75 - 125)	1.1	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61DG
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Magnesium	106	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61DJ
	90	(75 - 125)	9.7	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61DK
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Manganese	123	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61DM
	123	(75 - 125)	0.18	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61DN
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID
Date Sampled...: 11/04/09 **Date Received..:** 11/06/09

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Sodium	93	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61DQ
	93	(75 - 125)	0.10	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61DR
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Nickel	87	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61DU
	86	(75 - 125)	0.81	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61DV
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Lead	84	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61DX
	90	(75 - 125)	6.4	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61D0
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Selenium	83	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61AF
	88	(75 - 125)	5.4	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61AG
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Thallium	85	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61AJ
	90	(75 - 125)	5.5	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61AK
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Antimony	77	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61AC
	81	(75 - 125)	5.0	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61AD
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					
Vanadium	91	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61AM
	101	(75 - 125)	6.9	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61AN
		Dilution Factor: 0.85					
		Analysis Time..: 21:12					
		MS Run #.....: 9322124					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID
Date Sampled...: 11/04/09 **Date Received..:** 11/06/09

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc	94	(75 - 125)			SW846 6010B	11/18-11/19/09	LN1D61AQ
	92	(75 - 125)	1.3	(0-20)	SW846 6010B	11/18-11/19/09	LN1D61AR

Dilution Factor: 0.85
Analysis Time..: 21:12
MS Run #.....: 9322124

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

NC The recovery and/or RPD were not calculated.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: C9K060597 **Matrix.....:** SOLID
Date Sampled...: 11/05/09 **Date Received..:** 11/06/09

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: C9K060595-002 **Prep Batch #...:** 9320032						**% Moisture.....:** 47	
Mercury	103	(75 - 125)			SW846 7471A	11/16/09	LN2L61CA
	98	(75 - 125)	4.1	(0-20)	SW846 7471A	11/16/09	LN2L61CC

Dilution Factor: 0.5
Analysis Time..: 08:40
MS Run #.....: 9320021

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

General Chemistry

Lot-Sample #...: C9K060597-001 **Work Order #...:** LN2ME **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 26

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	ND	0.53	mg/kg	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 0.98		Analysis Time..: 15:54	MS Run #.....: 9317304	
		MDL.....: 0.12				
Hexavalent Chromium	ND	0.53	mg/kg	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 0.98		Analysis Time..: 16:04	MS Run #.....: 9317317	
		MDL.....: 0.12				
Percent Solids	**74.5**	**1.0**	**%**	**SM20 2540G**	**11/07-11/08/09**	**9311135**
		Dilution Factor: 1		Analysis Time..: 07:33	MS Run #.....: 9311084	
		MDL.....: 0.0				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Cash in Advance / Prepaid Sales

Client Sample ID: US1

General Chemistry

Lot-Sample #...: C9K060597-002 **Work Order #...:** LN2MG **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 26

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	ND	0.54	mg/kg	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 0.99		Analysis Time..: 15:55	MS Run #.....: 9317304	
		MDL.....: 0.13				
Hexavalent Chromium	ND	0.54	mg/kg	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 1		Analysis Time..: 16:05	MS Run #.....: 9317317	
		MDL.....: 0.13				
Percent Solids	**73.9**	**1.0**	**%**	**SM20 2540G**	**11/07-11/08/09**	**9311135**
		Dilution Factor: 1		Analysis Time..: 07:33	MS Run #.....: 9311084	
		MDL.....: 0.0				

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Cash in Advance / Prepaid Sales

Client Sample ID: US2

General Chemistry

Lot-Sample #...: C9K060597-003 **Work Order #...:** LN2MK **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 24

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	ND	0.53	mg/kg	SW846 7196A	11/13-11/14/09	9317479
	Dilution Factor: 1.01		Analysis Time..: 15:56		MS Run #.....: 9317304	
	MDL.....: 0.13					
Hexavalent Chromium	ND	0.53	mg/kg	SW846 7196A	11/13-11/14/09	9317508
	Dilution Factor: 1.01		Analysis Time..: 16:06		MS Run #.....: 9317317	
	MDL.....: 0.13					
Percent Solids	**75.9**	**1.0**	**%**	**SM20 2540G**	**11/07-11/08/09**	**9311135**
	Dilution Factor: 1		Analysis Time..: 07:33		MS Run #.....: 9311084	
	MDL.....: 0.0					

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: C9K060597 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium		Work Order #: LPFWW1AA		MB Lot-Sample #:	C9K130000-479	
	ND	0.40	mg/kg	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 1				
		Analysis Time..: 15:39				
Hexavalent Chromium		Work Order #: LPF4G1AA		MB Lot-Sample #:	C9K130000-508	
	ND	0.40	mg/kg	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 1				
		Analysis Time..: 15:49				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: C9K060597 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium		Work Order #: LPFWW1AC	LCS Lot-Sample#: C9K130000-479		
	89	(80 - 120)	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 1	Analysis Time..: 15:37		
Hexavalent Chromium		Work Order #: LPFWW1AD	LCS Lot-Sample#: C9K130000-479		
	100	(80 - 120)	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 50	Analysis Time..: 15:38		
Hexavalent Chromium		Work Order #: LPF4G1AC	LCS Lot-Sample#: C9K130000-508		
	86	(80 - 120)	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 1	Analysis Time..: 15:47		
Hexavalent Chromium		Work Order #: LPF4G1AD	LCS Lot-Sample#: C9K130000-508		
	92	(80 - 120)	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 50	Analysis Time..: 15:48		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: C9K060597 **Matrix.....:** SOLID
Date Sampled...: 11/04/09 **Date Received..:** 11/06/09

Percnt Moisture: 47

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium		Work Order #...: LN2F61HG		MS Lot-Sample #:	C9K060574-001
	0.26 N	(75 - 125)	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 0.98	Analysis Time..: 15:40		
		MS Run #.....: 9317304			
Hexavalent Chromium		Work Order #...: LN2F61HJ		MS Lot-Sample #:	C9K060574-001
	0.0	(75 - 125)	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 51.02	Analysis Time..: 15:40		
		MS Run #.....: 9317304			
Hexavalent Chromium		Work Order #...: LN2F61HN		MS Lot-Sample #:	C9K060574-001
	0.0	(75 - 125)	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 1	Analysis Time..: 15:40		
		MS Run #.....: 9317304			
Hexavalent Chromium		Work Order #...: LN2F61HK		MS Lot-Sample #:	C9K060574-001
	0.0	(75 - 125)	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 1.01	Analysis Time..: 15:50		
		MS Run #.....: 9317317			
Hexavalent Chromium		Work Order #...: LN2F61HM		MS Lot-Sample #:	C9K060574-001
	0.0	(75 - 125)	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 51.02	Analysis Time..: 15:50		
		MS Run #.....: 9317317			
Hexavalent Chromium		Work Order #...: LN2F61HP		MS Lot-Sample #:	C9K060574-001
	0.0	(75 - 125)	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 0.99	Analysis Time..: 15:50		
		MS Run #.....: 9317317			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: C9K060597 **Work Order #...:** LN2L3-SMP **Matrix.....:** SOLID
LN2L3-DUP
Date Sampled...: 11/05/09 **Date Received..:** 11/06/09
% Moisture.....: 38

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: C9K060595-001		
	62.3	62.2	%	0.21	(0-20)	SM20 2540G	11/07-11/08/09	9311135

Dilution Factor: 1 Analysis Time..: 07:33 MS Run Number..: 9311084

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: C9K060597 **Work Order #...:** LN2F6-SMP **Matrix.....:** SOLID
LN2F6-DUP
Date Sampled...: 11/04/09 **Date Received..:** 11/06/09
% Moisture.....: 46

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium						SD Lot-Sample #: C9K060574-001		
	ND	ND	mg/kg	0	(0-20)	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 1				Analysis Time..: 15:40	MS Run Number..: 9317304	
Hexavalent Chromium						SD Lot-Sample #: C9K060574-001		
	ND	ND	mg/kg	200	(0-20)	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 0.99				Analysis Time..: 15:50	MS Run Number..: 9317317	

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: C9K060597 **Work Order #...:** LN2MK-SMP **Matrix.....:** SOLID
LN2MK-DUP
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 24

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium						SD Lot-Sample #: C9K060597-003		
	ND	ND	mg/kg	0	(0-20)	SW846 7196A	11/13-11/14/09	9317479
		Dilution Factor: 1.01				Analysis Time..: 15:56	MS Run Number..: 9317304	
Hexavalent Chromium						SD Lot-Sample #: C9K060597-003		
	ND	ND	mg/kg	0	(0-20)	SW846 7196A	11/13-11/14/09	9317508
		Dilution Factor: 1.01				Analysis Time..: 16:06	MS Run Number..: 9317317	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Cumberland Maryland

Lot #: C9K060599

Mr. Geoffrey Goll

Princeton Hydro
1108 Old York Road
Suite 1
Ringoes, NJ 08551

TESTAMERICA LABORATORIES, INC.

Christina M. Kovitch
Project Manager

December 3, 2009

CASE NARRATIVE
Princeton Hydro

Lot # C9K060599

Sample Receiving:
TestAmerica's Pittsburgh laboratory received samples on November 6, 2009. The cooler was received within the proper temperature range.

If project specific QC was not required for samples contained in this report, when batch QC was completed on these samples, anomalous results will be discussed below.

Dioxins:
TestAmerica's West Sacramento laboratory performed the dioxin analysis. All results are included in the report.

The bracketing continuing calibration standard listed below has an analyte with a percent difference value that is between the method recommended criteria of 20% to 25% deviation from the initial calibration curve. Per method guidelines, an average relative response factor (RRF = 1.135) is calculated from bracketing continuing calibration standards and is used to quantitate any positive results in the associated samples for the affected analytes. There is no impact on the data as a result of this anomaly.

ST1120A on 8D2, 20-NOV-2009 @ 15:35:03 hrs.
2,3,7,8-TCDF

All the internal standard recoveries are lower than the method recommended goal. Generally, data quality is not considered affected if the internal standard signal-to-noise ratio is greater than 10:1, which is achieved for all internal standards in the MB and LCS. All detection limits are below the lower calibration limit and there is no adverse impact on data quality.

2,3,7,8 TCDD in sample DAM has been qualified with a "Q" flag due to the ion abundance ratio being outside of criteria. This analyte has been reported as an "estimated maximum possible concentration" (EMPC) because the quantitation is based on the theoretical ion abundance ratio for these analytes.

General Chemistry:
There were no problems associated with the analysis.

C9K060599

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes ☐ No ☑

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client	Project Manager	Date	Chain of Custody Number
Princeton Hydro	Geoff Goll	5/11/09	146957
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** _____ **of** _____
1108 Old York Rd PO Box 720	(908) 237-5660		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Ringoes NJ 08551			
Project Name and Location (State)	**Carrier/Waybill Number**		
Comberland MD			
Contract/Purchase Order/Quote No.			
84453			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: VOA	Diox/Furans	Metals, BNA, HC	Pesticides, PCB	Special Instructions/ Conditions of Receipt
DAM	3/11/09	—			X		X						X	X	X	X	See Quote
US 1	3/11/09	1600			X		X						X	X	X	X	" "
US 2	3/11/09	1645			X		X						X	X	X	X	" "

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Paul Woodworth	11/6/09	1:32	[signature]	1:32	11/6/09
2.	[signature]	11/6/09	4:05	[signature]	11/6/09	1605
3.	[signature]	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: *WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy*

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METHODS SUMMARY

C9K060599

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Dibenzodioxins and Dibenzofurans, HRGC/HRMS	SW846 8290	SW846 8290
Total Residue as Percent Solids	SM20 2540G	

References:

SM20 "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER", 20TH EDITION."

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

METHODS SUMMARY

C9K060599

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Dibenzodioxins and Dibenzofurans, HRGC/HRMS	SW846 8290	SW846 8290
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References:

SM20 "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER", 20TH EDITION."

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

C9K060599

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LN2MT	001	DAM	11/03/09	
LN2MX	002	US1	11/03/09	
LN2M0	003	US2	11/03/09	16:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

Trace Level Organic Compounds

Lot-Sample #...: C9K060599-001 **Work Order #...:** LN2MT1AC **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:**
Prep Date.....: 11/16/09 **Analysis Date..:** 11/19/09
Prep Batch #...: 9320573 **Analysis Time..:** 07:00
Dilution Factor: 0.99
% Moisture.....: 26

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	**0.92 Q,J**		**pg/g**	**SW846 8290**
Total TCDD	**5.3**		**pg/g**	**SW846 8290**
1,2,3,7,8-PeCDD	ND	0.30	pg/g	SW846 8290
Total PeCDD	ND	2.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.33	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	0.76	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	0.43	pg/g	SW846 8290
Total HxCDD	**9.8**		**pg/g**	**SW846 8290**
1,2,3,4,6,7,8-HpCDD	**20**		**pg/g**	**SW846 8290**
Total HpCDD	**47**		**pg/g**	**SW846 8290**
OCDD	**230**		**pg/g**	**SW846 8290**
2,3,7,8-TCDF	**5.0 CON**		**pg/g**	**SW846 8290**
Total TCDF	**8.5**		**pg/g**	**SW846 8290**
1,2,3,7,8-PeCDF	ND	0.18	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.19	pg/g	SW846 8290
Total PeCDF	ND	0.50	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.24	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.19	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	0.21	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.23	pg/g	SW846 8290
Total HxCDF	ND	0.79	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	1.3	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	0.24	pg/g	SW846 8290
Total HpCDF	ND	3.0	pg/g	SW846 8290
OCDF	ND	3.0	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	68	(40 - 135)
13C-1,2,3,7,8-PeCDD	67	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	74	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	78	(40 - 135)
13C-OCDD	79	(40 - 135)
13C-2,3,7,8-TCDF	73	(40 - 135)
13C-1,2,3,7,8-PeCDF	70	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	80	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	73	(40 - 135)

(Continued on next page)

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

Trace Level Organic Compounds

Lot-Sample #...: C9K060599-001 **Work Order #...:** LN2MT1AC **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Q Estimated maximum possible concentration (EMPC).

J Estimated result. Result is less than the reporting limit.

CON Confirmation analysis.

Cash in Advance / Prepaid Sales

Client Sample ID: US1

Trace Level Organic Compounds

Lot-Sample #...: C9K060599-002 **Work Order #...:** LN2MX1AC **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:**
Prep Date.....: 11/16/09 **Analysis Date..:** 11/19/09
Prep Batch #...: 9320573 **Analysis Time..:** 07:41
Dilution Factor: 1
% Moisture.....: 26

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.57	pg/g	SW846 8290
Total TCDD	**2.9**		**pg/g**	**SW846 8290**
1,2,3,7,8-PeCDD	ND	0.29	pg/g	SW846 8290
Total PeCDD	ND	0.74	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.35	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	0.63	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	0.51	pg/g	SW846 8290
Total HxCDD	ND	2.6	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	**12**		**pg/g**	**SW846 8290**
Total HpCDD	**23**		**pg/g**	**SW846 8290**
OCDD	**200**		**pg/g**	**SW846 8290**
2,3,7,8-TCDF	**2.6 CON**		**pg/g**	**SW846 8290**
Total TCDF	**4.5**		**pg/g**	**SW846 8290**
1,2,3,7,8-PeCDF	ND	0.16	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.17	pg/g	SW846 8290
Total PeCDF	ND	0.38	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.27	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.24	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	0.27	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.29	pg/g	SW846 8290
Total HxCDF	ND	0.76	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	1.5	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	0.33	pg/g	SW846 8290
Total HpCDF	ND	2.6	pg/g	SW846 8290
OCDF	ND	3.6	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	73	(40 - 135)
13C-1,2,3,7,8-PeCDD	70	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	80	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	81	(40 - 135)
13C-OCDD	85	(40 - 135)
13C-2,3,7,8-TCDF	75	(40 - 135)
13C-1,2,3,7,8-PeCDF	74	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	83	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	77	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

CON Confirmation analysis.

Cash in Advance / Prepaid Sales

Client Sample ID: US2

Trace Level Organic Compounds

Lot-Sample #...: C9K060599-003 **Work Order #...:** LN2M01AC **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09 **MS Run #.....:**
Prep Date.....: 11/16/09 **Analysis Date..:** 11/19/09
Prep Batch #...: 9320573 **Analysis Time..:** 08:23
Dilution Factor: 1
% Moisture.....: 24

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	**0.93 J**		**pg/g**	**SW846 8290**
Total TCDD	**3.9**		**pg/g**	**SW846 8290**
1,2,3,7,8-PeCDD	ND	0.28	pg/g	SW846 8290
Total PeCDD	ND	1.9	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.37	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	0.51	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	0.49	pg/g	SW846 8290
Total HxCDD	**4.5**		**pg/g**	**SW846 8290**
1,2,3,4,6,7,8-HpCDD	**17**		**pg/g**	**SW846 8290**
Total HpCDD	**36**		**pg/g**	**SW846 8290**
OCDD	**220**		**pg/g**	**SW846 8290**
2,3,7,8-TCDF	**4.0 CON**		**pg/g**	**SW846 8290**
Total TCDF	**6.7**		**pg/g**	**SW846 8290**
1,2,3,7,8-PeCDF	ND	0.15	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.17	pg/g	SW846 8290
Total PeCDF	ND	0.45	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.25	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.22	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	0.25	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.27	pg/g	SW846 8290
Total HxCDF	ND	0.95	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	1.8	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	0.25	pg/g	SW846 8290
Total HpCDF	**3.6**		**pg/g**	**SW846 8290**
OCDF	ND	5.2	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	71	(40 - 135)
13C-1,2,3,7,8-PeCDD	69	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	74	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	78	(40 - 135)
13C-OCDD	86	(40 - 135)
13C-2,3,7,8-TCDF	74	(40 - 135)
13C-1,2,3,7,8-PeCDF	70	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	83	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	76	(40 - 135)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than the reporting limit.

CON Confirmation analysis.

METHOD BLANK REPORT

Trace Level Organic Compounds

Client Lot #...: C9K060599 **Work Order #...:** LPKKM1AA **Matrix.....:** SOLID
MB Lot-Sample #: G9K160000-573
Prep Date.....: 11/16/09 **Analysis Time..:** 02:49
Analysis Date..: 11/19/09 **Prep Batch #...:** 9320573
Dilution Factor: 1

PARAMETER	RESULT	DETECTION LIMIT	UNITS	METHOD
2,3,7,8-TCDD	ND	0.40	pg/g	SW846 8290
Total TCDD	ND	0.40	pg/g	SW846 8290
1,2,3,7,8-PeCDD	ND	0.85	pg/g	SW846 8290
Total PeCDD	ND	0.85	pg/g	SW846 8290
1,2,3,4,7,8-HxCDD	ND	0.62	pg/g	SW846 8290
1,2,3,6,7,8-HxCDD	ND	0.52	pg/g	SW846 8290
1,2,3,7,8,9-HxCDD	ND	0.53	pg/g	SW846 8290
Total HxCDD	ND	0.62	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDD	ND	0.76	pg/g	SW846 8290
Total HpCDD	ND	0.76	pg/g	SW846 8290
OCDD	ND	0.88	pg/g	SW846 8290
2,3,7,8-TCDF	ND	0.34	pg/g	SW846 8290
Total TCDF	ND	0.34	pg/g	SW846 8290
1,2,3,7,8-PeCDF	ND	0.42	pg/g	SW846 8290
2,3,4,7,8-PeCDF	ND	0.43	pg/g	SW846 8290
Total PeCDF	ND	0.50	pg/g	SW846 8290
1,2,3,4,7,8-HxCDF	ND	0.67	pg/g	SW846 8290
1,2,3,6,7,8-HxCDF	ND	0.58	pg/g	SW846 8290
2,3,4,6,7,8-HxCDF	ND	0.65	pg/g	SW846 8290
1,2,3,7,8,9-HxCDF	ND	0.71	pg/g	SW846 8290
Total HxCDF	ND	0.71	pg/g	SW846 8290
1,2,3,4,6,7,8-HpCDF	ND	0.56	pg/g	SW846 8290
1,2,3,4,7,8,9-HpCDF	ND	0.69	pg/g	SW846 8290
Total HpCDF	ND	0.69	pg/g	SW846 8290
OCDF	ND	0.75	pg/g	SW846 8290

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	27 *	(40 - 135)
13C-1,2,3,7,8-PeCDD	23 *	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	32 *	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	32 *	(40 - 135)
13C-OCDD	33 *	(40 - 135)
13C-2,3,7,8-TCDF	27 *	(40 - 135)
13C-1,2,3,7,8-PeCDF	26 *	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	29 *	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	32 *	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

* Surrogate recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

Trace Level Organic Compounds

Client Lot #...: C9K060599 **Work Order #...:** LPKKM1AC **Matrix.....:** SOLID
LCS Lot-Sample#: G9K160000-573
Prep Date.....: 11/16/09 **Analysis Date..:** 11/19/09
Prep Batch #...: 9320573 **Analysis Time..:** 03:31
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
2,3,7,8-TCDD	**97**	**(77 - 130)**	**SW846 8290**
1,2,3,7,8-PeCDD	**111**	**(79 - 134)**	**SW846 8290**
1,2,3,4,7,8-HxCDD	**89**	**(65 - 144)**	**SW846 8290**
1,2,3,6,7,8-HxCDD	**110**	**(73 - 147)**	**SW846 8290**
1,2,3,7,8,9-HxCDD	**111**	**(80 - 143)**	**SW846 8290**
1,2,3,4,6,7,8-HpCDD	**100**	**(86 - 134)**	**SW846 8290**
OCDD	**105**	**(80 - 137)**	**SW846 8290**
2,3,7,8-TCDF	**104**	**(79 - 137)**	**SW846 8290**
1,2,3,7,8-PeCDF	**95**	**(81 - 134)**	**SW846 8290**
2,3,4,7,8-PeCDF	**98**	**(76 - 132)**	**SW846 8290**
1,2,3,4,7,8-HxCDF	**90**	**(72 - 140)**	**SW846 8290**
1,2,3,6,7,8-HxCDF	**104**	**(63 - 152)**	**SW846 8290**
2,3,4,6,7,8-HxCDF	**106**	**(72 - 151)**	**SW846 8290**
1,2,3,7,8,9-HxCDF	**105**	**(72 - 152)**	**SW846 8290**
1,2,3,4,6,7,8-HpCDF	**98**	**(81 - 137)**	**SW846 8290**
1,2,3,4,7,8,9-HpCDF	**104**	**(79 - 139)**	**SW846 8290**
OCDF	**105**	**(75 - 141)**	**SW846 8290**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	22 *	(40 - 135)
13C-1,2,3,7,8-PeCDD	20 *	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	25 *	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	30 *	(40 - 135)
13C-OCDD	30 *	(40 - 135)
13C-2,3,7,8-TCDF	22 *	(40 - 135)
13C-1,2,3,7,8-PeCDF	22 *	(40 - 135)
13C-1,2,3,4,7,8-HxCDF	25 *	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	28 *	(40 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

* Surrogate recovery is outside stated control limits.

Cash in Advance / Prepaid Sales

Client Sample ID: DAM

General Chemistry

Lot-Sample #...: C9K060599-001 **Work Order #...:** LN2MT **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 26

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**74.5**		**%**	**SM20 2540G**	**11/07-11/08/09**	**9334033**
	Dilution Factor: 1		Analysis Time..: 00:00		MS Run #.....: 9311084	
	MDL.....:					

Cash in Advance / Prepaid Sales

Client Sample ID: US1

General Chemistry

Lot-Sample #...: C9K060599-002 **Work Order #...:** LN2MX **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 26

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**73.9**		**%**	**SM20 2540G**	**11/07-11/08/09**	**9334033**

Dilution Factor: 1 Analysis Time..: 00:00 MS Run #.....: 9311084
MDL.....:

Cash in Advance / Prepaid Sales

Client Sample ID: US2

General Chemistry

Lot-Sample #...: C9K060599-003 **Work Order #...:** LN2M0 **Matrix.....:** SOLID
Date Sampled...: 11/03/09 **Date Received..:** 11/06/09
% Moisture.....: 24

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**75.9**		**%**	**SM20 2540G**	**11/07-11/08/09**	**9334033**

Dilution Factor: 1 Analysis Time..: 00:00 MS Run #.....: 9311084
MDL.....:

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: C9K060599 **Work Order #...:** LN2L3-SMP **Matrix.....:** SOLID
LN2L3-DUP
Date Sampled...: 11/05/09 **Date Received..:** 11/06/09
% Moisture.....: 38

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: C9K060595-001		
	62.3	62.2	%	0.21	(0-20)	SM20 2540G	11/07-11/08/09	9311135

Dilution Factor: 1 Analysis Time..: 07:33 MS Run Number..: 9311084

CUMBERLAND, MARYLAND DAM SITE
SUMMARY OF TOXICITY EQUIVALENCE ASSESSMENT FOR SEDIMENT SAMPLES COLLECTED 3 NOVEMBER 2009

POLYCHLORINATED COMPOUNDS		TOXICITY EQUIVALENCY FACTOR			SEDIMENT CONCENTRATION (pg/g)			TOXICITY EQUIVALENCE CONCENTRATION-DAM			TOXICITY EQUIVALENCE CONCENTRATION-US1			TOXICITY EQUIVALENCE CONCENTRATION-US2		
Class	Congener	Mammal	Bird	Fish	DAM	US1	US2	Mammal	Bird	Fish	Mammal	Bird	Fish	Mammal	Bird	Fish
Dioxins	2,3,7,8-TCDD	1	1	1	0.92	0.57	**0.93**	0.92	0.92	0.92	0.57	0.57	0.57	0.93	0.93	0.93
	TCDD (total)	1	1	1	**5.3**	2.9	3.9	5.3	5.3	5.3	2.9	2.9	2.9	3.9	3.9	3.9
	1,2,3,4,6,7,8-HpCDD	0.01	0.001	0.001	**20**	12	17	0.2	0.02	0.02	0.12	0.012	0.012	0.17	0.017	0.017
	HpCDD (total)	0.01	0.001	0.001	**47**	23	36	0.47	0.047	0.047	0.23	0.023	0.023	0.36	0.036	0.036
	HxCDD (total)	0.1	0.1	0.5	**9.8**	0.76	4.5	0.98	0.98	4.9	0.076	0.076	0.38	0.45	0.45	2.25
	OCDD	230	0.0003	0.0001	0.0001	200	**220**	0.023	0.00000003	0.00000001	46000	0.06	0.02	50600	0.066	0.022
Furans	2,3,7,8-TCDF	0.1	1	0.05	**5**	2.6	4	0.5	5	0.25	0.26	2.6	0.13	0.4	4	0.2
	TCDF (total)	0.1	1	0.05	**8.5**	4.5	6.7	0.85	8.5	0.425	0.45	4.5	0.225	0.67	6.7	0.335
	HpCDF (total)	0.01	0.01	0.01	3	2.6	**3.6**	0.03	0.03	0.03	0.026	0.026	0.026	0.036	0.036	0.036
SUM					**99.5**	**248.9**	**296.6**	**9.27**	**20.80**	**11.89**	**46,005**	**10.77**	**4.29**	**50,607**	**16.14**	**7.73**

Notes:

pg/g	pg/gsediment concentrations in picograms/gram; approximately equivalent to parts per trillion
3	compound not detected, value is reporting limit
8.5	sediment concentration values in**BOLD** indicate the highest concentration detected in this data set.
TCDD	tetrachlorinated dibenzo-p-dioxin
HpCDD	heptachlorinated dibenzo-p-dioxin
HxCDD	hexachlorinated dibenzo-p-dioxin
TCDF	tetrachlorinated dibenzofuran
HpCDF	heptachlorinated dibenzofuran
TEC	toxicity equivalence concentration; calculated herein as TEC = $\sum C_n * TEF_n$; where C is dioxin-like concentration in organism or its diet and TEF is toxicity equivalence factor

EPA Region III BTAG - Freshwater Sediment Screening Benchmark for 2,3,7,8-TCDD-dioxin: 0.00085 ug/kg = 0.85 parts per trillion.

File: P:\1033\Projects\1033001\GIS\MXD\Bathymetry_FullMap.mxd

MARYLAND COUNTY MAP

SOURCES:

1. 2001 aerial photograph obtained from the Maryland State Geographic Information Committee (MSGIC) web site.
2. Historic borings by the U.S. Army Corps of Engineers. Boring locations and depth to bedrock elevations taken from a plan titled "Location of Subsurface Explorations", dated November 7, 1952
3. All elevations are registered in North American Vertical Datum (NAVD) 1988.

N

0 25 50 100 Feet

1 inch = 50 feet

PREPARED FOR:

City of Cumberland
Allegany County, MD

PRINCETON HYDRO, LLC

SCIENTISTS AND ENGINEERS
1200 LIBERTY PLACE
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OFFICES IN RINGOES, NJ AND EXTON, PA

PROJECT NAME/LOCATION:

POTOMAC RIVER INDUSTRIAL DAM
DAM REMOVAL FEASIBILITY STUDY

BATHYMETRIC SURVEY
CUMBERLAND, ALLEGANY COUNTY
MARYLAND

DRAWING NAME:

BATHYMETRIC SURVEY

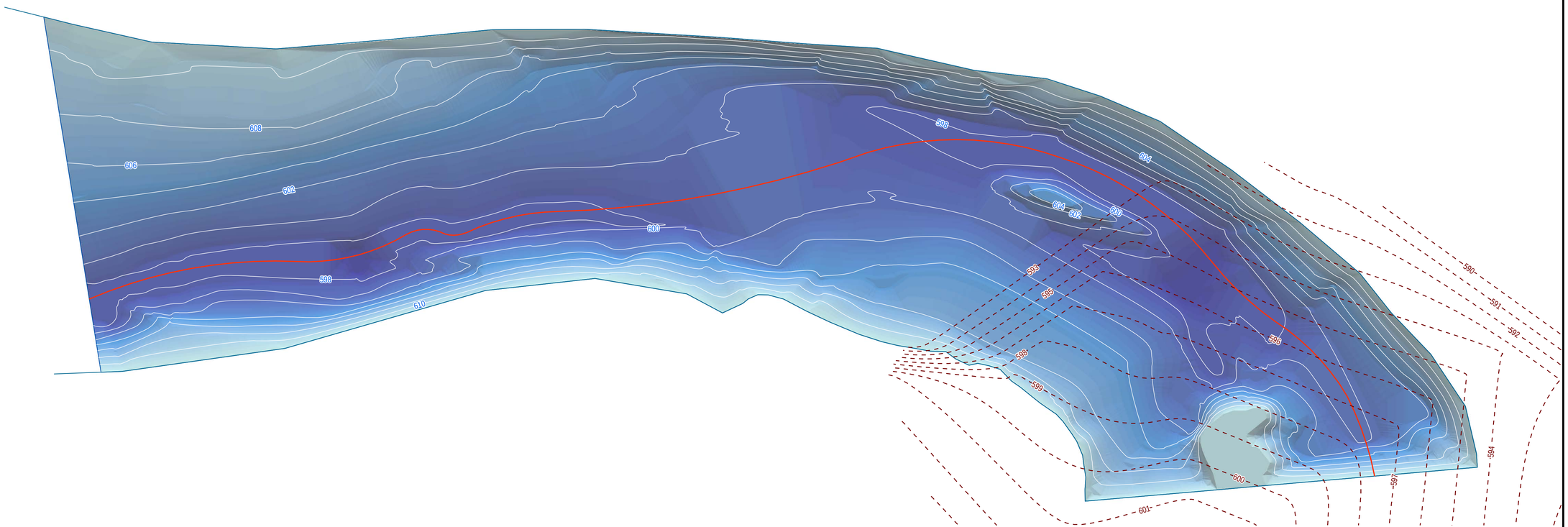
WATER DEPTH CONTOURS
AND BEDROCK MODELING

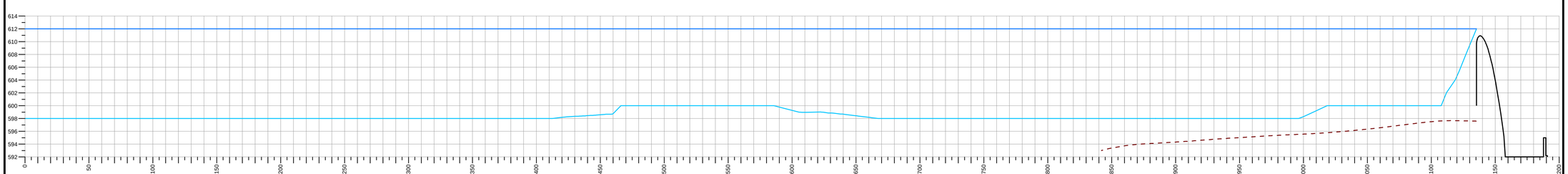
Legend

- Water Depth Contours
- Bedrock Contours

File: P:\1033\projects\1033001\GIS\MXD\Upper_Profile.mxd

1 inch = 40 feet





MARYLAND COUNTY MAP

SOURCES:

1. Bathymetric survey by Princeton Hydro, LLC., performed on November 3 and 4, 2009. Survey conducted with a Knudsen Echosounder in unison with a Trimble ProXH GPS unit.
2. Bathymetric data post-processing completed with Hypack Max software.
3. All 3-D modeling and contouring completed with ESRI's ArcGIS version 9.3
4. All elevations are registered in North American Vertical Datum (NAVD) 1988.

Profile Scales

Horizontal: 1" = 40'
Vertical: 1" = 8'

PREPARED FOR:

City of Cumberland
Allegany County, MD

PRINCETON HYDRO, LLC

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PROJECT NAME/LOCATION:

POTOMAC RIVER INDUSTRIAL DAM
DAM REMOVAL REASIBILITY STUDY

BATHYMETRIC SURVEY
CUMBERLAND, ALLEGANY COUNTY
MARYLAND

DRAWING NAME:

PROFILE

UPPER IMPOUNDMENT

Legend

- Water Surface Elevation (at time of survey)
- Top of Sediment
- Bedrock Modeling
- Tics
- Grid
- Industrial Dam Profile

File: P:\1033\projects\1033001\GIS\MXD\Lower_Profile.mxd

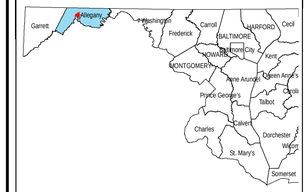
1 inch = 20 feet

Industrial Dam

Vertical Elevations in NAVD88
Horizontal Distances are in feet

Water Surface Elevation: 596.36 AND 596.11

MARYLAND COUNTY MAP



SOURCES:

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2. Bathymetric data post-processing completed with Hypack Max software.
3. All 3-D modeling and contouring completed with ESRI's ArcGIS version 9.3
4. All elevations are registered in North American Vertical Datum (NAVD) 1988.

Profile Scales

Horizontal: 1" = 20'
Vertical: 1" = 2'

PREPARED FOR:

City of Cumberland
Allegany County, MD

PRINCETON HYDRO, LLC

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PROJECT NAME/LOCATION:

POTOMAC RIVER INDUSTRIAL DAM
DAM REMOVAL FEASIBILITY STUDY

BATHYMETRIC SURVEY
CUMBERLAND, ALLEGANY COUNTY
MARYLAND

DRAWING NAME:

PROFILE

DOWNSTREAM OF DAM

Legend

- Water Surface Elevation (at time of survey)
- Top of Sediment
- Bedrock Modeling
- Tics
- Grid

File: P:\1033\Projects\10330001\GIS\MXD\Bedrock_Overlay.mxd

MARYLAND COUNTY MAP

SOURCES:

1. 2001 aerial photograph obtained from the Maryland State Geographic Information Committee (MSGIC) web site.
2. Historic borings by the U.S. Army Corps of Engineers. Boring locations and depth to bedrock elevations taken from a plan titled "Location of Subsurface Explorations", dated November 7, 1952
3. All elevations are registered in North American Vertical Datum (NAVD) 1988.

N

0 25 50 100 Feet

1 inch = 50 feet

PREPARED FOR:

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Allegany County, MD

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DAM REMOVAL FEASIBILITY STUDY

BATHYMETRIC SURVEY
CUMBERLAND, ALLEGANY COUNTY
MARYLAND

DRAWING NAME:

BEDROCK DATA SOURCE

Legend

Bedrock Contours

File: P:\1033\Projects\1033001\GIS\MXD\Bedrock_Modeling.mxd

DH-600A
589.4

DH-366
594.1

DH-367
590.1

DH-365
590.7

DH-367A
592.7

DH-364
594.7

DH-209A
588.3

DH-357
595.3

DH-367B
595.1

DH-31
590.2

DH-368
599.2

DH-363
603.2

DH-358
595.3

DH-211
592.1

DH-359
593.1

DH-631
601.6

DH-362
601.7

DH-360
597.7

DH-627
593.1

DH-361
597

DH-373
592

594
595
597
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600
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602
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596
590
591
595
593

MARYLAND COUNTY MAP

SOURCES:

1. 2001 aerial photograph obtained from the Maryland State Geographic Information Committee (MSGIC) web site.
2. Historic borings by the U.S. Army Corps of Engineers. Boring locations and depth to bedrock elevations taken from a plan titled "Location of Subsurface Explorations", dated November 7, 1952
3. All elevations are registered in North American Vertical Datum (NAVD) 1988.

N

0 25 50 100 Feet

1 inch = 50 feet

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Allegany County, MD

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PROJECT NAME/LOCATION:

POTOMAC RIVER INDUSTRIAL DAM
DAM REMOVAL FEASIBILITY STUDY

BATHYMETRIC SURVEY
CUMBERLAND, ALLEGANY COUNTY
MARYLAND

DRAWING NAME:

BEDROCK MODELING

Legend

- Historic Boring Locations
- Bedrock Contours

KCI TECHNOLOGIES

ISO 9001:2000 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

5001 Louise Drive, Suite 201 • Mechanicsburg, PA 17055 • Phone 717-691-1340 • Fax 717-691-3470

May 3, 2010

Ms. Laura Wildman, PE
Director, New England Regional Office
PrincetonHydro, LLC
20 Bayberry Road
Glastonbury, CT 06033

Re: Feasibility of Removal Study for the Potomac River Industrial Dam – Phase I
Cumberland, MD
Historic Resources Studies Scope and Estimated Costs
KCI Project No. 16100193A

Dear Ms. Wildman:

Enclosed please find KCI's proposed scope of work and estimated costs to conduct historic resources studies for the above referenced project. The scope of work is based on our discussions with the Maryland Historical Trust (MHT), City of Cumberland and C&O Canal in February regarding MHT's requirements for compliance with Section 106 of the National Historic Preservation Act.

We appreciate the opportunity to submit this technical and cost proposal to PrincetonHydro and we look forward to working with you as this project moves forward. If you have questions or require additional information about the enclosed proposal or the historic structures studies for this project, please contact me at 717-691-1340 or margaret.parker@kci.com.

Sincerely,

Margaret B. Parker
Senior Architectural Historian

Enclosure

pc: Roger Windschitl, KCI

Feasibility of Potomac River Industrial Dam Removal Project – Phase I
Cumberland, MD
Historic Resources Studies Scope and Estimated Costs
April 2010

Scope of Work

This scope of work is based on discussions among the City of Cumberland, the Maryland Historical Trust (MHT), the Chesapeake and Ohio Canal, PrincetonHydro, LLC and KCI Technologies, Inc. during the February 25, 2010, conference call regarding the cultural resources studies for the Feasibility of Removal Study of the Potomac River Industrial Dam. The scope outlines KCI's approach to documenting and evaluating the dam to comply with federal and state historic preservation laws noted below.

The historic resources studies will be conducted in accordance with Section 106 of the National Historic Preservation Act; 36 CFR Part 800, the implementing regulations issued by the Advisory Council on Historic Preservation (as amended in January 2001); the National Environmental Policy Act; and the Maryland Historical Trust Act of 1985, as amended, State Finance and Procurement Article §§ 5A-325 and 5A-326 of the Annotated Code of Maryland.

Task 1: Coordination

KCI will coordinate with the City of Cumberland and MHT, which serves as the State Historic Preservation Officer (SHPO), to document the Potomac River Industrial Dam and evaluate its eligibility for listing in the National Register of Historic Places (NRHP).

The documentation and evaluation will be completed by an architectural historian who meets the qualifications specified in 36 CFR 61, Appendix A and will follow *Standards and Guidelines for Architectural and Historical Investigations in Maryland* (MHT 2000) and *Guidelines and Resources for Compliance-Generated Determinations of Eligibility* (MHT, May 2009). The evaluation also will reference the most current version of *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* prepared by National Register Staff of the National Park Service.

Task 2: Background and Archival Research

KCI will conduct background and archival research to gather information about the history and development of the project area to provide a context within which the dam can be evaluated. The types of sources that will be reviewed may include historic maps, local and regional histories, as well as discussions with the City and other agencies, as available. The purpose of this research is not to prepare a formal written historic context statement, but rather to provide basic information relevant to the dam and the general history of the project area.

KCI also will consult with the City to review pertinent records regarding the construction of the dam and its development and use, as available. The project team has copies of the as-built drawings of the dam and copies of these drawings will be included with the DOE form.

Task 3: Field Survey

KCI will undertake a field survey of the dam to record the physical characteristics and architectural and engineering details of the structure and to take digital photographs of the resource. The size and format of the digital photograph files will comply with MHT *Guidelines for Digital Images*. KCI will request assistance from the City historian to accompany the KCI architectural historian in the field as a way to keep costs down and as a source of local information.

Task 4: Documentation and Evaluation

The dam will be documented on a standard DOE form. In accordance with MHT guidelines, the form will include a Maryland Inventory of Historic Properties (MIHP) number, a description of the resource and its historic significance, a discussion of integrity, and an evaluation of eligibility for listing in the NRHP. Two (2) copies of the appropriate section of the USGS quadrangle showing the location of the resource, and 5"x7" black-and-white prints (from the digital images) and digital files printed and labeled in accordance with MHT standards, as well as copies of the as-built plans, will accompany the form.

KCI will submit the documentation to the City and MHT for their review. Following receipt of comments, KCI will revise the forms and prepare final copies for City and MHT files. Final copies will include original photographs and copies of digital files labeled and saved on an archival DVD, along with an electronic copy of the Microsoft Access97 file of the DOE form.

If the dam is determined to be eligible for listing in the NRHP, KCI will provide a recommendation of tasks that would be required as part of the next phase of this project.

Feasibility of Potomac River Industrial Dam Removal Study - Phase I
April 2010

Estimated Labor and Direct Costs

Hours

Task	Senior Historian	Project Historian	GIS Specialist	Total
1: Coordination	4	2	0	6
2: Research	1	8	0	9
3: Field Survey	1	12	0	13
4: Documentation	4	24	4	32
Total Hours	10	46	4	60

Labor Cost

	Rate		Hours	Total
Senior Historian	$110.00	X	10	$ 1,100.00
Project Historian	$83.00	X	46	$ 3,818.00
GIS Specialist	$66.00	X	4	$ 264.00
Total Labor Costs				$ 5,182.00

Direct Expenses

Mileage	280	miles	X	$0.50	/mile	$ 140.00
Photographs						$ 60.00
Reports	4	reports	X	$10	/report	$ 40.00
Total Direct Expenses						$ 240.00
Total Costs						**$ 5,422.00**

Canal Pumping Station:

The following is an excerpt from the USACE's Design Report for the C&O Canal Rewatering Project, July 2005.

Section 3
WATER SUPPLY LINE
(Unit 1)

3.1 Siphon Pipe

Originally, a water supply (siphon) pipe was designed to deliver water into the basin and canal. An 1130-foot long ductile iron pipeline was designed, which would provide flow rates of 18 to 24 cfs to the canal. The screened intake was located in the North Branch Potomac River, just upstream from the Industrial Dam. Landward of the intake, the pipe would be jacked under Route 28 in West Virginia. The pipe than crossed the Potomac, trenched and concrete-encased below the river invert, to the Maryland side. The pipe would be jacked through the levee, with an outlet just south of the existing canal locks. Refer to the "Preliminary" subfolder within Drawings, Sheets C-i through C-4 for plan, profiles, and details on the siphon.

3.2 Pumping System

A private consultant, Project Time & Cost, performed an independent review of the construction cost estimate and *75%* plans in March 2002. One major comment was that the jack and bore pipe installation under Route 28 would be a difficult, risky undertaking. Rock will be encountered, making jack and bore difficult if not impossible. Blasting will likely be required instead. Dewatering this area (which lies directly behind the Industrial Dam) will also be difficult and expensive. In light of these comments and the likelihood of the siphon pipe being much costlier than originally estimated, the design team elected to include a pumping system in lieu of a siphon pipe to water the canal. In addition to ease of construction, the pumping system also offered the possibility of varying flow rates into the canal.

For the pumping system, the screened intake location is also just upstream of the Industrial Dam. A pipe will carry water to the pump station by gravity. The pump station will contain two pumps and is located just riverward of the levee crest in Maryland. Each pump can provide 4 cfs to the canal, for a total of 8 cfs if run in tandem. Once the canal is operational, normal pumping rate will be 4 cfs. The pumps can be cycled, with only one running at a time, to maintain this rate. The maximum rate of 8 cfs (both pumps running) should only be required for initial filling of the canal. The maximum flow rate is much lower than proposed for the siphon pipe, which will minimize initial and operating costs by requiring smaller pumps. The Park Service has approved the lower flow rate.

Note that unlike the siphon pipe, the pumping system is located entirely in Maryland. Twin 10-inch pipes will be buried along the levee crest, extending east from the new pump station, to carry water to the basin. These twin pipes will be hung from the existing Wills Creek Pedestrian Bridge. The pipes then will run below grade along the train platform, and into the feeder lock.

The Wills Creek Pedestrian Bridge is owned and maintained by the Canal Place Authority. They granted permission to the Corps to hang the twin pipes from the bridge. The Corps coordinated with the bridge

manufacturer, Continental Bridge Company, on the design and construction details for the pipe installation. Their engineers approved the pipe installation on the existing bridge, and they certified that the original bridge warranty would remain in effect with this modification Refer to Appendix I for the approval letter from Continental dated June 2003.

For drawings of the pumping system, refer to the following Unit 1 plans:

Sheet C-6	Pumping system plan
Sheet C-7	Pumping system profile
Sheets S-4, *5-5*	Pipe supports, Wills Creek Bridge
Sheets S-6 to S-9	Pump Station details
Sheet M- I	Pump Station details
Sheet M-2	Screened Intake
Sheets M-3, M-4	Pipe layout & details
Sheet *M-5*	Float Well details
Sheets E- 1 to E-7	Pump Station electrical details

3.3 Screened Intake

A screened intake pipe was deemed necessary to limit debris and sediment entering the pump station and canal. The screened intake will also prohibit fish from entering the intake pipe and (fatally) the pumps.

The design team coordinated with representatives from the Johnson Screen Company regarding the appropriate screened intake to use. A T-shaped intake screen with air backwash system was recommended. This screen would bolt to the end of the 24" ductile iron intake pipe, and contain screen opening small enough to prevent fish and debris from entering. An automated backwash system provides a burst of air to the intake screen, dislodging any accumulation. Additional, several pilings will be placed just upstream from the screen, to deflect any large debris (trees, ice) that could potentially impact and dislodge the intake screen and pipe. Manufacturer data and design for the intake screen is included in Appendix C.

The intake pipe was originally to extend out to deep water, in the middle of the river. The pipe was to be supported by helical anchors in open water. As a cost savings measure, the intake screen was moved much closer to the shoreline. The anchors were eliminated, and the intake installation can now be accomplished from the shoreline. The intake screen and pipe will be supported by rock fill, for the short distance it extends into open water.

The following sections describe design for pump station features, which accepts flow from the intake pipe and pumps it via twin pipes to the turning basin, feeding water into the canal.

3.4 Pumping System — Mechanical Design

The mechanical aspects of the project include submersible pumps, pump guide rails for lifting, gravity intake conduit, raw water intake screen, station sump for pump submergence, air purge system with compressor and air reservoir, shelter building for all equipment, and 10 inch discharge lines from each pump to turning basin discharge flange. Also included are Pump soft starters, enclosure for controls, communications, and protective relaying.

References:
Hydraulics Institute, HI 2.1-2.5-1994
American Cast Iron Pipe Company, Pipe Manual
Flow of Fluids. Crane Technical paper No. 410
Fairbanks Morse Pump Corporation
Ductile Iron Pipe Research Association technical design guides
EM 1110-2-3105, Mar 94, Mechanical & Electrical Design of Pumping Stations
EM 1110-2-3102, 28 Feb *95,* Principles of Pumping Station Design & Layout

Calculations and other key data for the Mechanical design are included in Appendix F.

3.4.1 Pump Design. Submersible non-solids handling pumps were selected for the pumps because many of them are presently in successful service. The pump is a relatively simple device without critical tolerance or alignment requirements. The moderate rpm of the pumps enhances reliability and prolongs life.

Pump control will include float switch piloted programmable level controller. Float switches will be installed in a float well near the discharge point in the turning basin.

3.4.2 Sump Inlet Gate. Isolation of flow is required at the sump inlet. A cast iron sluice gate will be installed at the end of the intake pipe. The gate will be crank operated and will be pressure unseating with regard to stress and leakage specifications. The gate will be of sufficient static head capability to survive maximum achievable unseating head. The gate actuator will consist of a pedestal mounted geared hoist. The input to the geared actuator will be capable of accepting a portable electric drill type power drive. The local public works department (City of Cumberland) will be responsible for providing the portable power device to attach to the actuator inputs in order to actuate the gate. The local public works department will be responsible for providing the generator to operate the portable power device.

3.4.3 Pump vault. The pump will require a substantial structure (pump station) to provide support and maintenance access. In order to maintain sufficient submergence for the pumps, the pump station floor will be substantially below the intake water surface elevation. The pump vault geometry and pump submergence will be designed in accordance with Hydraulics Institute Standards to ensure no vortexing.

3.4.4 Pump Station Shelter. A 16 ft. by 20 ft. shelter will be installed over the pump station to accommodate the electrical switchgear, the air purge compressor equipment, the control panel enclosure, and the access hatchways.

3.4.5 Painting. All exposed ferrous metal will require painting. The painting system used will be a high performance epoxy vinyl used in the marine environment and acceptable to EPA.

3.5 Pumping System — Electrical Design

Electricity will be supplied to the two 75 HP submersible pumps in a pump shelter that will pump water from the Potomac River to the new turning basin for the C&O Canal. The pumps will turn on and off according to the water levels in the turning basin. There will be a float well with float switches to send signals down the control line to the pump combination starters. The pump shelter will have receptacles,

lights, a compressor, and a remote monitoring system (RMS) that will be connected to the pump starters with control lines and connected to an outside phone line. The RMS will be able to dial out and report with a recorded voice message on the various alarm conditions of the pumps.

Calculations and other key data for the Electrical design are included in Appendix E.

3.5.1 Exterior Electrical Distribution System. The primary power and the transformer will be supplied by Allegheny power. The transformer will be approximately 225 kVA, delta wye, and the secondary side will be 480/277 volts. The secondary lines from the transformer will be 4 —350 kcmil cables in 3 1/2 inch PVC schedule 80 conduit buried 36 inches below the finished grade (BFG). At *5* feet from the pump shelter the conduit will change to Rigid steel conduit and then run under the pump shelter and up into the pump shelter. There will be a spare 3 ½ inch PVC schedule 80 conduit run from the transformer 36 inches BFG to within 5 feet of the pump shilter. The spare conduit will then change to rigid steel conduit and run under the pump shelter and up into the pump shelter. It will be stubbed up into the pump shelter 2 feet and capped. The connected load for this project will be 174 kVA. The demand load will be 137 kVA. With the spare capacity of 25% added the demand load will be 171 kVA.

3.5.2 Interior Electrical Distribution System. The secondary lines that run into the pump shelter will come into a meter socket then run into a panel board DP. The panel board DP will be a 3 phase 480/277 volt panel board with 400 amp mains, 30 spaces, a 250 amp main circuit breaker, a built in transient voltage surge suppressor (TVSS), a minimum 22,000 amp AIC rating, and it will be surface mounted. This panel board will feed the two 75 HP motors, a *5* HP compressor, a 3 kVA transformer, and the lighting circuit. The 3 kVA transformner will be a 3 phase 480/277 volt to 208/120 volt transformer. It will feed a panel board RP. Panel board RP will be a 208/120 volt, 3 phase, with a 100 amp main, a 20 amp main circuit breaker, a minimum 10,000 AIC rating, 12 spaces, and will be surface mounted. Panel board RP will have a connected load of 1.4 kVA with a demand load of 1.4 kVA. With the added 25% for spare capacity, the demand load will be 1.8 kVA. Panel board RP will feed the receptacles, the remote monitoring system, a transient voltage surge suppressor, and the exhaust fan. The interior conduit will be EMT.

The lights will be 4 fluorescent strip lights. They will be 4 feet long, 2 lamp, T-8, 32 warts per lamp, with an electronic low temperature (-20 degrees F) ballast, with a wire guard. They will supply 35 footcandles of light at 2.5 feet above the floor. There will be a single pole switch inside the door of the shelter.

3.5.3 Control System. The control system will consist of a float well with float switches near the turning basin. The control wires will run from the float well in 1 inch PVC schedule 80 conduit to the pump shelter. The control conduit will run under ground next to the discharge pipe for most of its run. The control wire conduit will change to rigid steel conduit (RSC) when it gets to within 5 feet of the pump shelter. It will then run into the pump shelter through the floor and into a TVSS unit then into an alternator and the two combination pump starters. The float switches will tell the pump starters when to turn on and off depending on the water level in the float well. The alternator will make sure the pumps will get close to equal run times. The combination pump starters will have protective low voltage relays for under voltage, phase unbalance and phase reversal. Control wires will run from the combination pun~p starters to the remote monitoring system (RMS). The RMS will be connected to a phone line run into the pump shelter in RSC. The phone line will be supplied by others. The RMS will detect alarm conditions from the protective relays in the combination pump starters and dial an outside number and send a recorded voice message dictated by the alarm signal. The RMS will also receive

phone calls and report on the current conditions of the combination pump starters with a recorded voice message. There will be a phone jack in the pump shelter.

3.5.4 Exterior Communications. The contractor shall contact the local telephone company to provide a phone line to the shelter that will be used to transmit data via a 56 kbps modem. The contractor shall be responsible for the cost of running the phone line to the shelter. The new telephone line shall be run 36 inches underground in 1 inch PVC conduit. The PVC conduit shall transition to RSC at the slab for the pumps and run into the shelter and into the control panel board (CP).

3.5.5 Interior Communications. There shall be a control panel board (CP) for the control lines and the phone line. There shall be a protected entrance terminal (PET) to protect the phone line.

3.6 **Pumping System — Utility Contracts**

The Corps contracted with the Allegheny Power Company to supply electricity to the new pumping station. For remote access to the pump station controls, telephone service to the pumping station was also required. The Corps contracted with Verizon for this. These utility contracts will eventually be turned over to the National Park Service. Correspondence between the Corps and these utility companies is included in Appendix I.

3.7 River Water Withdrawal — Environmental Concerns

Whereas the aforementioned pumping system was determined to be the most viable method for rewatering the canal, there are environmental considerations to withdrawing river water. These considerations and coordination with various environmental agencies are covered in Section 11.

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GPM associates, inc.

WATER ENGINEERING and MANAGEMENT CONSULTANTS

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1920 Frontage Road • Suite 110 • P.O. Box 605 • Cherry Hill, NJ 08003

August 12, 2010

Laura Wildman, P.E., Director
New England Regional Office
Princeton Hydro
20 Bayberry Road
Glastonbury, CT 06033

Re: Cumberland MD
Dam Removal Feasibility Project
Pumping Station Alternatives

Dear Laura:

As requested, G.P.M. Associates Inc. ("GAI") has looked into the affect the removal of the dam owned by the US Army Corps of Engineers ("Corps") on the Potomac River in Cumberland, Maryland ("Corps Dam") would have on the availability of appropriate water capacity for the C&O Canal Rewatering Project ("Canal Project"). This is a letter report on our preliminary findings to date.

GAI has examined the July 2005 Corps Design Documentation Report – Units 1 & 2 for the Canal Project. In addition, GAI has examined the design drawings for the existing pumping station for the Canal Project. GAI has, also, had telephone and e-mail correspondence with the National Park Service that operates the Canal Project.

Currently, Unit 1 of the Canal Project has been completed. Unit 1 rewatered approximately one quarter mile of the C&O Canal. The planned Unit 2 construction will extend the rewatered canal to a length of approximately 1.2 miles of the original canal. The existing pumping station was designed and constructed to meet the rewatering requirements of the combined Unit 1 and Unit 2 project.

The Corps Dam provides a reservoir out of which water is pumped, via the pumping station, for the Canal Project. This pumping station was designed to allow for flowing water in the full 1.2 mile portion of the canal once Unit 2 is completed. Currently, the required water for rewatering the canal is only needed as makeup water for water lost out of the canal. The full pumping capacity for Unit 2 that is required is 8 cubic feet per second ("CFS") or approximately 3,600 gallons per minute ("GPM").

There is an intake screen structure located in the reservoir formed by the Corps Dam with the centerline shown at an elevation of 606.25 feet MSL. Water flows by gravity through a 24-inch water line through a sluice gate to the wet well portion of the pumping station. Two 75 HP submersible pumps pump water through two 10-inch discharge pipes, across a pedestrian bridge,

to the canal turning basin. A float switch cluster is located near the canal in a stilling structure that controls the pumps by allowing them to come on and off at various water levels.

If the dam is removed, the water level in the Potomac River at the location of the screens will fall below the current screen location. This water level will fall to a level where it would not be possible for the flow of water to the pumping station's wet well to continue to be by gravity, even if the screens were relocated so that they were submerged in the stream bed. Therefore, modifications to the pumping station would have to be made in order to maintain the Canal Project if the Corps Dam were to be removed.

The following possibilities should be examined further to determine the best way to maintain the capability to provide the needed water supply to the Canal Project if the dam is removed:

1. The intake screen would have to be relocated. There are three likely places where to install the relocated screen:

    a. In what may be a naturally occurring scour pit in the bedrock nearby the screen location.

    b. In a new slip stream to be constructed to the side of the river that would provide for the necessary depth to cover the intake screen.

    c. Construct a small dam in the stream bed (or a portion of it) that would allow for the necessary depth to cover the intake screen.

2. Since the water will not flow by gravity any more, the existing 24 inch inlet pipe line would be used as a suction pipe (or a smaller pipe inserted through this pipe if the 24 inch pipe is determined to be unsuitable).

3. The existing submersible pumps would have to be removed from the pumping station and replaced with two new pumps that would be self priming pumps that would lift the water through the suction pipe to the pumps. Approximately 5 – 7 feet of lift would be required, including headloss through the suction pipe. These pumps would then be connected to the existing 10 inch discharge pipes that go to the canal.

The existing electrical supply for the existing submersible pumps should be sufficient to power the new pumps, however, this will need to be investigated during the design phase due to the loss in suction head due to the lowering of the water in the river. If necessary, motor starters, breakers or the service size may have to be changed if a higher horsepower is needed.

There may be required changes at the pumping station structure to allow for the new pumps with a suction lift to be installed, operated and maintained.

The existing screen cleaning system would be utilized for the relocated screens, with any additional tubing installed for the air scouring system.

One possibility to consider would be to utilize much smaller pumps initially since water is not currently needed to provide flow in the canal and is only used to provide makeup water. When the Unit 2 portion of the Canal Project is constructed, the pump size could be changed to provide the required flow for the full Canal Project. This would allow for any changes in the design of the full Canal Project to be taken into consideration in sizing the appropriate pumping equipment. Also, the provision of a storage tank near the canal could be investigated rather than providing the full required water from the pumping station to provide flow in the canal. This could allow for much smaller pumping equipment to be utilized even when the Unit 2 construction is completed, but, obviously, a site for the storage tank would need to be found and the cost of its construction, versus the larger pumping system, would need to be evaluated.

Until the design phase of the dam removal project is underway, it is difficult to estimate the cost of providing the new pumping equipment and changes to the piping and pumping station structure (if necessary). Based on GAI's experience with pumping stations and river intake structures, it is GAI's estimate that the cost of providing the required changes to allow for the full pumping rate would range between $200,000 and $500,000 at today's costs.

David Monie looks forward to attending the public meeting on August 16th to answer any questions on this report.

Very truly yours,

G.P.M. ASSOCIATES INC.

David R. Monie, P.E.
President

cc: Geoffrey Goll, P.E.

From: Raquel Ketterman [RKetterman@allconet.org]
Sent: Monday, August 30, 2010 8:33 AM
To: lwildman@princetonhydro.com
Subject: FW: Corps' response to Industrial Dam Removal Letter
Attachments: Cumberland Dam Removal Letter Report.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

-----Original Message-----
From: Dan, Mary NAB02 [mailto:Mary.Dan@usace.army.mil]
Sent: Wednesday, August 25, 2010 8:07 AM
To: Raquel Ketterman
Cc: DiFonzo, John; Copenhaver, Dan
Subject: Corps' response to Industrial Dam Removal Letter

<<Cumberland Dam Removal Letter Report.pdf>> Raquel, our mechanical engineer, Don Ruhl, reviewed your consultant's recommendations. Here are his responses:

1. If the new location for the suction is a scour pit or a small stream without any fish in it then the suction screen might be able to be omitted. The only purpose of the screen is to prevent little fish from being ground in the impellers. The screen openings are very small and they don't need much fouling before the pressure drop goes up. The pump station already has a problem with submergence if the screen is not blown frequently enough with the air blast system.

2. The suction screen needs a substantial amount of submergence (manufacturer's recommendation) to avoid pulling a vortex from the surface.

3. The existing suction line will not likely operate without breaking vacuum.

4. Would be reluctant to accept self priming pumps unless the available NPSH was well controlled, the required NPSH was very low, and the suction lines were guaranteed not to break vacuum or permit cavitation at the impeller eye; generally means big slow moving pumps. Centrifugal machines might not be the perfect application for the modified conditions so the consultant will need to investigate further.

5. Storage tanks do not work too well in the winter.

Mary

MEETING SIGN-IN SHEET

Project:	Potomac Industrial Dam – Cumberland, Maryland	**Meeting Date:**	August 16, 2010
Facilitator(s):	Raquel Ketterman/Laura Wildman, Princeton Hydro LLC.	**Place/Room:**	Cumberland Fairfield Inn Conference Room

Name	Company/Agency	Phone	E-Mail
Raquel Ketterman	City of Cumberland	301-759-6604	rketterman@alleonet.org
DAVID MONIZ	G.P.M. ASSOCIATES INC.	856-354-2273	DAVE@GPMWATER.COM
Phillip Merling	Merling, INC	301-729-2571	~~GPM~~ gpm@gate.NET
Ashleigh Huber	US Army Corps of Eng.	(410)962-6083	ashleigh.e.huber@usace.army.mil
JOSEPH DAVIA	US Army COE	410.962.5691	joseph.davia@usace.army.mil
Gerald Arthur	Citizen	301 724 7335	
KEN + SUE WATERS	CITIZENS	301-722-7182	
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BRIAN CARLSTROM	C+O CANAL NATNL HISTORICAL PARK	301-714-2200	brian_carlstrom@nps.gov
Chris Stubbs	"	301-714-2210	chris_stubbs@nps.gov
KEN ROPP	DNR	410 260-8437	kropp@dnr.state.MD.US
Richard Soderman	Citizen	301-722-0358	sodermanr@cs.com
Bill Atkinson	MDP/Trail Town	301-777-2161	batkinson@mdp.state.md.us
Butch Armentrout	Town of Carpendale	304 738-1612	carp@atlantic.bbn.net

MEETING SIGN-IN SHEET

Project:	Potomac Industrial Dam – Cumberland, Maryland	**Meeting Date:**	August 16, 2010
Facilitator(s):	Raquel Ketterman/Laura Wildman, Princeton Hydro LLC.	**Place/Room:**	Cumberland Fairfield Inn Conference Room

Name	Company/Agency	Phone	E-Mail
Geoffrey Gall	Princeton Hydro	908-237-5660	ggall@princetonhydro.com
Dr. Richard A. Lechliter	Mayor of Ridgeley	304.738.9400	rlechliter@yahoo.com
Frank Fotia	Self	240 654 2796	FrankFotia@Atlanticbb.net
Bill Valentine	Valentine Plbg.	724-0712	bill@valentineplumbing.com
STU CZAPSKI	ALLEGANY CHAMBER	301-722-2820	STU@ALLEGANYCOUNTYCHAMBER.COM
Champ Zumbrun	Retired - DNR	301-729-4452	JZumbrun@atlanticbb.net
Butch Henderlite	City of Cumberland	759-6416	bhenderlite@allconet.org
Guy WINTERBERG	TRF - County Council	689-1300	
LINDA PUFFENBARGER	SHA DISTRICT 6	301 729 8400	lzerbee@sha.state.md.us
Bruce Harrington	MDE Dam Safety	410 713 3687	bharrington@mde.state.md.us
John DiFonzo	city of Cumberland	301 759 6601	jdifonzo@allconet.org
DAVID CURRY	CITY OF CUMBERLAND	301 759 6624	dcurry@allconet.org
Donnelle Keech	The Nature Conservancy	301-722-0313	dkeech@tnc.org

Public Meeting: August 16, 2010
Project: Cumberland Industrial Dam Removal Feasibility Study
Cumberland, Maryland
Facilitators: Raquel Ketterman / Laura A.S. Wildman

Summary of comments from Public Meeting:

- What would be the depth upstream? – General depth changes were discussed
- What does it cost to remove dam? – We explained that the costs will vary significantly depending on how the sediment is managed and what alternative is selected for the pumping station retrofit.
- Who would typically pay for removal? – Typically dam removals are funded with a mix of federal grants, state grants and some dam owner/municipal funding. The municipal percentage is typically low.
- Is partial removal an option to avoid costly mitigation of C&O Re-watering pumps/station? – No.
- Would a historic rendering from the 1750's (George Washington era) be useful for the historic review process? – Yes. We have since received these.
- What about maintenance costs absorbed by the City? – Grants for: There are grants for removal but we know of none for repair and maintenance. Sometimes low interest loans are available for repair.
- Who is responsible for the channel if there is more growth (in neighboring jurisdictions) leading to more flow?
- Clarify ownership/get approval from USACE to remove dam. ACOE knows of the project and we are continuing discussions with them to verify ownership and permission, if needed.
- Was the sediment from other dams analyzed? – The dam removed upstream had little to no sediment behind it.
- Is there funding for the next steps? What is the cost to finish feasibility? – The project partners are working to find additional funding and to date the Feasibility Analysis was only 1/3rd funded.
- What will the channel look like after removal? – There will be very little narrowing of the channel but the water depths will be reduced behind the dam. There will likely be a bedrock cascade feature at the site once the dam is removed.
- Will it be canoe-able? – Yes.
- Will the sediment move naturally if dam simply removed? – Yes, however sediment management is under investigation due to the dioxin levels in the sediment.
- WV fire/rescue concerned about increased need for water rescue if dam removed/boating is promoted. The goal of this project is to increase use of the river for recreation, so therefore an increased level of water rescue maybe needed.
- Will an ACOE permit be needed to complete mechanical borings? – We are investigating this.

August 16, 2010

Removal of river dam between city, Ridgeley remains possibility

Studies completed so far don't eliminate option

Michael A. Sawyers Cumberland Times-News

— CUMBERLAND — Nothing studied to this point eliminates the possibility of removing the dam that spans the North Branch of the Potomac River between Cumberland and Ridgeley, a consultant said Monday.

Speaking at a public meeting at the Cumberland Fairfield Inn, Laura Wildman of Princeton Hydro said three questions remain at this early stage of the feasibility study — what will the Maryland Department of the Environment say about the quality of the sediment behind the dam; how much money will it take to replace/relocate the pump that sends water to the C&O Canal; and what kind of historic ramifications exist?

On the other hand, a lot of pluses exist, according to Wildman.

"We have heard from people that they want more boating access to the river between the public launches at the (Allegany County) fairground and the (C. Eugene Mason) recreational complex in Cumberland's South End," Wildman said. "We have identified eight such sites, including three in the city."

Wildman described the study thus far as being one-third finished. Early stage estimates, she said, range from $200,000 to $500,000 to move and/or alter pumps that send water to the C&O Canal.

"Removal of the dam will not increase potential for flooding," Wildman said. "In fact, lowering of the water elevation above the dam will make the levees more effective. The dam was not built to provide flood protection, but as a water source for upstream industries such as the Kelly-Springfield Tire Company."

Geoff Goll, also of Princeton Hydro, said 142,000 cubic yards of sediment extend from the dam for almost 2 miles upstream. The deepest sediment is directly behind the dam, 6 to 8 feet.

"Questions remain about whether or not the river has the capacity to flush that sediment or whether management (such as dredging) will be needed," he said.

Goll said the pollutants found in the sediment are not unusual for a river, with the exception of dioxin. Those sediments include volatile substances, such as petroleum, and also heavy metals and, in one case, PCBs. Polychlorinated biphen-yls were once used in coolants, insulating fluids and as stabilizing additives in flexible PVC coatings of electrical wiring and electrical

components but were banned in the U.S. in 1978.

“The (Luke) paper mill is a potential source of the dioxin,” he said, adding that it exists in the sediment at five to 200 parts per trillion. Goll added that none of the contaminants exists at levels harmful to humans.

Princeton Hydro’s study also shows that there is no danger to the Blue Bridge from dam removal, that the two structures were built and exist separately.

Goll estimated that if proven feasible, the dam removal would likely cost more than $1 million.

Cumberland Councilman Butch Hendershot said he was concerned about costs to the city.

Serena McClain of American Rivers said that traditionally cities have paid very little as their share of such dam removals. “A variety of state and federal funding sources exist,” she said.

Jim Thompson of the Maryland Department of Natural Resources said removal of the 58-year-old dam would allow American eels to once again resume traditional migrations between the Sargasso Sea, where they spawn, and the upper reaches of freshwater rivers.

“In addition, it would improve habitat and mobility for smallmouth bass, walleye and muskies,” he said.

Public input was accepted at the meeting Monday as part of the ongoing feasibility study.

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