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March 13, 2007

Mr. Maurice Wooden
US Army Corps of Engineers
10 South Howard Street
CENAB-EN-HM (Attention: Wooden, Room 10040T)
Baltimore, Maryland 21203

RE: Semiannual Progress Report for the Phytoremediation Pilot Study (July to December 2006)
Old Sanitary Landfill, Fort Drum, New York
Contract Number: W912DR-05-D-0004, Delivery Order Number 003

Dear Mr. Wooden:

Malcolm Pirnie is pleased to submit our *Semiannual Progress Report for the Phytoremediation Pilot Study (July to December 2006)*. This document reports on current work at the phytoremediation plantation and describes future work planned for spring 2007. Enclosed with this letter is the operation and maintenance report (Attachment 1) that was prepared by our subconsultant, SUNY College of Environmental Science and Forestry (SUNY-ESF).

DESCRIPTION OF MONITORING ACTIVITIES

On November 2, 2006, seep samples were collected from the phytoremediation plantation, which is located adjacent to the northeast corner of the Old Sanitary Landfill (OSL) Cell #2. The plantation is populated by willow shrubs that were planted in May 2001 as part of a pilot study that uses adaptive management practices. Seep sampling locations are described with respect to groundwater flow through the plantation and include an influent point, a mid-system point, and three effluent points (Figure 1).

The field crew observed that the water flow within the plantation in November 2006 was comparable to previous sampling events and that seep water continued to pool around the planting boxes at the effluent #2 and #3 locations (refer to Attachment 2 for field notes). However, piezometer data collected by SUNY-ESF indicated that the water table was relatively higher during the 2006 growing season than the 2005 growing season. Variation in the water table depth may be attributed to changing pumping rates of local production wells, changing land uses, or varying annual precipitation inputs (Attachment 1).

Seep samples were collected and water quality parameters were measured at each seep sampling location. Seep samples were collected in accordance with the *Environmental Investigation for Fort Drum Quality Assurance Program Plan* (Malcolm Pirnie, 2001) and were analyzed by a certified New York State laboratory, Katahdin Analytical Services (Westbrook, Maine; refer to Attachment 3 for their New York certification). Aqueous samples were analyzed for volatile

organic compounds (VOCs) and total iron. Field-filtered samples (0.45 µm filter) were also analyzed by Katahdin Analytical Services for dissolved iron. In accordance with the *Scope of Services* (USACE, June 16, 2005), data validation was not performed. Reported aqueous concentrations were compared to the New York State Department of Environmental Conservation (NYSDEC) *Ambient Water Quality Standards and Guidance Values* (Series 1.1.1, June 1998) Class C Surface Water criteria.

SEEP RESULTS

Figure 1 shows the five seep locations and summarizes the cumulative results for total VOC, total benzene, toluene, ethylbenzene, and xylene (BTEX), total semivolatile organic compounds (SVOC), and total iron. A complete list of detected compounds for the fall 2006 dataset is presented in Table 1 (refer to Attachment 3 for Katahdin Analytical Services Data Package) along with comparisons of the measured concentrations of these compounds to NYSDEC surface water standards. Figure 2 presents graphically the total VOC concentrations at the five sampling locations over time.

The pilot phytoremediation system is designed for seep water to flow from the southwest corner of the plantation to the northern boundary of the plantation, or from the influent location through the mid-system location to the effluent points. As shown in Figure 2, a general decrease of total VOC concentrations exists along the flow path from the influent to the mid-system point to effluent #3. (BTEX concentrations follow the same pattern and account for approximately 70 percent of the total VOC concentrations.) In addition, as shown in Table 1, the number of exceedances of NYSDEC surface water standards for VOC analytes was found to steadily decrease from the influent (benzene and ethylbenzene), one exceedance at the mid-system (benzene) to no exceedances at effluent #3.

The concentration of total VOC at the influent (434 µg/L) were similar to the April 2006 sampling event (446 µg/L) and was comparable to concentrations observed at this location between June 2003 and June 2005. The concentrations of total VOC and total BTEX at effluent #1 were a factor of 2 greater than the concentrations observed at the influent location, respectively. As noted in previous progress reports, surface water concentrations at effluent #1 may reflect contributions from impacted groundwater outside the western boundary of the pilot study. During this sampling event, the concentrations of total VOC and total BTEX at effluent #2 were lower than that of the influent, respectively. In previous sampling events, the total VOC concentration at effluent #2 has exhibited substantial variation over time. As noted in earlier progress reports, this large variation observed in the total VOC concentration at effluent #2 may reflect changes in flow patterns or seasonal variability within the plantation.

Dissolved-iron accounted for 9 to 50 percent of the total iron concentrations at the influent, mid-system, effluent #1, effluent #2, and effluent #3 locations. Total iron concentrations continue to exceed class C surface water standards for iron at all sampling locations.



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PROBLEMS ENCOUNTERED AND RESOLVED

No problems were encountered during this sampling event.

SUMMARY AND FUTURE MONITORING

Monitoring will continue at the plantation next season. Seeps along the northern edge of OSL Cell #2 and along the unnamed creek are anticipated to be sampled to establish baseline conditions for the full-scale phytoremediation pilot study, which is anticipated to be installed in April to June 2007.

If you should have any questions on this report or future sampling, please feel free to call me at 914-641-2628 or AmyMarie Accardi-Dey at 914-641-2699.

Very truly yours,

MALCOLM PIRNIE, INC.

Scott E. Thompson, P.E.
Project Manager

cc: K. Goldstein, K. Roe, A. Accardi-Dey
See Distribution List

Attachments

- Table 1: Seep Sampling Results
- Figure 1: Seep Samples: Total BTEX, VOC, SVOC, and Iron Concentrations
- Figure 2: Total VOC Concentration versus Location
- Attachment 1: SUNY-ESF Plantation Maintenance Report
- Attachment 2: Field Memorandum
- Attachment 3: Katahdin Analytical Services Certification and Data Package

TABLES AND FIGURES

Table 1: Seep Sampling Results
Old Sanitary Landfill
Fort Drum, New York

NYSDEC Class C Surface Water Quality						INFLUENT	INFLUENT	INFLUENT	INFLUENT	INFLUENT	INFLUENT	INFLUENT	INFLUENT	INFLUENT	INFLUENT	INFLUENT					
						11/12/2002	2/28/2003	6/16/2003	8/18/2003	11/7/2003	5/11/2004	10/22/2004	6/3/2005	9/27/2005	4/27/2006	11/2/2006					
Compound	Units	Standard	Basis	Guidance Value	Basis	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier					
<i>VOCs</i>																					
Acetone	ug/L					ND	ND	28	ND	ND	8	8	J	27	3	J	29	26			
Benzene	ug/L	10	H(FC)	210	A(C)	310	620	100	110	150	67	94		130	160		100	120			
Bromomethane	ug/L					ND	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND			
2-Butanone	ug/L					ND	13	ND	ND	ND	17	ND		6	J		14	15			
n-Butylbenzene	ug/L					ND	ND	ND	ND	ND	0.4	J	5	J		2	J	0.8	J	ND	
Carbon Disulfide	ug/L					ND	100	110	190	ND	ND	0.2	J	ND	ND		ND	ND			
Chloromethane	ug/L					ND	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND			
Dichlorodifluoromethane	ug/L					ND	ND	ND	ND	1	J	ND	0.4	J	ND		ND	ND			
cis- 1,2 Dichloroethene	ug/L					ND	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND			
trans- 1,2 Dichloroethene	ug/L					ND	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND			
1,2- Dichloropropane	ug/L					ND	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND			
Ethylbenzene	ug/L			17	A(C)	170	700	41	30	78	63	41		95	320		64	50			
Naphthalene	ug/L			13	A(C)	20	100	B	7	14	2	BJ	24	11	36	B	54	19	11		
Toluene	ug/L	6000	H(FC)	100	A(C)	20	69	ND	10	32	4	J	5		28		8	14			
p-Isopropyltoluene	ug/L					NA	3	J	ND	ND	2	J	2	J	ND		5	J	0.6	J	ND
Isopropylbenzene	ug/L			2.6	A(C)	ND	41	ND	ND	5	4	J	5	J	24		5	J	ND		
1,4- Dichlorobenzene	ug/L	5*	A(C)			ND	1	J	ND	ND	ND	ND		ND	ND		ND	ND			
n- Propylbenzene	ug/L					NA	86	ND	ND	8	6		9		29		9	ND			
1,3,5- Trichlorobenzene		5	A(C)			NA	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND			
Hexachlorobutadiene		1	A(C)			NA	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND			
Trichloroethene		40	A(C)			NA	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND			
1,2,4- Trimethylbenzene	ug/L			33	A(C)	NA	500	9	15	24	58	30		57	200		51	34			
1,3,5- Trimethylbenzene	ug/L					NA	140	ND	ND	2	J	8	8		59		12	10			
m+p- Xylenes	ug/L					240	1400	B	18	50	46	81	32		74		850	110	110		
o- Xylenes	ug/L					95	430		13	26	38	41	22		7		380	24	44		
Total Xylenes	ug/L			65 **	A(C)	335	1830		31	76	84	122	54		81		1230	134	154		
Vinyl Chloride	ug/L					ND	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND			
Total BTEX	ug/L					835	3219		172	226	344	256	194		311		1738	306	338		
Total VOCs	ug/L					855	4203		326	445	383	270	451		2114		446	434			
<i>SVOCs</i>																					
Phenol	ug/L	5***	E			NS	NS	NS	NS	5	J	ND	ND	ND	NS		NS	NS	NS		
Naphthalene	ug/L			13	A(C)	NS	NS	NS	NS	5	J	6	J	10	J	4	J	NS	NS	NS	
2-Methylnaphthalene						NS	NS	NS	NS	ND		ND		ND			NS	NS	NS		
Diethylphthalate	ug/L					NS	NS	NS	NS	3	J	ND	ND	ND	NS		NS	NS	NS		
Total SVOCs	ug/L					NS	NS	NS	NS	13	6	10	4		NS		NS	NS	NS		
<i>Iron</i>																					
Total Iron	ug/L	300	A(C)			NS	NS	NS	NS	221,000	275,000	308,000	80,100	61,400	12,600	60,000					
Dissolved Iron	ug/L					NS	NS	NS	NS	NS	NS	NS	NS	53,600	7,220	5,410					

J - Analyte detected below quantitation limits
 B - Detected in lab blank analyzed concurrently with sample.
 ND - Not Detected
 NS - Not Sampled
 NA - Not Analyzed

NYSDEC "Ambient Water Quality Standards and Guidance Values"
 Class C Surface Waters (Series 1.1.1, June 1998)
 A(C) = fish propagation (fresh waters)
 H(FC) = human consumption of fish (fresh waters)
 E = aesthetic (fresh waters)

Results that exceed the standards or guidance values are shaded.

* Applies to the sum of 1,2-, 1,3-, and 1,4-dichlorobenzene
 ** Applies to the sum of 1,2-, 1,3-, and 1,4-xylene
 *** Applies to the sum of all unchlorinated phenolic compounds.
 Methylene chloride and bis(2-ethylhexyl)phthalate (lab contaminants) not reported.

Table 1: Seep Sampling Results
Old Sanitary Landfill
Fort Drum, New York

NYSDEC Class C Surface Water Quality						MID-SYSTEM	MID-SYSTEM	MID-SYSTEM	MID-SYSTEM	MID-SYSTEM	MID-SYSTEM	MID-SYSTEM	MID-SYSTEM	MID-SYSTEM	MID-SYSTEM	MID-SYSTEM							
						11/12/2002	2/28/2003	6/16/2003	8/18/2003	11/7/2003	5/11/2004	10/22/2004	6/3/2005	9/27/2005	4/27/2006	11/2/2006							
Compound	Units	Standard	Basis	Guidance Value	Basis	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier							
<i>VOCs</i>																							
Acetone	ug/L					ND	14	31	18	ND	2	J	14	32	3	J	47	27					
Benzene	ug/L	10	H(FC)	210	A(C)	140	140	160	84	37	11		240	51	27		32	23					
Bromomethane	ug/L					ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND					
2-Butanone	ug/L					ND	16	ND	ND	ND	ND		7	J	ND		17	11					
n-Butylbenzene	ug/L					ND	ND	ND	ND	ND	ND		1	J	ND		ND	ND					
Carbon Disulfide	ug/L					ND	ND	150	ND	ND	ND		ND	ND	ND		ND	ND					
Chloromethane	ug/L					ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND					
Dichlorodifluoromethane	ug/L					ND	ND	ND	ND	0.4	J		0.3	J	ND		ND	ND					
cis- 1,2 Dichloroethene	ug/L					5	2	J	ND	1	J		0.3	J	ND		0.9	J	1	J	ND		
trans- 1,2 Dichloroethene	ug/L					4	J	2	J	ND			0.5	J	0.1	J	ND		0.8	J	ND		
1,2- Dichloropropane	ug/L					ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND					
Ethylbenzene	ug/L			17	A(C)	26	98	69	14	10	2	J	180	6	3	J	7	5					
Naphthalene	ug/L			13	A(C)	ND	21	B	13	12	1	BJ	43	2	JB	1	J	0.6	J	ND			
Toluene	ug/L	6000	H(FC)	100	A(C)	3	J	18	10	6	1	J	0.2	J	19		0.9	J	0.9	J	2	J	ND
p-Isopropyltoluene	ug/L					NA	1	J	ND	ND	ND		3	J	ND		ND	ND					
Isopropylbenzene	ug/L			2.6	A(C)	ND	5	ND	ND	1	J		0.8	J	10		0.7	J	2	J	1	J	ND
1,4- Dichlorobenzene	ug/L	5*	A(C)			ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND					
n- Propylbenzene	ug/L					NA	9	ND	ND	1	J		0.6	J	14		ND	0.5	J	0.7	J	ND	
1,3,5- Trichlorobenzene		5	A(C)			ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND					
Hexachlorobutadiene		1	A(C)			ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND					
Trichloroethene		40	A(C)			ND	ND	ND	ND	ND	ND		ND	0.4	J	ND		ND					
1,2,4- Trimethylbenzene	ug/L			33	A(C)	NA	74	34	8	4	J		0.3	J	130		ND	3	J	2	J	ND	
1,3,5- Trimethylbenzene	ug/L					NA	22	9	ND	0.8	J		ND	26	ND		ND	ND					
m+p- Xylenes	ug/L					12	230	89	44	10			0.4	J	290		ND	2	J	5	J	ND	
o- Xylenes	ug/L					7	44	8	8	4	J		ND	28	ND		2	J	2	J	ND		
Total Xylenes	ug/L			65 **	A(C)	19	274	97	52	14			0.4	J	318		ND	4	J	7	J	ND	
Vinyl Chloride	ug/L					0.6	J	ND	J	ND	ND		ND	ND	ND		ND	ND					
Total BTEX	ug/L					188	530	336	156	62			13.6	757	57.9		34.9	48	28				
Total VOCs	ug/L					198	696	573	194	71.2			18.5	999	100		45.3	118	66				
<i>SVOCs</i>																							
Phenol	ug/L	5***	E			NS	NS	NS	NS	3	J		7	J	ND		NS	NS	NS				
Naphthalene	ug/L			13	A(C)	NS	NS	NS	NS	2	J		20	ND	NS		NS	NS					
2-Methylnaphthalene						NS	NS	NS	NS	ND			ND	ND	NS		NS	NS					
Diethylphthalate	ug/L					NS	NS	NS	NS	2	J		ND	ND	NS		NS	NS					
Total SVOCs	ug/L					NS	NS	NS	NS	7			27	ND	NS		NS	NS					
<i>Iron</i>																							
Total Iron	ug/L	300	A(C)			NS	NS	NS	NS	64,300			12,300		38,900		29,800		13,100		5,930		15,500
Dissolved Iron	ug/L					NS	NS	NS	NS	NS			NS		NS		NS		11,300		2,590		7,190

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 A(C) = fish propagation (fresh waters)
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Results that exceed the standards or guidance values are shaded.

* Applies to the sum of 1,2-, 1,3-, and 1,4-dichlorobenzene
 ** Applies to the sum of 1,2-, 1,3-, and 1,4-xylene
 *** Applies to the sum of all unchlorinated phenolic compounds.
 Methylene chloride and bis(2-ethylhexyl)phthalate (lab contaminants) not reported.

Table 1: Seep Sampling Results
Old Sanitary Landfill
Fort Drum, New York

NYSDEC Class C Surface Water Quality						EFFLUENT #1 11/12/2002	EFFLUENT #1 2/28/2003	EFFLUENT #1 6/16/2003	EFFLUENT #1 8/18/2003	EFFLUENT #1 11/7/2003	EFFLUENT #1 5/11/2004	EFFLUENT #1 10/21/2004	EFFLUENT #1 6/3/2005	EFFLUENT #1 9/27/2005	EFFLUENT #1 4/27/2006	EFFLUENT #1 11/2/2006
Compound	Units	Standard	Basis	Guidance Value	Basis	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier
<i>VOCs</i>																
Acetone	ug/L					ND	30	32	18	ND	10	5	J 51	4	J 26	39
Benzene	ug/L	10	H(FC)	210	A(C)	160	150	46	94	250	540	170	180	13	130	300
Bromomethane	ug/L					ND	ND	ND	ND	ND	ND	2	J ND	ND	ND	ND
2-Butanone	ug/L					ND	19	ND	ND	ND	18	ND	18	ND	15	25
n-Butylbenzene	ug/L					ND	ND	ND	ND	ND	2	J ND	ND	ND	0.5	ND
Carbon Disulfide	ug/L					ND	ND	ND	ND	ND	ND	ND	0.4	J ND	ND	ND
Chloromethane	ug/L					ND	0.8	J ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/L					ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis- 1,2 Dichloroethene	ug/L					3	J 2	J ND	ND	ND	0.4	J 0.2	J ND	ND	ND	ND
trans- 1,2 Dichloroethene	ug/L					2	J 1	J ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2- Dichloropropane	ug/L					0.3	J ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L			17	A(C)	40	30	8	17	54	310	50	12	0.8	J 74	69
Naphthalene	ug/L			13	A(C)	ND	7	B 6	13	23	120	19	50	B 1	J 23	16
Toluene	ug/L	6000	H(FC)	100	A(C)	15	23	ND	10	21	21	8	3	J 0.8	J 8	29
p-Isopropyltoluene	ug/L					NA	0.7	J ND	ND	ND	4	J ND	ND	ND	0.6	ND
Isopropylbenzene	ug/L			2.6	A(C)	ND	1	J ND	ND	6	J 18	2	J 3	J 0.2	J 4	J ND
1,4- Dichlorobenzene	ug/L	5*	A(C)			ND	0.9	J ND	ND	ND	ND	ND	ND	ND	ND	ND
n- Propylbenzene	ug/L					NA	2	J ND	ND	ND	35	ND	3	J ND	5	ND
1,3,5- Trichlorobenzene		5	A(C)			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene		1	A(C)			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		40	A(C)			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4- Trimethylbenzene	ug/L			33	A(C)	NA	15	ND	7	55	230	49	17	2	J 64	74
1,3,5- Trimethylbenzene	ug/L					NA	5	ND	ND	64	6	ND	ND	8	20	
m+p- Xylenes	ug/L					120	89	6	35	180	670	130	8	J 7	J 130	240
o- Xylenes	ug/L					20	24	ND	8	27	73	10	5	J 3	J 30	40
Total Xylenes	ug/L			65 **	A(C)	140	113	6	43	207	743	140	13	J 10	J 160	280
Vinyl Chloride	ug/L					0.3	J ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total BTEX	ug/L					355	316	60	164	532	1614	368	208	24.6	372	678
Total VOCs	ug/L					361	400	98	202	616	2115	451	350	31.8	518	852
<i>SVOCs</i>																
Phenol	ug/L	5***	E			NS	NS	NS	NS	11	ND	8	J ND	NS	NS	NS
Naphthalene	ug/L			13	A(C)	NS	NS	NS	NS	7	J 45	11	7	J NS	NS	NS
2-Methylnaphthalene						NS	NS	NS	NS	ND	J 7	ND	ND	NS	NS	NS
Diethylphthalate	ug/L					NS	NS	NS	NS	2	J ND	ND	ND	NS	NS	NS
Total SVOCs	ug/L					NS	NS	NS	NS	20	52	19	7	NS	NS	NS
<i>Iron</i>																
Total Iron	ug/L	300	A(C)			NS	NS	NS	NS	130,000	46,200	76,900	238,000	12,100	22,100	17,400
Dissolved Iron	ug/L					NS	NS	NS	NS	NS	NS	NS	NS	7,730	18,700	4,290

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 *** Applies to the sum of all unchlorinated phenolic compounds.
 Methylene chloride and bis(2-ethylhexyl)phthalate (lab contaminants) not reported.

Table 1: Seep Sampling Results
Old Sanitary Landfill
Fort Drum, New York

NYSDEC Class C Surface Water Quality						EFFLUENT #2 11/13/2002	EFFLUENT #2 2/28/2003	EFFLUENT #2 6/16/2003	EFFLUENT #2 8/18/2003	EFFLUENT #2 11/7/2003	EFFLUENT #2 5/11/2004	EFFLUENT #2 10/21/2004	EFFLUENT #2 6/3/2005	EFFLUENT #2 9/27/2005	EFFLUENT #2 4/27/2006	EFFLUENT #2 11/2/2006						
Compound	Units	Standard	Basis	Guidance Value	Basis	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier	Result w/Qualifier						
<i>VOCs</i>																						
Acetone	ug/L					3	J	NS	ND	ND	7	J	10	81	7	J	42	15				
Benzene	ug/L	10	H(FC)	210	A(C)	0.8	J	NS	ND	4	J	80	43	190	120	48	100					
Bromomethane	ug/L					ND		NS	ND	ND	2	J	ND	ND	ND	ND	ND					
2-Butanone	ug/L					ND		NS	ND	ND	ND	ND	37	5	J	17	ND					
n-Butylbenzene	ug/L					ND		NS	ND	ND	ND	ND	ND	0.3	J	ND	ND					
Carbon Disulfide	ug/L					ND		NS	56	18	ND	ND	ND	ND	ND	ND	ND					
Chloromethane	ug/L					ND		NS	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Dichlorodifluoromethane	ug/L					ND		NS	ND	ND	ND	ND	ND	ND	ND	ND	ND					
cis- 1,2 Dichloroethene	ug/L					0.5	J	NS	ND	ND	ND	0.2	J	ND	0.4	J	ND	ND				
trans- 1,2 Dichloroethene	ug/L					ND		NS	ND	ND	ND	ND	ND	ND	ND	ND	ND					
1,2- Dichloropropane	ug/L					ND		NS	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Ethylbenzene	ug/L			17	A(C)	0.3	J	NS	ND	1	J	33	17	96	33	16	30					
Naphthalene	ug/L			13	A(C)	ND		NS	ND	2	JB	8	7	42	B	19	3	J	9			
Toluene	ug/L	6000	H(FC)	100	A(C)	ND		NS	ND	0.3	J	3	J	7	7	3	J	7				
p-Isopropyltoluene	ug/L					NA		NS	ND	ND	ND	ND	ND	0.3		ND	ND					
Isopropylbenzene	ug/L			2.6	A(C)	ND		NS	ND	ND	2	J	1	J	4	J	2	J	0.9	J	1	J
1,4- Dichlorobenzene	ug/L	5*	A(C)			ND		NS	ND	ND	ND	ND	ND	ND	ND	ND	ND					
n- Propylbenzene	ug/L					NA		NS	ND	ND	2	J	ND	5	2	J	0.8	J	1	J		
1,3,5- Trichlorobenzene		5	A(C)			ND		NS	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Hexachlorobutadiene		1	A(C)			ND		NS	ND	ND	ND	ND	ND	ND	ND	ND	ND					
Trichloroethene		40	A(C)			ND		NS	ND	ND	ND	ND	ND	ND	ND	ND	ND					
1,2,4- Trimethylbenzene	ug/L			33	A(C)	NA		NS	ND	0.8	J	13	20	50	36	2	J	22				
1,3,5- Trimethylbenzene	ug/L					NA		NS	ND	0.4	J	4	J	4	J	ND	3	J	ND	5		
m+p- Xylenes	ug/L					0.7	J	NS	ND	4	J	17	47	56	57	11	59					
o- Xylenes	ug/L					0.3	J	NS	ND	1	J	5	7	28	13	8	12					
Total Xylenes	ug/L			65 **	A(C)	1	J	NS	ND	5	J	22	54	84	70	19	71					
Vinyl Chloride	ug/L					ND		NS	ND	ND	0.7	J	ND	ND	ND	ND	ND					
Total BTEX	ug/L					2.1		NS	ND	10.3		138	117	377	230	86	208					
Total VOCs	ug/L					5.6		NS	56	18		175	161	596	305	152	261					
<i>SVOCs</i>																						
Phenol	ug/L	5***	E			NS		NS	NS	ND		ND	ND	NS	NS	NS	NS					
Naphthalene	ug/L			13	A(C)	NS		NS	NS	ND		ND	ND	NS	NS	NS	NS					
2-Methylnaphthalene						NS		NS	NS	ND		ND	ND	NS	NS	NS	NS					
Diethylphthalate	ug/L					NS		NS	NS	2	J	ND	ND	NS	NS	NS	NS					
Total SVOCs	ug/L					NS		NS	NS	2		ND	ND	NS	NS	NS	NS					
<i>Iron</i>																						
Total Iron	ug/L	300	A(C)			NS		NS	NS	93,800		49,300	208,000	90,700	61,600	6,830	16,600					
Dissolved Iron	ug/L					NS		NS	NS	NS		NS	NS	17,600	3,540	8,240						

J - Analyte detected below quantitation limits
 B - Detected in lab blank analyzed concurrently with sample.
 ND - Not Detected
 NS - Not Sampled
 NA - Not Analyzed

NYSDEC "Ambient Water Quality Standards and Guidance Values"
 Class C Surface Waters (Series 1.1.1, June 1998)
 A(C) = fish propagation (fresh waters)
 H(FC) = human consumption of fish (fresh waters)
 E = aesthetic (fresh waters)

Results that exceed the standards or guidance values are shaded.

* Applies to the sum of 1,2-, 1,3-, and 1,4-dichlorobenzene
 ** Applies to the sum of 1,2-, 1,3-, and 1,4-xylene
 *** Applies to the sum of all unchlorinated phenolic compounds.
 Methylene chloride and bis(2-ethylhexyl)phthalate (lab contaminants) not reported.

Table 1: Seep Sampling Results
Old Sanitary Landfill
Fort Drum, New York

NYSDEC Class C Surface Water Quality						EFFLUENT #3 5/11/2004	EFFLUENT #3 10/21/2004	EFFLUENT #3 6/3/2005	EFFLUENT #3 9/27/2005	EFFLUENT #3 4/27/2006	EFFLUENT #3 11/2/2006			
Compound	Units	Standard	Basis	Guidance Value	Basis	Result w/Qualifier		Result w/Qualifier		Result w/Qualifier				
<i>VOCs</i>														
Acetone	ug/L					2	J	3	J	ND		4	J	ND
Benzene	ug/L	10	H(FC)	210	A(C)	0.4	J	0.2	J	0.5	J	0.6	J	ND
Bromomethane	ug/L					ND		2	J	ND		ND		ND
2-Butanone	ug/L					ND		ND		ND		ND		ND
n-Butylbenzene	ug/L					ND		ND		0.8	JB	ND		ND
Carbon Disulfide	ug/L					ND		ND		ND		ND		ND
Chloromethane	ug/L					ND		ND		ND		ND		ND
Dichlorodifluoromethane	ug/L					ND		ND		ND		ND		ND
cis- 1,2 Dichloroethene	ug/L					ND		ND		ND		ND		ND
trans- 1,2 Dichloroethene	ug/L					ND		ND		ND		ND		ND
1,2- Dichloropropane	ug/L					ND		ND		ND		ND		ND
Ethylbenzene	ug/L			17	A(C)	1	J	0.2	J	0.3	JB	ND		ND
Naphthalene	ug/L			13	A(C)	ND		ND		1	JB	0.9	J	ND
Toluene	ug/L	6000	H(FC)	100	A(C)	ND		ND		ND		ND		ND
p-Isopropyltoluene	ug/L					ND		ND		1	JB	ND		ND
Isopropylbenzene	ug/L			2.6	A(C)	ND		ND		ND		ND		ND
1,4- Dichlorobenzene	ug/L	5*	A(C)			ND		ND		ND		ND		ND
n- Propylbenzene	ug/L					ND		ND		ND		ND		ND
1,3,5- Trichlorobenzene		5	A(C)			ND		ND		0.7	JB	ND		ND
Hexachlorobutadiene		1	A(C)			ND		ND		0.4	JB	ND		ND
Trichloroethene		40	A(C)			ND		ND		ND		ND		ND
1,2,4- Trimethylbenzene	ug/L			33	A(C)	0.9	J	1	J	ND		ND		ND
1,3,5- Trimethylbenzene	ug/L					0.3	J	ND		ND		ND		ND
m+p- Xylenes	ug/L					2	J	ND		ND		ND		ND
o- Xylenes	ug/L					0.2	J	ND		ND		ND		ND
Total Xylenes	ug/L			65 **	A(C)	2.2	J	ND		ND		ND		ND
Vinyl Chloride	ug/L					ND		ND		ND		ND		ND
Total BTEX	ug/L					3.6		0.4		0.8		0.6		ND
Total VOCs	ug/L					6.8		6.4		4.7		1.5		4
<i>SVOCs</i>														
Phenol	ug/L	5***	E			ND		ND		ND		NS		NS
Naphthalene	ug/L			13	A(C)	ND		ND		ND		NS		NS
2-Methylnaphthalene						ND		ND		ND		NS		NS
Diethylphthalate	ug/L					ND		ND		ND		NS		NS
Total SVOCs	ug/L					ND		ND		ND		NS		NS
<i>Iron</i>														
Total Iron	ug/L	300	A(C)			14,000		15,700		4,320		702		126
Dissolved Iron	ug/L					NS		NS		NS		9.5	B	ND

J - Analyte detected below quantitation limits
 B - Detected in lab blank analyzed concurrently with sample.
 ND - Not Detected
 NS - Not Sampled
 NA - Not Analyzed

NYSDEC "Ambient Water Quality Standards and Guidance Values"
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* Applies to the sum of 1,2-, 1,3-, and 1,4-dichlorobenzene
 ** Applies to the sum of 1,2-, 1,3-, and 1,4-xylene
 *** Applies to the sum of all unchlorinated phenolic compounds.
 Methylene chloride and bis(2-ethylhexyl)phthalate (lab contaminants) not reported.

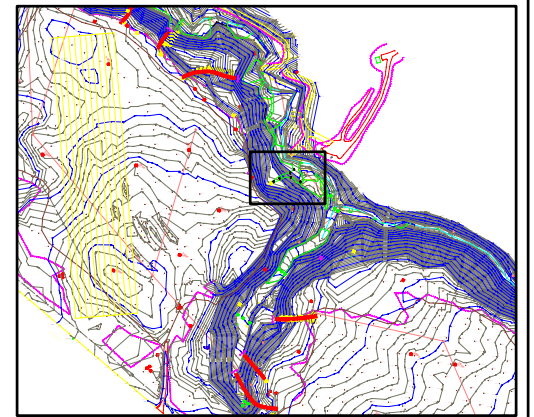
Effluent # 1				
Date	Total VOC	Total BTEX	Total SVOC	Total Iron
11/12/2002	361	355	NS	NS
2/28/2003	400	316	NS	NS
6/16/2003	98.0	60.0	NS	NS
8/18/2003	202	164	NS	NS
11/7/2003	616	532	20.0	130,000
5/11/2004	2,120	1,610	52.0	46,200
10/21/2004	451	368	19.0	76,900
6/3/2005	350	208	7.00	238,000
9/27/2005	31.8	24.6	NS	12,100
4/27/2006	518	372	NS	22,100
11/2/2006	852	678	NS	17,400

Effluent # 2				
Date	Total VOC	Total BTEX	Total SVOC	Total Iron
11/12/2002	5.60	2.10	NS	NS
2/28/2003	NS	NS	NS	NS
6/16/2003	56.0	ND	NS	NS
8/18/2003	18.0	ND	NS	NS
11/7/2003	13.5	10.3	2.00	93,800
5/11/2004	175	138	ND	49,300
10/21/2004	161	117	ND	208,000
6/3/2005	596	377	ND	90,700
9/27/2005	305	230	NS	61,600
4/27/2006	152	86	NS	6,830
11/2/2006	261	208	NS	16,600

Effluent # 3				
Date	Total VOC	Total BTEX	Total SVOC	Total Iron
5/11/2004	6.80	3.60	ND	14,000
10/21/2004	6.40	0.40	ND	15,700
6/3/2005	4.70	0.80	ND	4,320
9/27/2005	1.50	0.60	NS	702
4/27/2006	4.00	ND	NS	126
11/2/2006	ND	ND	NS	2,040

Influent				
Date	Total VOC	Total BTEX	Total SVOC	Total Iron
11/12/2002	855	835	NS	NS
2/28/2003	4,200	3,220	NS	NS
6/16/2003	326	172	NS	NS
8/18/2003	445	226	NS	NS
11/7/2003	386	344	13.0	221,000
5/11/2004	383	256	6.00	275,000
10/22/2004	270	194	10.0	308,000
6/3/2005	451	311	4.00	80,100
9/27/2005	2,110	1,740	NS	61,400
4/27/2006	446	306	NS	12,600
11/2/2006	434	338	NS	60,000

Mid-System				
Date	Total VOC	Total BTEX	Total SVOC	Total Iron
11/12/2002	198	188	NS	NS
2/28/2003	696	530	NS	NS
6/16/2003	573	336	NS	NS
8/18/2003	194	156	NS	NS
11/7/2003	71.2	62.0	7.00	64,300
5/11/2004	18.5	13.6	ND	12,300
10/22/2004	999	757	27.0	38,900
6/3/2005	100	57.9	ND	29,800
9/27/2005	45.3	34.9	NS	13,100
4/27/2006	118	48.0	NS	5,930
11/2/2006	66	28.0	NS	15,500



Overview Map - Scale: 1" = 600'

- Legend**
- Piezometer and Stream Gauge Location
 - ▲ Seep Samples
 - Biota Samples Collected in September 2005
 - ▲ Influent Location Sampled in September 2005
 - Sediment Samples Collected in October 2004
 - Willow planting boxes
 - Iron-Stained Soil Boundary
 - OSL Creek
 - Wetlands Boundary
 - Deer Protection Fence
 - Approximate Limits of Tree Clearing
 - 10' Contour

Sample Location **Parameter**

Effluent # 3				
Date	Total VOC	Total BTEX	Total SVOC	Total Iron
5/11/2004	6.80	3.60	ND	14,000
10/21/2004	6.40	0.40	ND	15,700
6/3/2005	4.70	0.80	ND	4,320
9/27/2005	1.50	0.60	NS	702
4/27/2006	4.00	ND	NS	126
11/2/2006	ND	ND	NS	2,040

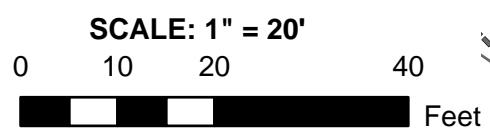
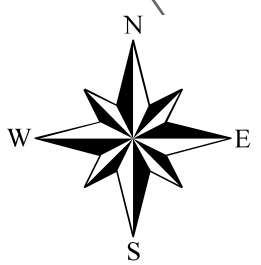
Date **Concentration**

Concentrations in µg/L
 ND - Not Detected
 NS - Not Sampled

Notes:

(1) Topographical survey information obtained from CT Male and Associates November, 1998. Seep SP03 sample locations surveyed by Gymo, PC, December, 2001.

(2) Concentrations rounded to three significant figures when possible.

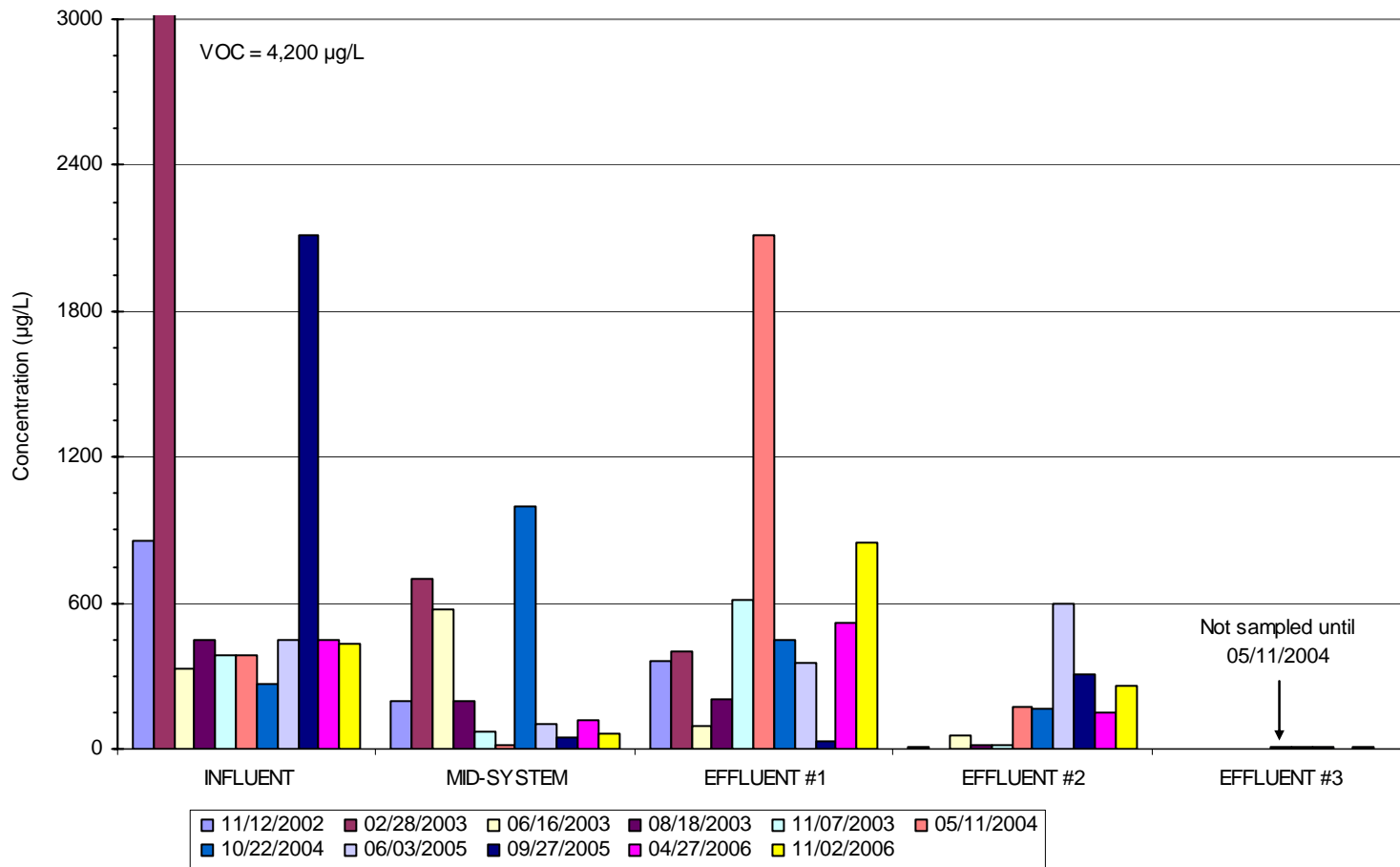


G:\0285810\Date_Gaps_Study\phytopilot\seep\reports\Jan to June 2006\GIS\MapDocuments\FIG3_Feb_06_PhytopilotSeepSamples_update.mxd - 2/28/2007 @ 10:26:31 AM



**Data Gap Study to Support Corrective Measures Study
 Phytoremediation Pilot Study at the Old Sanitary Landfill
 FORT DRUM, NEW YORK**

**Seep Samples: Total BTEX, VOC,
 SVOC, and Iron Concentrations**



US Army Corps
of Engineers

Total VOC Concentration versus Location

Malcolm Pirnie, Inc.



Data Gap Study to Support Corrective Measures Study
Phytoremediation Pilot Study at the Old Sanitary Landfill,
Fort Drum, New York

FIGURE 2

ATTACHMENT 1
SUNY-ESF Plantation Maintenance Report

Semiannual Progress Report for July – December 2006

**Phytoremediation Pilot Study at the Old Sanitary Landfill, Fort Drum, NY
Data Gap Study to Support Corrective Measures Study
Gasoline Alley Areas 1895, 1995, and 3805 and the Old Sanitary Landfill**

And

**Demonstrating Phytoremediation at the Old Sanitary Landfill,
Fort Drum, New York**

by

**Christopher A. Nowak, Ph.D. (Principal Investigator)
State University of New York
College of Environmental Science and Forestry**

Developed for

Malcolm Pirnie, Inc.

INTRODUCTION

A hardwood plantation phytoremediation system was installed at Fort Drum in May 2001 in the SP-03 area to support the Corrective Measures Study by Malcolm Pirnie, Inc. The SP-03 area is approximately 500 feet northeast of a light non-aqueous phase liquid (LNAPL) field and is defined by a seep that emerges from the northeast corner of Cell 2 of the inactive Old Sanitary Landfill (OSL). The State University of New York College of Environmental Science and Forestry (SUNY-ESF) was contracted to conduct the installation, operation, maintenance, and monitoring of the phytoremediation plantation. Additional information on the installation can be found in the Implementation Report (Malcolm Pirnie, July 27, 2001).

The goal of the project is to develop a phytoremediation system using plants suited to conditions at Fort Drum. If a successful system is developed, then it will be expanded in future phases of work to a full-scale remedial system and integrated into a comprehensive remedial strategy. Two supporting objectives are planned to meet this goal: (1) test different clones of willow to learn which clone is best suited for success, and (2) test the innovative use of soil rings and planting berms/boxes as a site preparation approach in poorly and very poorly drained soils. Success will be measured as a clone's ability to survive and grow, reduced contaminant mass in the solid and aqueous phases, and reduced contaminant migration.

This report documents conducted work and associated results for the July 1-December 31, 2006 reporting period. Work was conducted in accordance with the Data Gap Study to Support Corrective Measures Study Work Plan for Gasoline Alley and the OSL, (Work Plan, Malcolm Pirnie, Inc., September 2001), the Subcontract Agreement between Malcolm Pirnie and SUNY-ESF dated April 2001, and the work plan amendments dated April 15, 2003, June 25, 2004, May 2, 2005, and May 18, 2006. In general, there were no deviations from the work plans.

Summary of Recent Project Accomplishments

In spring 2003, we established 56 planting boxes (25 boxes, 10 x 2 foot in size, and 31 boxes, 5 x 2 foot in size) directly in the seep areas. We planted 1,215 willows in sets of 15 or 30 plants per box, which consisted of seven clones.

We installed twenty 5-foot long piezometers in summer 2003, one piezometer for each of the 20 large planting boxes. These piezometers were used to measure depth to water table twice in the summer of 2003, on a bi-weekly basis over the 2004 growing season, once each month during the 2004 fall dormant season, periodically in winter 2004-2005, once every 2 to 4 weeks from spring to fall 2005, and periodically in winter 2005-2006 (see Tables 1 and 2 for measurements for 2006; see semiannual report for July-December 2005 for earlier data). Elevations were measured in fall 2004 for each piezometer and referenced to various fixed objects. In May 2005, three new piezometers were installed in southern edge of the SP-04 area, just north of, and adjacent to, the SP-03 phytoremediation area. The purpose of these new piezometers was two-fold: (1) determine flow paths of water north of the phytoremediation plantation; and (2) allow for measurements of water dynamics for comparison with the SP-03 area. Two stream gauges were also installed in May 2005 in the OSL Creek, which flows along the northeastern edge of the plantation. These stream gauges, plus two other pre-existing gauges from just upstream from the plantation area (outlet of unnamed creek) and five pre-existing monitoring wells on the side slopes surrounding the SP-03 area, have been used to periodically measure depth of water and depth to water tables on the same schedule as the original 20 piezometers. (Monitoring wells were not measured in 2006 due to technical problems associated with access.)

Measurements of survival and growth of the willow plants in each box were made in December 2006. Water table and stream depth measurement results from 2006 are reported in this semiannual report in comparison with previous years. Willow biomass measurements made in 2006 will be reported in the next semiannual report.

PROGRESS DURING THIS REPORTING PERIOD (July – December 2006)

During this reporting period, we conducted two main activities: (1) monitored the plantations via measurements of depth to water table using the 23 piezometers (results presented in this report; Table 1), measurements of OSL Creek depth (results presented in this report; Table 2), and measurement of planted willow biomass (results to be presented in next semiannual report); and (2) operated and maintained the plantings.

Results from analysis of 2006 data on depth to water table and water height of the OSL Creek

Analyses of depth to water table and OSL Creek data from the 2006 measurements were completed during the reporting period. Analyses focused on graphically exploring: (1) year effects—2004 versus 2005 versus 2006; and (2) the relation between water table depths over time in the SP-03 area to water table patterns in SP-04 piezometers and water height in the OSL creek.

Depth to the water table in the SP-03 area was generally less in 2006 compared to 2005 (consistent with the water table being higher in 2006 compared to 2005); 2006 and 2004 depths were similar to each other (Figure 1). The greatest average depths for 2004, 2005, and 2006 were

18.2 cm (0.60 feet), 22.2 cm (0.73 feet) and 18.5 cm (0.61 feet), respectively. The peak depths occurred in August (Julian Day 267), July (Julian Day 199), and May (Julian Day 131) in 2004, 2005, and 2006, respectively.

Depth to the water table in the SP-04 area was generally the same in 2006 as compared to 2005 (there was no 2004 measurements) (Figure 2). The greatest average depths for 2005 and 2006 were 79.2 cm (2.60 feet) and 78.6 cm (2.58 feet), respectively. The peak depths occurred in July (Julian Day 204) and August (Julian Day 232) in 2005 and 2006, respectively.

Depth of the OSL Creek was generally higher in 2006 as compared to 2005 (there was no 2004 measurements) (Figure 3). The greatest average heights for 2005 and 2006 were 70.9 cm (2.33 feet) and 73.8 cm (2.42 feet), respectively. The peak heights occurred in August (Julian Day 223) for both 2005 and 2006.

Interpretation of Water Table Results

The water table in the SP-03 area increased during the 2006 growing season compared to 2005. In 2005, we observed the opposite (the water table was lower in 2005 compared to 2004), which we attributed to increased evapotranspiration associated with the willow plantings. We also indicated in 2005 that “larger-scale processes (i.e., site hydrogeology) are most important in controlling water table dynamics” (refer to the July-December 2005 semiannual report).

An increase in the height of the water table in 2006 compared to 2005 could be attributed to changes in pumping rates from the two production wells (FD-2 and FD-3) located on the opposite, north side of the OSL Creek from the SP-03 area (D. Lang, K. Roe, and A. Accardi-Dey, Malcolm Pirnie, personal communication, here and as follows). When these production wells are operating, hydraulic gradients throughout the SP-03 area are downward, indicating that deep groundwater flows beneath the creek and to the wells. During periods when the wells are not pumping, the gradient reverses to upward, which is the natural groundwater flow pattern in this discharge area. In the fall of 2006, pumping from the production wells was indefinitely stopped due to a fuel spill in the Oasis area. The subsequent rise of groundwater levels in the area of influence of the pumping wells likely masked the effects of the phytoremediation plantation on water levels in the SP-03 area in 2006.

Continued monitoring of groundwater levels in the SP-03 area over the next years and expanded monitoring in the new phytoremediation areas in associated with the “Phytoremediation Pilot Study” should be conducted to address phytoremediation effects on the water table. Monitoring of production well rates, frequency of pumping, and associated effects on hydraulic gradients in the SP-03 area will be important in distinguishing the effects of nearby pumping from the effects of the phytoremediation plantation. More broadly, monitoring and modeling of the total watershed that encompasses the Phytoremediation Pilot Study area, including consideration of land use changes (e.g., forest clearing near the airfield) and local patterns of precipitation inputs, will be critical in determining the effects of the phytoremediation plantation on groundwater dynamics.

Plantation Operations and Maintenance (O&M)

General state of the plantation was examined throughout the growing season. No problems were discovered in terms of pests. The plantation appears to be developing and performing as expected.

WORK PLANNED FOR THE NEXT REPORTING PERIOD (January - June 2007)

Plantation Operations and Maintenance (O&M)

General state of the plantation will be examined periodically during the remainder of the dormant season (January-April). Examinations will occur regularly thereafter (once per month), including assessment of the onset of pest problems (insect defoliation and herbivory from small and large mammals). Actions to control pests will be implemented if the pest develops into a problem for the success of the plantings.

Monitoring

Depth to water table will continue to be measured periodically during the dormant season and every month during the growing season.

Survival and aboveground growth data collected in December 2006 on the willow planted in 2003 will be entered into a database. Statistical analyses of these data will be completed by the next reporting period.

Implications for Monitoring the Phytoremediation Pilot Study

Monitoring the expanded phytoremediation system from SP-03 up throughout the unnamed creek drainage and downstream along the OSL Creek is currently being designed by SUNY-ESF. Information garnered through the past years of monitoring in SP-03 is being incorporated into that design. While this year's water table results were somewhat unexpected, they may be better understood with a more comprehensive water table monitoring system that is being planned for the Phytoremediation Pilot Study. In the Phytoremediation Pilot Study we plan to do the following added measures, as compared to past work in SP-03, to aid in monitoring water table dynamics (Work Plan pending between SUNY-ESF and Malcolm Pirnie): 1) regular and expanded monitoring of water table depths in established Fort Drum monitoring wells; 2) expanded OSL Creek gauging; 3) expanded use of untreated seeps as "controls" for phyto treated seeps; 4) establishment of a broad network of automated water table depth data loggers (n=21 automated pressure transducers in piezometers, one each per planting zone and untreated controls across the phyto plantation areas, and in/on subsets of stream gauges and existing monitoring wells) in both SP-03 and the new phyto plantation systems; 5) installation of a SUNY-ESF on-site precipitation gauge; and 6) addition of a hydrogeologist as a SUNY-ESF team member who will aid in monitoring system design and analysis of water table dynamics.

PROBLEMS

No problems were encountered during this reporting period, and none are expected for the next reporting period.

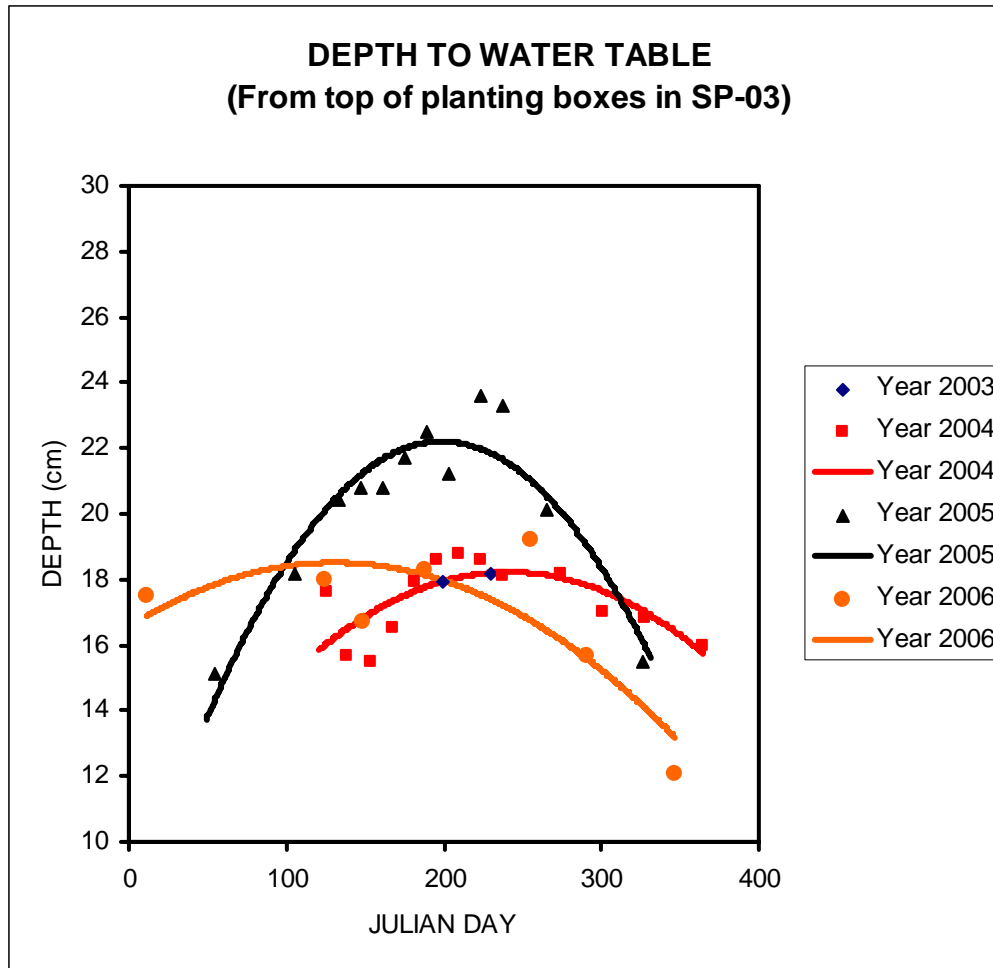


Figure 1. Depths to water table from top of planting boxes across the SP-03 area. The curves represent the averages of piezometer measurements for the 20 planting boxes from across the SP-03 study site (regression analysis). Regressions for Years 2004, 2005 and 2006 are as follows.

2004: Depth = 8.71 + (0.0788*JULIAN) – (0.0001632*JULIANSQ), R² = 0.51

2005: Depth = 7.25 + (0.1503*JULIAN) – (0.0003776*JULIANSQ), R² = 0.89

2006: Depth = 16.56 + (0.0299*JULIAN) – (0.0001143*JULIANSQ), R² = 0.67

JULIAN = Year 2004/2005/2006 Julian Day

JULIANSQ = Square of JULIAN

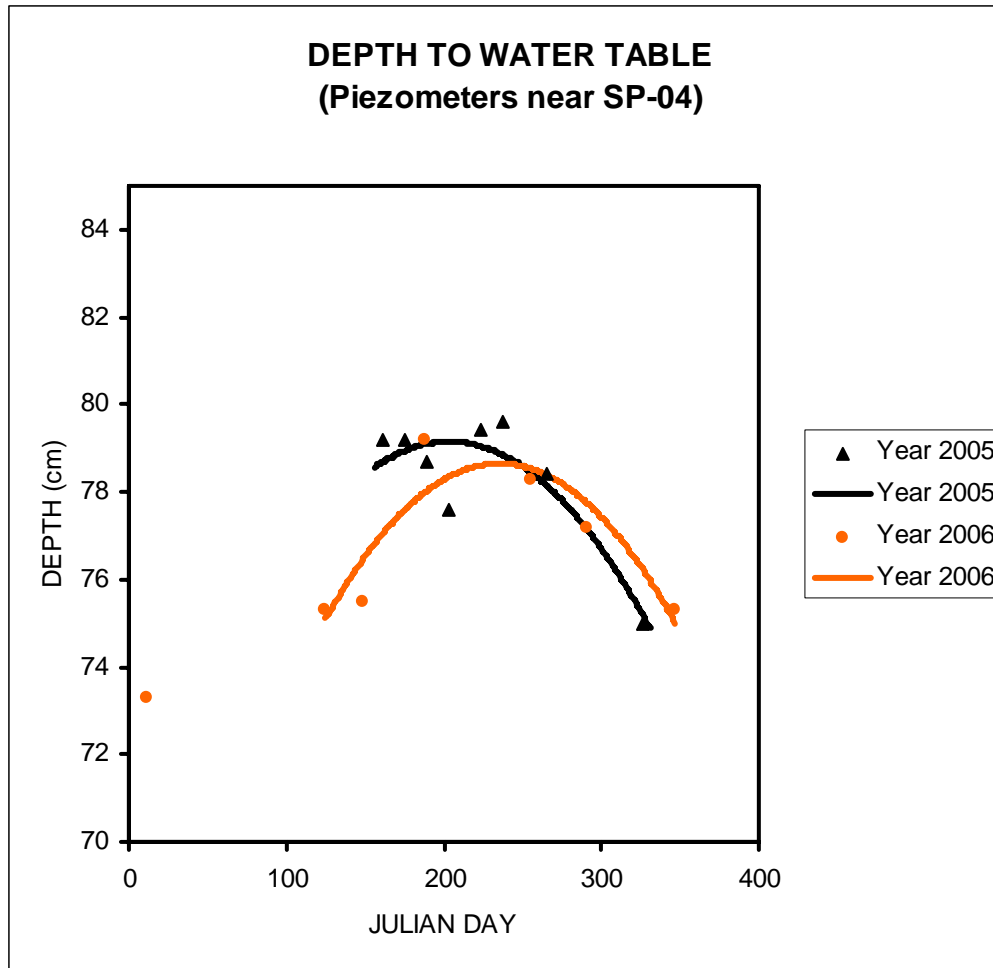


Figure 2. Depths to water table from top of the piezometers in the SP-04 area. The curves represent the averages of three piezometers from in the SP-04 area (regression analysis). Regressions for Years 2005 and 2006 are as follows. NOTE: data in 2006 from January was not included in the regression so as to provide similar data ranges for both 2005 and 2006.

2005: Depth = 68.22 + (0.107*JULIAN) – (0.0002637*JULIANSQ), R² = 0.77

2006: Depth = 62.50 + (0.137*JULIAN) – (0.0002918*JULIANSQ), R² = 0.81

JULIAN = Year 2005/2006 Julian Day

JULIANSQ = Square of JULIAN

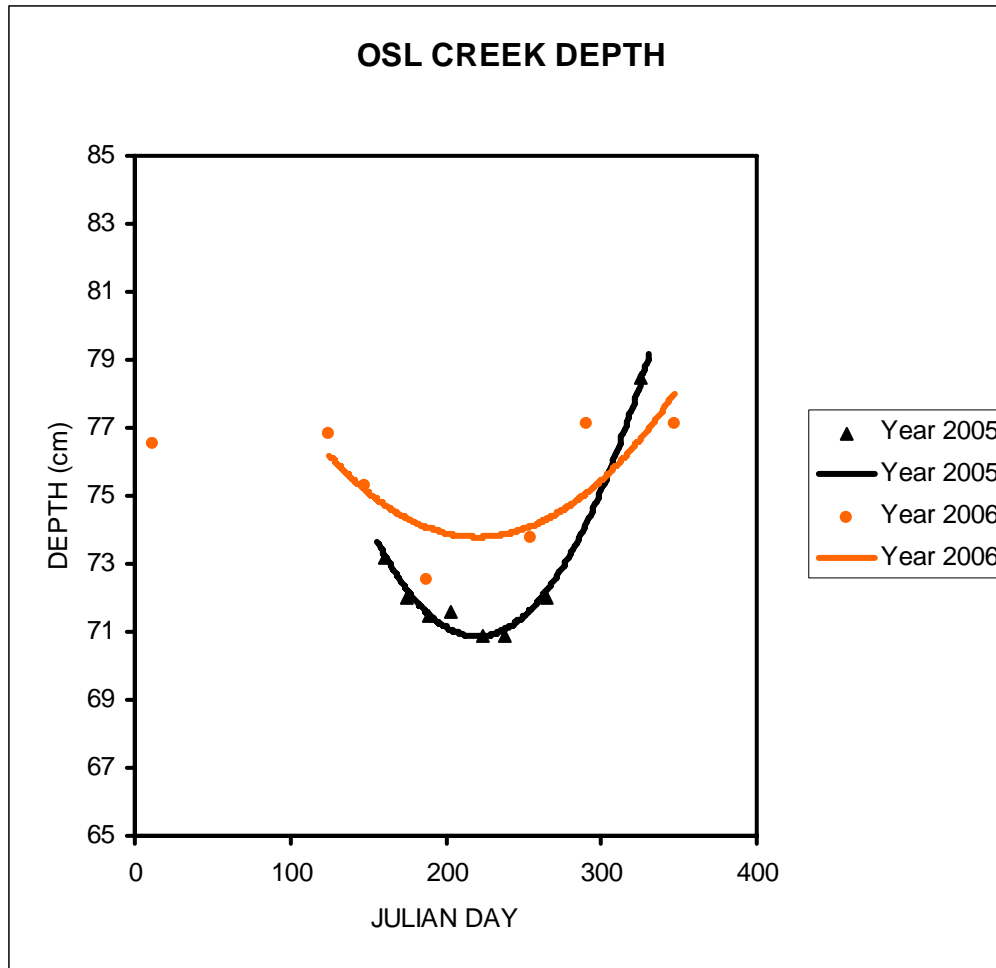


Figure 3. OSL Creek water heights in the SP-03 area. The curves represent the averages of four stream gauges (regression analysis). Regressions for Years 2005 and 2006 are as follows. NOTE: data in 2006 from January was not included in the regression so as to provide similar data ranges for both 2005 and 2006.

$$\text{2005: Depth} = 103.65 - (0.298 * \text{JULIAN}) - (0.0006762 * \text{JULIANSQ}), R^2 = 0.99$$

$$\text{2006: Depth} = 86.61 + (0.116 * \text{JULIAN}) - (0.0002637 * \text{JULIANSQ}), R^2 = 0.59$$

JULIAN = Year 2005/2006 Julian Day

JULIANSQ = Square of JULIAN

Table 1. Depth to water table from the top of 20 planting boxes in SP-03: 2006 (feet).

Box Code	Julian day/date						
	11 11-Jan-06	125 5-May-06	148 28-May-06	188 7-Jul-06	255 12-Sep-06	291 18-Oct-06	347 13-Dec-06
1A	0.8	0.7	0.8	0.8	0.9	0.8	0.7
5A	0.3	0.3	0.3	0.3	0.4	0.3	0.2
8A	0.3	0.3	0.3	0.4	0.4	0.3	0.2
13A	0.4	0.4	0.4	0.3	0.3	0.2	0.2
14A	1.2	1.2	1.1	1.2	1.2	1.1	x
20B	0.5	0.3	0.2	0.3	0.3	0.1	0.1
25B	0.3	0.3	0.2	0.3	0.4	0.3	0.2
26B	0.4	0.4	0.3	0.4	0.3	0.3	0.3
29B	0.7	0.8	0.7	0.9	0.8	0.7	0.7
32B	0.3	0.7	0.4	0.7	0.6	0.2	0.2
39C	0.6	0.7	0.7	0.7	0.7	0.6	0.6
40C	0.6	0.7	0.7	0.7	0.7	0.6	0.6
41C	0.5	0.5	0.5	0.7	0.6	0.5	0.5
42C	0.5	0.5	0.5	0.6	0.6	0.5	0.4
45C	0.6	0.7	0.7	0.7	0.8	0.6	0.5
48D	0.4	0.5	0.5	0.6	0.5	0.3	0.4
51D	0.7	0.8	0.8	0.8	0.9	0.7	0.6
52D	0.8	0.8	0.8	0.9	0.9	0.7	0.6
53D	0.7	0.7	0.7	x	0.7	0.6	0.5
55D	0.6	0.6	0.6	0.7	0.6	0.6	0.5

Table 2. Various OSL Creek water heights and depths to water table in the SP-04 piezometers: 2006.

OSL Creek (feet)	Julian day/date						
	11	125	148	188	255	291	347
	11-Jan-06	5-May-06	28-May-06	7-Jul-06	12-Sep-06	18-Oct-06	13-Dec-06
<u>Stream guage</u>							
EA9A	1.02	1.05	0.98	0.85	0.91	1.09	1.06
EA9B	0.83	0.83	0.78	0.7	0.72	0.86	0.86
ESF-1	4.05	4.09	4.05	3.93	3.94	4	4.01
ESF-2	4.13	4.09	4.08	4.02	4.1	4.16	4.17

2006 piezometers (feet)

<u>Outside SP-03 fence</u>	11-Jan-06	5-May-06	28-May-06	7-Jul-06	12-Sep-06	18-Oct-06	13-Dec-06
	ESF 2005 OUT-1	2.76	2.90	2.90	3.15	3.08	3.05
ESF 2005 OUT-2	2.62	2.62	2.62	2.85	2.84	2.81	2.67
ESF 2005 OUT-3	1.84	1.89	1.90	1.79	1.79	1.74	1.80

ATTACHMENT 2
Field Memorandum

To: File 2118-810 **Date:** November 13, 2006

Copy: T. Akbas, WHI
S. Thompson, WHI

From: Kelley J. Roe, SYR

Re: Seep Sampling for Old Sanitary Landfill Phytoremediation System Performance Monitoring, November 2006

Seep sampling associated with the OSL Phytoremediation System Performance Monitoring was conducted November 2, 2006 by Malcolm Pirnie personnel. Aqueous seep samples were collected at five locations within the seep SP03/Phytoremediation study area. In addition, historical seep locations SP01 and SP03 were sampled during this field effort. Field activities were conducted in accordance with *Basewide Groundwater, Surface Water and Sediment Monitoring Program (U.S. Army Corps of Engineers, Scope of Work, June 7, 2002)* and the *Basewide Quality Assurance Program (QAPP) (Malcolm Pirnie, 2001)*. Field sampling activities associated with the Phytoremediation System Monitoring are described below. Aqueous seep samples were shipped to Katahdin Analytical Laboratory, Westbrook, Maine, for analysis. Field observations are included in the attached field notes.

Phytoremediation System Sampling

Aqueous seep samples were collected at five locations within the seep SP03/Phytoremediation Study Area:

- *SP-03(Influent)*
- *SP-03(Midpoint)*
- *SP-03(Effluent #1)*
- *SP-03(Effluent #2)*
- *SP-03(Effluent #3)*

Three effluent locations are sampled due to variations in flow patterns within the system and as the seep discharges into OSL Creek. Compared to previous sampling events, the flow observed within the SP03 system during this round of sampling was average; although some pooled seepage was evident at the Effluent #2 and Effluent #3 locations, minimal *flow* was observed during the sampling event. Also, the presence of planting boxes (as well as water uptake by plants) has affected flow patterns within the system, creating greater ponding of the seepage in several areas of the site.

Water quality parameters measured at each location included temperature, pH, specific conductance, turbidity, dissolved oxygen, and oxidation-reduction potential. Water quality parameters are included in attached Table 1. Aqueous seep samples were submitted with analyses requested for volatile organic compounds (VOCs), including MTBE, total iron, and dissolved iron. Samples collected for dissolved iron were field-filtered using a 45-micron filter.

Seeps SP01 and SP03 Sampling

Historical seep sampling locations SP01, located along the southeastern slope of OSL Cell 2, and SP03, located near the east-northeastern corner of Cell 2, were also sampled during this Phytoremediation System Monitoring event. Seep samples were submitted for analyses for VOCs, semi-volatile organic compounds (SVOCs),

Pesticides, TAL metals, hardness and cyanide. Water quality parameters, measured immediately after sample collection, are presented in Table 1.

/kjr
Attachments
2118-810

Phytoremediation Monitoring
November 2006
Fort Drum, New York

Sample Location	Sample Date	Water Quality Parameters							Laboratory Analysis	Comments
		PID (ppm)	Temp (°C)	pH (s.u.)	Conduc-tivity (mS/cm)	Tur-bidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)		
SP03 (Effluent#1)	11/02/06	0.0	5.10	7.32	0.500	58	5.82	-64	VOCs, Total Iron, Dissolved Iron	
SP03 (Effluent#2)	11/02/06	0.0	5.32	7.19	0.654	80	5.96	-81	VOCs, Total Iron, Dissolved Iron	
SP03 (Effluent#3)	11/02/06	0.0	4.46	7.87	0.563	40	7.88	5	VOCs, Total Iron, Dissolved Iron	
SP03 (Midpoint)	11/02/06	0.3	4.71	7.50	0.619	45	6.09	-87	VOCs, Total Iron, Dissolved Iron	
SP03 (Influent)	11/02/06	0.5	5.97	7.34	0.350	170	5.92	-68	VOCs, Total Iron, Dissolved Iron	
SP-01	11/02/06	1.3	8.38	7.31	0.684	60	4.91	-77	VOC, SVOC, Pesticides, TAL Metals, Hardness, Cyanide.	
SP-03	11/02/06	0.5	6.64	7.35	0.601	45	4.82	-109	VOC, SVOC, Pesticides, TAL Metals, Hardness, Cyanide.	

Notes: All samples for dissolved iron field-filtered with 0.45 micron filter.

11/1/06

Fort Drum Basewide
Surface Water

- Complete Surface Water Sampling @ 1595, 1795 and 2140 locations
- Package samples for shipping - complete piwork
- Clean up field equip & store/change for overnight
- Prep/label for SP-01, SP-03 and Phyto sampling
- Leave Ft Drum field office for Fedex

Kelley Roe 11/1/06

11/2/06

Ft Drum Basewide
Phyto/Seeps

- Kelley Roe
- Adam Mazurkiewicz

Weather: 30°F up to 45°F,
Sun to part-cloudy, wind
WNW 5-15 mph; possible
rain/snow showers in p.m.

- Calibrate PID (to 100 ppm
Isobutylene)
- Calibrate Horiba U-22
- Prep/load for Phyto
Sampling
- Sign in @ EA field office
for access to SP-01
- Talk to Dana (EA) re
disposal of SW sampling
decon water. Kelley Roe 11/2/06

Location SP03 (Eff #3)
 pH 7.87 Cond 0.563 Turb 40 DO 7.88 Temp 4.46 ORP 5 PID 0.0
 s.u. ms/cm NTU mg/L °C mV ppm
 Date: 11/2/06
 Time: 12:15

Location SP03 (Eff #2)
 pH 7.19 Cond 0.654 Turb 80 DO 5.96 Temp 5.32 ORP -81 PID 0.0
 s.u. ms/cm NTU mg/L °C mV ppm
 Date: 11/2/06
 Time: 12:35

Location SP03 (Eff #1)
 pH 7.32 Cond 0.500 Turb 50 DO 5.82 Temp 5.10 ORP -64 PID 0.0
 s.u. ms/cm NTU mg/L °C mV ppm
 Date: 11/2/06
 Time: 12:55

Kelly Doe 11/2/06

Location _____
 Project / Client _____
 Date 11/2/06
 Ft Drum Bessie Side
 Puffs / Seeps

Location SP03 (Mid)
 pH 7.50 Cond 0.619 Turb 45 DO 6.09 Temp 4.71 ORP -87 PID 0.3
 s.u. ms/cm NTU mg/L °C mV ppm
 Date: 11/2/06
 Time: 1315

Location SP-03
 pH 7.35 Cond 0.601 Turb 120 DO 4.82 Temp 6.64 ORP -109 PID 0.5*
 s.u. ms/cm NTU mg/L °C mV ppm
 Date: 11/2/06
 Time: 1325

Note: Collected @ historical seep SP-03 location; *PID on sediment when mucked up by boots = 59.6 ppm

Location SP03 (Inf.)
 pH 7.34 Cond 0.350 Turb 170 DO 5.92 Temp 5.97 ORP -68 PID 0.5
 s.u. ms/cm NTU mg/L °C mV ppm
 Date: 11/2/06
 Time: 1335

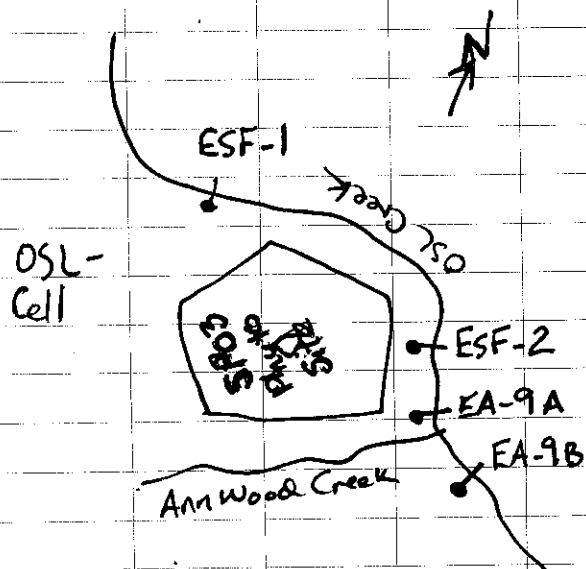
Kelly Doe 11/2/06

Location _____
 Project / Client _____
 Date 11/2/06
 Ft Drum Bessie Side
 Puffs / Seeps
 Scale

Location _____ Date 11/2/06Project / Client Fort Drum BaselineSeeps/Phyto

Stream Gauges Seep SP-03 Area:

EA-9A	1.13'
EA-9B	0.90'
ESF-1	4.02'
ESF-2	4.17'



(OSL Cell 1)

Kenny Doe 11/2/06

Location _____ Date 11/2/06Project / Client Fort Drum BaselinePhyto/Seeps

Scale _____

1600 Complete Phyto and SP-01 & SP-03 sample collection

- Note Phyto samples collected for total Fe AND Dissolved Fe

↳ samples filtered using NALGENE disposable filter units w/ 0.45 μ filters.

- Demos from OSL - un pack from sampling; sort field equip for return to BUF office; clean all equip from field use;

- Package samples & complete paperwork

1700 Adam H. Leave site for BUF

1800 Ken leave for FedEx to ship samples.

Kenny Doe 11/2/06

ATTACHMENT 3
Katahdin Analytical Services Certification and Data Package

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



Expires 12:01 AM April 01, 2007
Issued April 01, 2006
Revised April 12, 2006

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. DEBORAH J. NADEAU
KATAHDIN ANALYTICAL SERVICES INC
340 COUNTY ROAD NO 5
WESTBROOK, ME 04092

NY Lab Id No: 11121
EPA Lab Code: ME00019

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards for the category
ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Acrylates

Acrolein (Propenal) EPA 624
Acrylonitrile EPA 624

Amines

2-Nitroaniline EPA 8270C
3-Nitroaniline EPA 8270C
4-Chloroaniline EPA 8270C
4-Nitroaniline EPA 8270C
Carbazole EPA 8270C

Benzidines

3,3'-Dichlorobenzidine EPA 625
Benzidine EPA 625

Chlorinated Hydrocarbon Pesticides

4,4'-DDD EPA 608
4,4'-DDE EPA 608
4,4'-DDT EPA 608
Aldrin EPA 608
alpha-BHC EPA 608
alpha-Chlordane EPA 8081A
beta-BHC EPA 608
Chlordane Total EPA 608
delta-BHC EPA 608
Dieldrin EPA 608

Chlorinated Hydrocarbon Pesticides

Endosulfan I EPA 608
Endosulfan II EPA 608
Endosulfan sulfate EPA 608
Endrin EPA 608
Endrin aldehyde EPA 608
Endrin Ketone EPA 8081A
gamma-Chlordane EPA 8081A
Heptachlor EPA 608
Heptachlor epoxide EPA 608
Lindane EPA 608
Methoxychlor EPA 8081A
Toxaphene EPA 608

Chlorinated Hydrocarbons

1,2,4-Trichlorobenzene EPA 625
2-Chloronaphthalene EPA 625
Hexachlorobenzene EPA 625
Hexachlorobutadiene EPA 625
Hexachlorocyclopentadiene EPA 625
Hexachloroethane EPA 625

Chlorophenoxy Acid Pesticides

2,4,5-T EPA 8151A
2,4,5-TP (Silvex) EPA 8151A

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Chlorophenoxy Acid Pesticides

2,4-D EPA 8151A
Dicamba EPA 8151A
Dinoseb EPA 8151A

Demand

Biochemical Oxygen Demand EPA 405.1
SM 18-20 5210B
Chemical Oxygen Demand EPA 410.4
HACH 8000

Haloethers

4-Bromophenylphenyl ether EPA 625
4-Chlorophenylphenyl ether EPA 625
Bis (2-chloroisopropyl) ether EPA 625
Bis(2-chloroethoxy)methane EPA 625
Bis(2-chloroethyl)ether EPA 625

Mineral

Acidity EPA 305.1
Alkalinity EPA 310.1
SM 18-20 2320B
Calcium Hardness EPA 200.7
Chloride EPA 300.0
EPA 325.2
SM 18-20 4500-Cl E

Mineral

Fluoride, Total EPA 340.2
SM 18-20 4500-F C
Hardness, Total EPA 200.7
Sulfate (as SO4) EPA 300.0
EPA 375.4

Nitroaromatics and Isophorone

2,4-Dinitrotoluene EPA 625
2,6-Dinitrotoluene EPA 625
Isophorone EPA 625
Nitrobenzene EPA 625

Nitrosoamines

N-Nitrosodimethylamine EPA 625
N-Nitrosodi-n-propylamine EPA 625
N-Nitrosodiphenylamine EPA 625

Nutrient

Ammonia (as N) EPA 350.1
SM 18 4500-NH3 H
Kjeldahl Nitrogen, Total EPA 351.2
Nitrate (as N) EPA 300.0
EPA 353.2
SM 18-20 4500-NO3 F
Nitrite (as N) EPA 300.0

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Nutrient		Polynuclear Aromatics	
Nitrite (as N)	EPA 353.2	Acenaphthene	EPA 625
	SM 18-20 4500-NO3 F	Acenaphthylene	EPA 625
Orthophosphate (as P)	EPA 300.0	Anthracene	EPA 625
	EPA 365.2	Benzo(a)anthracene	EPA 625
	SM 18-20 4500-P E	Benzo(a)pyrene	EPA 625
Phosphorus, Total	EPA 365.4	Benzo(b)fluoranthene	EPA 625
		Benzo(ghi)perylene	EPA 625
Phthalate Esters		Benzo(k)fluoranthene	EPA 625
Benzyl butyl phthalate	EPA 625	Chrysene	EPA 625
Bis(2-ethylhexyl) phthalate	EPA 625	Dibenzo(a,h)anthracene	EPA 625
Diethyl phthalate	EPA 625	Fluoranthene	EPA 625
Dimethyl phthalate	EPA 625	Fluorene	EPA 625
Di-n-butyl phthalate	EPA 625	Indeno(1,2,3-cd)pyrene	EPA 625
Di-n-octyl phthalate	EPA 625	Naphthalene	EPA 625
		Phenanthrene	EPA 625
Polychlorinated Biphenyls		Pyrene	EPA 625
PCB-1016	EPA 608		
PCB-1221	EPA 608	Priority Pollutant Phenols	
PCB-1232	EPA 608	2,4,5-Trichlorophenol	EPA 8270C
PCB-1242	EPA 608	2,4,6-Trichlorophenol	EPA 625
PCB-1248	EPA 608	2,4-Dichlorophenol	EPA 625
PCB-1254	EPA 608	2,4-Dimethylphenol	EPA 625
PCB-1260	EPA 608	2,4-Dinitrophenol	EPA 625
		2-Chlorophenol	EPA 625

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Priority Pollutant Phenols		Purgeable Aromatics	
2-Methyl-4,6-dinitrophenol	EPA 625	1,4-Dichlorobenzene	EPA 624
2-Methylphenol	EPA 8270C		EPA 625
2-Nitrophenol	EPA 625		EPA 8021B
4-Chloro-3-methylphenol	EPA 625		EPA 8270C
4-Methylphenol	EPA 8270C	Benzene	EPA 602
4-Nitrophenol	EPA 625		EPA 624
Pentachlorophenol	EPA 625		EPA 8021B
Phenol	EPA 625	Chlorobenzene	EPA 601
			EPA 602
			EPA 624
Purgeable Aromatics			EPA 8021B
1,2-Dichlorobenzene	EPA 601		EPA 602
	EPA 602	Ethyl benzene	EPA 624
	EPA 624		EPA 624
	EPA 625		EPA 8021B
	EPA 8021B	Styrene	EPA 8260B
	EPA 8270C	Toluene	EPA 602
1,3-Dichlorobenzene	EPA 601		EPA 624
	EPA 602		EPA 8021B
	EPA 624	Total Xylenes	EPA 602
	EPA 625		EPA 624
	EPA 8021B		EPA 8021B
	EPA 8270C		
1,4-Dichlorobenzene	EPA 601	Purgeable Halocarbons	
	EPA 602	1,1,1-Trichloroethane	EPA 601

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Purgeable Halocarbons		Purgeable Halocarbons	
1,1,1-Trichloroethane	EPA 624	Bromodichloromethane	EPA 601
	EPA 8021B		EPA 624
1,1,1,2-Tetrachloroethane	EPA 601		EPA 8021B
	EPA 624	Bromoform	EPA 601
	EPA 8021B		EPA 624
1,1,2-Trichloroethane	EPA 601		EPA 8021B
	EPA 624	Bromomethane	EPA 601
	EPA 8021B		EPA 624
1,1-Dichloroethane	EPA 601		EPA 8021B
	EPA 624	Carbon tetrachloride	EPA 601
	EPA 8021B		EPA 624
1,1-Dichloroethene	EPA 601		EPA 8021B
	EPA 624	Chloroethane	EPA 601
	EPA 8021B		EPA 624
1,2-Dichloroethane	EPA 601		EPA 8021B
	EPA 624	Chloroform	EPA 601
	EPA 8021B		EPA 624
1,2-Dichloropropane	EPA 601		EPA 8021B
	EPA 624	Chloromethane	EPA 601
	EPA 8021B		EPA 624
2-Chloroethylvinyl ether	EPA 601		EPA 8021B
	EPA 624	cis-1,3-Dichloropropene	EPA 601
	EPA 8021B		EPA 624

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All approved analytes are listed below:*

Purgeable Halocarbons		Purgeable Halocarbons	
cis-1,3-Dichloropropene	EPA 8021B	Trichlorofluoromethane	EPA 624
Dibromochloromethane	EPA 601		EPA 8021B
	EPA 624	Vinyl chloride	EPA 601
	EPA 8021B		EPA 624
Dichlorodifluoromethane	EPA 601		EPA 8021B
	EPA 624	Purgeable Organics	
	EPA 8021B	2-Butanone (Methylethyl ketone)	EPA 8260B
Methylene chloride	EPA 601	2-Hexanone	EPA 8260B
	EPA 624	4-Methyl-2-Pentanone	EPA 8260B
	EPA 8021B	Acetone	EPA 8260B
Tetrachloroethene	EPA 601	Carbon Disulfide	EPA 8260B
	EPA 624	Vinyl acetate	EPA 8260B
	EPA 8021B		
trans-1,2-Dichloroethene	EPA 601	Residue	
	EPA 624	Solids, Total	EPA 160.3
	EPA 8021B		SM 18-20 2540B
trans-1,3-Dichloropropene	EPA 601	Solids, Total Dissolved	EPA 160.1
	EPA 624		SM 18-20 2540C
	EPA 8021B	Solids, Total Suspended	EPA 160.2
Trichloroethene	EPA 601		SM 18-20 2540D
	EPA 624	Semi-Volatile Organics	
	EPA 8021B	2-Methylnaphthalene	EPA 8270C
Trichlorofluoromethane	EPA 601	Benzoic Acid	EPA 8270C

Serial No.: 30027

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



Expires 12:01 AM April 01, 2007
Issued April 01, 2006
Revised April 12, 2006

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MS. DEBORAH J. NADEAU
KATAHDIN ANALYTICAL SERVICES INC
340 COUNTY ROAD NO 5
WESTBROOK, ME 04092

NY Lab Id No: 11121
EPA Lab Code: ME00019

is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards for the category
ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:

Semi-Volatile Organics		Wastewater Metals I	
Benzyl alcohol	EPA 8270C	Nickel, Total	EPA 200.8
Dibenzofuran	EPA 8270C		EPA 6020
		Potassium, Total	EPA 200.7
Wastewater Metals I		Silver, Total	EPA 200.7
Barium, Total	EPA 200.7		EPA 200.8
	EPA 200.8	Sodium, Total	EPA 200.7
Cadmium, Total	EPA 200.7		
	EPA 200.8	Wastewater Metals II	
	EPA 6020	Aluminum, Total	EPA 200.7
Calcium, Total	EPA 200.7		EPA 200.8
Chromium, Total	EPA 200.7	Antimony, Total	EPA 200.7
	EPA 200.8		EPA 200.8
	EPA 6020	Arsenic, Total	EPA 200.7
Copper, Total	EPA 200.7		EPA 200.8
	EPA 200.8		EPA 6020
	EPA 6020	Beryllium, Total	EPA 200.7
Iron, Total	EPA 200.7		EPA 200.8
	SM 18-19 3500-Fe D	Chromium VI	SM 18-19 3500-Cr D
Lead, Total	EPA 200.7	Mercury, Total	EPA 1631E
	EPA 200.8		EPA 245.1
Magnesium, Total	EPA 200.7		EPA 7470A
Manganese, Total	EPA 200.7	Selenium, Total	EPA 200.7
	EPA 200.8		EPA 200.8
Nickel, Total	EPA 200.7		EPA 6020

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All approved analytes are listed below:

Wastewater Metals II

Vanadium, Total	EPA 200.7
	EPA 200.8
	EPA 6020
Zinc, Total	EPA 200.7
	EPA 200.8
	EPA 6020

Wastewater Metals III

Cobalt, Total	EPA 200.7
	EPA 200.8
Molybdenum, Total	EPA 200.7
	EPA 200.8
	EPA 6020
Thallium, Total	EPA 200.7
	EPA 200.8
Tin, Total	EPA 200.7

Wastewater Miscellaneous

Boron, Total	EPA 200.7
Bromide	EPA 300.0
Color	EPA 110.2
	SM 18-20 2120B
Cyanide, Total	EPA 335.3
	EPA 335.4

Wastewater Miscellaneous

Hydrogen Ion (pH)	EPA 150.1
	SM 18-20 4500-H B
Oil & Grease Total Recoverable	EPA 1664A
Organic Carbon, Total	EPA 415.1
Phenols	EPA 420.1
Specific Conductance	EPA 120.1
	SM 18-20 2510B
Sulfide (as S)	EPA 376.1
Surfactant (MBAS)	SM 18-20 5540C
Total Recoverable Petroleum Hydrocarb	EPA 1664A

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WADSWORTH CENTER

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EPA Lab Code: ME00019

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ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:*

Acrylates

Acrolein (Propenal) EPA 8260B
Acrylonitrile EPA 8260B

Amines

2-Nitroaniline EPA 8270C
3-Nitroaniline EPA 8270C
4-Chloroaniline EPA 8270C
4-Nitroaniline EPA 8270C
Carbazole EPA 8270C

Benzidines

3,3'-Dichlorobenzidine EPA 8270C

Characteristic Testing

Ignitability EPA 1010
TCLP EPA 1311

Chlorinated Hydrocarbon Pesticides

4,4'-DDD EPA 8081A
4,4'-DDE EPA 8081A
4,4'-DDT EPA 8081A
Aldrin EPA 8081A
alpha-BHC EPA 8081A
alpha-Chlordane EPA 8081A
beta-BHC EPA 8081A

Chlorinated Hydrocarbon Pesticides

Chlordane Total EPA 8081A
delta-BHC EPA 8081A
Dieldrin EPA 8081A
Endosulfan I EPA 8081A
Endosulfan II EPA 8081A
Endosulfan sulfate EPA 8081A
Endrin EPA 8081A
Endrin aldehyde EPA 8081A
Endrin Ketone EPA 8081A
gamma-Chlordane EPA 8081A
Heptachlor EPA 8081A
Heptachlor epoxide EPA 8081A
Lindane EPA 8081A
Methoxychlor EPA 8081A
Toxaphene EPA 8081A

Chlorinated Hydrocarbons

1,2,4-Trichlorobenzene EPA 8270C
2-Chloronaphthalene EPA 8270C
Hexachlorobenzene EPA 8270C
Hexachlorobutadiene EPA 8270C
Hexachlorocyclopentadiene EPA 8270C
Hexachloroethane EPA 8270C

Serial No.: 28585

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



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Issued April 1, 2006

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All approved analytes are listed below:*

Haloethers

4-Bromophenylphenyl ether	EPA 8270C
4-Chlorophenylphenyl ether	EPA 8270C
Bis (2-chloroisopropyl) ether	EPA 8270C
Bis(2-chloroethoxy)methane	EPA 8270C
Bis(2-chloroethyl)ether	EPA 8270C

Metals I

Barium, Total	EPA 6010B
	EPA 6020
Cadmium, Total	EPA 6010B
	EPA 6020
Calcium, Total	EPA 6010B
Chromium, Total	EPA 6010B
	EPA 6020
Copper, Total	EPA 6010B
Iron, Total	EPA 6010B
Lead, Total	EPA 6010B
	EPA 6020
Magnesium, Total	EPA 6010B
Manganese, Total	EPA 6010B
Nickel, Total	EPA 6010B
	EPA 6020
Potassium, Total	EPA 6010B
Silver, Total	EPA 6010B

Metals I

Silver, Total	EPA 6020
Sodium, Total	EPA 6010B

Metals II

Aluminum, Total	EPA 6010B
Antimony, Total	EPA 6010B
	EPA 6020
Arsenic, Total	EPA 6010B
	EPA 6020
Beryllium, Total	EPA 6010B
Chromium VI	EPA 7196A
Mercury, Total	EPA 7471A
Selenium, Total	EPA 6010B
	EPA 6020
Vanadium, Total	EPA 6010B
Zinc, Total	EPA 6010B

Metals III

Cobalt, Total	EPA 6010B
Thallium, Total	EPA 6010B

Miscellaneous

Cyanide, Total	EPA 9012A
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Nitroaromatics and Isophorone

2,4-Dinitrotoluene	EPA 8270C
2,6-Dinitrotoluene	EPA 8270C
Isophorone	EPA 8270C
Nitrobenzene	EPA 8270C

Nitrosoamines

N-Nitrosodi-n-propylamine	EPA 8270C
N-Nitrosodiphenylamine	EPA 8270C

Phthalate Esters

Benzyl butyl phthalate	EPA 8270C
Bis(2-ethylhexyl) phthalate	EPA 8270C
Diethyl phthalate	EPA 8270C
Dimethyl phthalate	EPA 8270C
Di-n-butyl phthalate	EPA 8270C
Di-n-octyl phthalate	EPA 8270C

Polychlorinated Biphenyls

PCB-1016	EPA 8082
PCB-1221	EPA 8082
PCB-1232	EPA 8082
PCB-1242	EPA 8082
PCB-1248	EPA 8082
PCB-1254	EPA 8082
PCB-1260	EPA 8082

Polynuclear Aromatic Hydrocarbons

Acenaphthene	EPA 8270C
Acenaphthylene	EPA 8270C
Anthracene	EPA 8270C
Benzo(a)anthracene	EPA 8270C
Benzo(a)pyrene	EPA 8270C
Benzo(b)fluoranthene	EPA 8270C
Benzo(ghi)perylene	EPA 8270C
Benzo(k)fluoranthene	EPA 8270C
Chrysene	EPA 8270C
Dibenzo(a,h)anthracene	EPA 8270C
Fluoranthene	EPA 8270C
Fluorene	EPA 8270C
Indeno(1,2,3-cd)pyrene	EPA 8270C
Naphthalene	EPA 8270C
Phenanthrene	EPA 8270C
Pyrene	EPA 8270C

Priority Pollutant Phenols

2,4,5-Trichlorophenol	EPA 8270C
2,4,6-Trichlorophenol	EPA 8270C
2,4-Dichlorophenol	EPA 8270C
2,4-Dimethylphenol	EPA 8270C
2,4-Dinitrophenol	EPA 8270C
2-Chlorophenol	EPA 8270C

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ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Priority Pollutant Phenols

2-Methyl-4,6-dinitrophenol	EPA 8270C
2-Methylphenol	EPA 8270C
2-Nitrophenol	EPA 8270C
4-Chloro-3-methylphenol	EPA 8270C
4-Methylphenol	EPA 8270C
4-Nitrophenol	EPA 8270C
Pentachlorophenol	EPA 8270C
Phenol	EPA 8270C

Purgeable Halocarbons

1,1,1-Trichloroethane	EPA 8260B
1,1,2,2-Tetrachloroethane	EPA 8260B
1,1,2-Trichloroethane	EPA 8260B
1,1-Dichloroethane	EPA 8260B
1,1-Dichloroethene	EPA 8260B
1,2-Dichloroethane	EPA 8260B
1,2-Dichloropropane	EPA 8260B
2-Chloroethylvinyl ether	EPA 8260B
Bromodichloromethane	EPA 8260B
Bromoform	EPA 8260B
Bromomethane	EPA 8260B
Carbon tetrachloride	EPA 8260B
Chloroethane	EPA 8260B
Chloroform	EPA 8260B
Chloromethane	EPA 8260B
cis-1,3-Dichloropropene	EPA 8260B
Dibromochloromethane	EPA 8260B
Dichlorodifluoromethane	EPA 8260B
Methylene chloride	EPA 8260B
Tetrachloroethene	EPA 8260B
trans-1,3-Dichloropropene	EPA 8260B
Trichloroethene	EPA 8260B
Trichlorofluoromethane	EPA 8260B

Purgeable Aromatics

1,2-Dichlorobenzene	EPA 8260B
	EPA 8270C
1,3-Dichlorobenzene	EPA 8260B
	EPA 8270C
1,4-Dichlorobenzene	EPA 8260B
	EPA 8270C
Benzene	EPA 8260B
Chlorobenzene	EPA 8260B
Ethyl benzene	EPA 8260B
Styrene	EPA 8260B
Toluene	EPA 8260B
Total Xylenes	EPA 8260B

Serial No.: 28585

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



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Issued April 1, 2006

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ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:*

Purgeable Halocarbons

Vinyl chloride EPA 8260B

Purgeable Organics

2-Butanone (Methylethyl ketone) EPA 8260B

2-Hexanone EPA 8260B

4-Methyl-2-Pentanone EPA 8260B

Acetone EPA 8260B

Carbon Disulfide EPA 8260B

Vinyl acetate EPA 8260B

Semi-Volatile Organics

2-Methylnaphthalene EPA 8270C

Benzoic Acid EPA 8270C

Benzyl alcohol EPA 8270C

Dibenzofuran EPA 8270C

Serial No.: 28585

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**NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER**

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



Expires 12:01 AM April 01, 2007
Issued May 08, 2006

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

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340 COUNTY ROAD NO 5
WESTBROOK, ME 04092**

**NY Lab Id No: 11121
EPA Lab Code: ME00019**

*is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES ANALYTICAL SERVICES PROTOCOL
All approved subcategories and/or analytes are listed below:*

CLP Semi-Volatile Organics
CLP Volatile Organics
CLP PCB/Pesticides
CLP Inorganics

Serial No.: 30186

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December 6, 2006

Ms. Terri Akbas
Malcolm Pirnie, Inc.
104 Corporate Park Drive
White Plains, NY 10602-0751

RE: Katahdin Lab Number: WW5978
Project ID: Fort Drum Basewide Phyto
Project Manager: Mrs. Andrea Colby
Sample Receipt Date(s): November 03, 2006

Dear Ms. Akbas:

Please find enclosed the following information:

- * Report of Analysis (Analytical and/or Field)
- * Quality Control Data Summary
- * Chain of Custody (COC)
- * Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

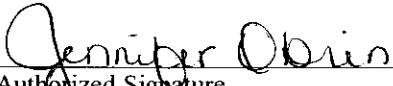
Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.


We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Sincerely,

KATAHDIN ANALYTICAL SERVICES



Authorized Signature



Date

**SDG NARRATIVE
KATAHDIN ANALYTICAL SERVICES
MALCOLM PIRNIE
FORT DRUM BASEWIDE PHYTO
WW5978**

Sample Receipt

The following samples were received on November 3, 2006 and were logged in under Katahdin Analytical Services work order number WW5978 for a hardcopy due date of November 29, 2006.

<u>KATAHDIN</u>	<u>MALCOLM PIRNIE</u>
<u>Sample No.</u>	<u>Sample Identification</u>
WW5978-1	TRIP BLANK 11.2.06
WW5978-2	SP03(EFF#1)
WW5978-3	SP03(EFF#1)
WW5978-4	SP03(EFF#2)
WW5978-5	SP03(EFF#2)
WW5978-6	SP03(EFF#3)
WW5978-7	SP03(EFF#3)
WW5978-8	SP03(MID)
WW5978-9	SP03(MID)
WW5978-10	SP03(INF.)
WW5978-11	SP03(INF.)

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in this narrative or in the Report of Analysis.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Andrea J. Colby**. This narrative is an integral part of the Report of Analysis.

Organics Analysis

The samples of Work Order WW5978 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846. 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, and III 1996, Office of Solid Waste and Emergency Response, U.S. EPA for the specific methods listed below or on the Report of Analysis. Some manual integrations may have been performed due to split peaks and/or

corrected baselines. All have been flagged with a "M" (software-generated) on the pertinent quantitation reports.

8260B Analysis

The reported percent recovery acceptance limits for the Laboratory Control Samples (LCSs) are statistically derived for the full list of spiked compounds. The recoveries of the spiked analytes in the LCS, Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are compared to these acceptance limits. Katahdin standard operating procedure is not to take corrective action until greater than ten percent of the spiked analytes (with the exception of the common laboratory contaminants acetone and methylene chloride) in the LCS are outside of the QC limits. If the associated MS/MSD has greater than ten percent of the spiked analytes outside of the QC limits, no corrective action is taken, as long as the LCS is acceptable.

There were no other protocol deviations or observations noted by the organics laboratory staff.

Metals Analysis

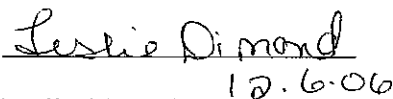
The samples of Katahdin Work Order WW5978 were prepared and analyzed for metals in accordance with the "Test Methods for Evaluating Aqueous Waste", SW-846, November 1986, Third Edition.

Inductively-Coupled Plasma (ICP) Atomic Emission Spectroscopic Analysis

Aqueous-matrix Katahdin Sample Nos. WW5978- (2-11) were digested for ICP analyses on 11/28/06 (QC Batch WK28ICW0) in accordance with USEPA Method 3010B.

ICP analyses of work order WW5978 sample digestates were performed using a TJA 61E ICP spectrometer in accordance with USEPA Method 6010B. All samples were analyzed within holding times and all analytical run QC criteria were met.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Operations Manager or the Quality Assurance Officer as verified by the following signature.


12.6.06

Leslie Dimond
Quality Assurance Officer

DATA QUALIFIERS

- U Indicates the compound was analyzed for but not detected above the laboratory Practical Quantitation Limit.
- * Compound recovery outside of quality control limits.
- D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.
- E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.
- J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Limit (PQL), but above the Method Detection Limit (MDL).
- B Organics- Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
Metals- Indicates the analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the laboratory's Practical Quantitation Level.
- N Presumptive evidence of a compound based on a mass spectral library search.
- A Indicates that a tentatively identified compound is a suspected aldol-condensation product.
- P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns.
- MCL Maximum Contaminant Level
- NL No limit
- NFL No Free Liquid Present
- FLP Free Liquid Present

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 10/10/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 13-NOV-2006 15:03
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-1
 Client ID: TRIP BLANK 11.2.06
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34074
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
Dichlorodifluoromethane	U	5	1.0	5	5
Chloromethane	U	10	1.0	10	10
Vinyl chloride	U	10	1.0	10	10
Bromomethane	U	10	1.0	10	10
Chloroethane	U	10	1.0	10	10
Trichlorofluoromethane	U	5	1.0	5	5
Diethyl Ether	U	5	1.0	5	5
1,1-Dichloroethene	U	5	1.0	5	5
Carbon Disulfide	U	5	1.0	5	5
Methylene Chloride	U	5	1.0	5	5
Acetone	U	10	1.0	10	10
trans-1,2-Dichloroethene	U	5	1.0	5	5
Methyl tert-butyl ether	U	5	1.0	5	5
1,1-Dichloroethane	U	5	1.0	5	5
Vinyl Acetate	U	5	1.0	5	5
cis-1,2-Dichloroethene	U	5	1.0	5	5
1,2-Dichloroethylene (total)	U	10	1.0	10	10
2,2-Dichloropropane	U	5	1.0	5	5
Bromochloromethane	U	5	1.0	5	5
Chloroform	U	5	1.0	5	5
Carbon Tetrachloride	U	5	1.0	5	5
Tetrahydrofuran	U	10	1.0	10	10
1,1,1-Trichloroethane	U	5	1.0	5	5
1,1-Dichloropropene	U	5	1.0	5	5
2-Butanone	U	10	1.0	10	10
Benzene	U	5	1.0	5	5
1,2-Dichloroethane	U	5	1.0	5	5
Trichloroethene	U	5	1.0	5	5
Dibromomethane	U	5	1.0	5	5
1,2-Dichloropropane	U	5	1.0	5	5
Bromodichloromethane	U	5	1.0	5	5
cis-1,3-dichloropropene	U	5	1.0	5	5
Toluene	U	5	1.0	5	5
4-methyl-2-pentanone	U	10	1.0	10	10
Tetrachloroethene	U	5	1.0	5	5
trans-1,3-Dichloropropene	U	5	1.0	5	5
1,1,2-Trichloroethane	U	5	1.0	5	5
Dibromochloromethane	U	5	1.0	5	5
1,3-Dichloropropane	U	5	1.0	5	5
1,2-Dibromoethane	U	5	1.0	5	5
2-Hexanone	U	10	1.0	10	10
Chlorobenzene	U	5	1.0	5	5
Ethylbenzene	U	5	1.0	5	5

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 10/10/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 13-NOV-2006 15:03
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-1
 Client ID: TRIP BLANK 11.2.06
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34074
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
1,1,1,2-Tetrachloroethane	U	5	1.0	5	5
m+p-Xylenes	U	10	1.0	10	10
o-Xylene	U	5	1.0	5	5
Styrene	U	5	1.0	5	5
Xylenes (total)	U	15	1.0	15	15
Bromoform	U	5	1.0	5	5
Isopropylbenzene	U	5	1.0	5	5
Bromobenzene	U	5	1.0	5	5
N-Propylbenzene	U	5	1.0	5	5
1,1,2,2-Tetrachloroethane	U	5	1.0	5	5
1,3,5-Trimethylbenzene	U	5	1.0	5	5
2-Chlorotoluene	U	5	1.0	5	5
1,2,3-Trichloropropane	U	5	1.0	5	5
4-Chlorotoluene	U	5	1.0	5	5
tert-Butylbenzene	U	5	1.0	5	5
1,2,4-Trimethylbenzene	U	5	1.0	5	5
P-Isopropyltoluene	U	5	1.0	5	5
1,3-Dichlorobenzene	U	5	1.0	5	5
1,4-Dichlorobenzene	U	5	1.0	5	5
N-Butylbenzene	U	5	1.0	5	5
sec-Butylbenzene	U	5	1.0	5	5
1,2-Dichlorobenzene	U	5	1.0	5	5
1,2-Dibromo-3-Chloropropane	U	5	1.0	5	5
1,3,5-Trichlorobenzene	U	5	1.0	5	5
Hexachlorobutadiene	U	5	1.0	5	5
1,2,4-Trichlorobenzene	U	5	1.0	5	5
Naphthalene	U	5	1.0	5	5
1,2,3-Trichlorobenzene	U	5	1.0	5	5
Dibromofluoromethane		109%			
1,2-Dichloroethane-D4		120%			
Toluene-D8		97%			
P-Bromofluorobenzene		102%			

FORM I
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE ID

TRIP BLANK 11.2.06

Lab Name: KATAHDIN ANALYTICAL SERVICES

Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO

SDG No.: WW5978

Matrix: (soil/water) WATER

Lab Sample ID: WW5978-1

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: T3682

Level: (low/med) LOW

Date Received: 11/03/06

% Moisture: not dec. _____

Date Analyzed: 11/13/06

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/l

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
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FORM I VOA-TIC

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO NO:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 13-NOV-2006 15:35
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-2
 Client ID: SP03(EFF#1)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34074
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj. PQL
Dichlorodifluoromethane	U	5	1.0	5	5
Chloromethane	U	10	1.0	10	10
Vinyl chloride	U	10	1.0	10	10
Bromomethane	U	10	1.0	10	10
Chloroethane	U	10	1.0	10	10
Trichlorofluoromethane	U	5	1.0	5	5
Diethyl Ether	U	5	1.0	5	5
1,1-Dichloroethene	U	5	1.0	5	5
Carbon Disulfide	U	5	1.0	5	5
Methylene Chloride	U	5	1.0	5	5
Acetone		39	1.0	10	10
trans-1,2-Dichloroethene	U	5	1.0	5	5
Methyl tert-butyl ether	U	5	1.0	5	5
1,1-Dichloroethane	U	5	1.0	5	5
Vinyl Acetate	U	5	1.0	5	5
cis-1,2-Dichloroethene	U	5	1.0	5	5
1,2-Dichloroethylene (total)	U	10	1.0	10	10
2,2-Dichloropropane	U	5	1.0	5	5
Bromochloromethane	U	5	1.0	5	5
Chloroform	U	5	1.0	5	5
Carbon Tetrachloride	U	5	1.0	5	5
Tetrahydrofuran	U	10	1.0	10	10
1,1,1-Trichloroethane	U	5	1.0	5	5
1,1-Dichloropropene	U	5	1.0	5	5
2-Butanone		25	1.0	10	10
Benzene	E	310	1.0	5	5
1,2-Dichloroethane	U	5	1.0	5	5
Trichloroethene	U	5	1.0	5	5
Dibromomethane	U	5	1.0	5	5
1,2-Dichloropropane	U	5	1.0	5	5
Bromodichloromethane	U	5	1.0	5	5
cis-1,3-dichloropropene	U	5	1.0	5	5
Toluene		29	1.0	5	5
4-methyl-2-pentanone	U	10	1.0	10	10
Tetrachloroethene	U	5	1.0	5	5
trans-1,3-Dichloropropene	U	5	1.0	5	5
1,1,2-Trichloroethane	U	5	1.0	5	5
Dibromochloromethane	U	5	1.0	5	5
1,3-Dichloropropane	U	5	1.0	5	5
1,2-Dibromoethane	U	5	1.0	5	5
2-Hexanone	U	10	1.0	10	10
Chlorobenzene	U	5	1.0	5	5
Ethylbenzene		69	1.0	5	5

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
Project: Fort Drum Basewide Phyto
PO No:
Sample Date: 11/02/06
Received Date: 11/03/06
Extraction Date:
Analysis Date: 13-NOV-2006 15:35
Report Date: 12/05/2006
Matrix: WATER
% Solids: NA

Lab ID: WW5978-2
Client ID: SP03(EFF#1)
SDG: WW5978
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG34074
Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
1,1,1,2-Tetrachloroethane	U	5	1.0	5	5
m+p-Xylenes		240	1.0	10	10
o-Xylene		40	1.0	5	5
Styrene	U	5	1.0	5	5
Xylenes (total)		280	1.0	15	15
Bromoform	U	5	1.0	5	5
Isopropylbenzene	U	5	1.0	5	5
Bromobenzene	U	5	1.0	5	5
N-Propylbenzene	U	5	1.0	5	5
1,1,2,2-Tetrachloroethane	U	5	1.0	5	5
1,3,5-Trimethylbenzene		20	1.0	5	5
2-Chlorotoluene	U	5	1.0	5	5
1,2,3-Trichloropropane	U	5	1.0	5	5
4-Chlorotoluene	U	5	1.0	5	5
tert-Butylbenzene	U	5	1.0	5	5
1,2,4-Trimethylbenzene		74	1.0	5	5
P-Isopropyltoluene	U	5	1.0	5	5
1,3-Dichlorobenzene	U	5	1.0	5	5
1,4-Dichlorobenzene	U	5	1.0	5	5
N-Butylbenzene	U	5	1.0	5	5
sec-Butylbenzene	U	5	1.0	5	5
1,2-Dichlorobenzene	U	5	1.0	5	5
1,2-Dibromo-3-Chloropropane	U	5	1.0	5	5
1,3,5-Trichlorobenzene	U	5	1.0	5	5
Hexachlorobutadiene	U	5	1.0	5	5
1,2,4-Trichlorobenzene	U	5	1.0	5	5
Naphthalene		16	1.0	5	5
1,2,3-Trichlorobenzene	U	5	1.0	5	5
Dibromofluoromethane		102%			
1,2-Dichloroethane-D4		113%			
Toluene-D8		94%			
P-Bromofluorobenzene		104%			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE ID

SP03 (EFF#1)

Lab Name: KATAHDIN ANALYTICAL SERVICES

Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO

SDG No.: WW5978

Matrix: (soil/water) WATER

Lab Sample ID: WW5978-2

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: T3683

Level: (low/med) LOW

Date Received: 11/03/06

% Moisture: not dec. _____

Date Analyzed: 11/13/06

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/l

Number TICs found: 19

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C4H10 ISOMER	2.14	6	J
2.	C4H10 ISOMER	2.27	20	J
3. 106-98-9	1-BUTENE	2.44	3	NJ
4. 78-78-4	BUTANE, 2-METHYL-	2.74	20	NJ
5. 109-66-0	PENTANE	2.99	20	NJ
6. 2402-06-4	CYCLOPROPANE, 1,2-DIMETHYL-,	3.15	10	NJ
7. 930-18-7	CYCLOPROPANE, 1,2-DIMETHYL-,	3.29	8	NJ
8. 930-18-7	CYCLOPROPANE, 1,2-DIMETHYL-,	3.36	10	NJ
9.	C5H8 ISOMER	4.03	9	J
10. 96-14-0	PENTANE, 3-METHYL-	4.43	8	NJ
11. 110-54-3	HEXANE	4.82	6	NJ
12. 96-37-7	CYCLOPENTANE, METHYL-	5.89	20	NJ
13. 110-82-7	CYCLOHEXANE	7.32	10	NJ
14.	C7H14 ISOMER	9.58	7	J
15. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	15.12	10	NJ
16. 98-82-8	BENZENE, (1-METHYLETHYL)-	15.52	10	NJ
17.	C9H12 ISOMER	16.38	8	J
18. 496-11-7	INDANE	16.58	10	NJ
19. 767-58-8	INDAN, 1-METHYL-	18.50	3	NJ
20.				
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FORM I VOA-TIC

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 12:14
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-2DL
 Client ID: SP03 (EFF#1)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
Dichlorodifluoromethane	U	25	5.0	5	25
Chloromethane	U	50	5.0	10	50
Vinyl chloride	U	50	5.0	10	50
Bromomethane	U	50	5.0	10	50
Chloroethane	U	50	5.0	10	50
Trichlorofluoromethane	U	25	5.0	5	25
Diethyl Ether	U	25	5.0	5	25
1,1-Dichloroethene	U	25	5.0	5	25
Carbon Disulfide	U	25	5.0	5	25
Methylene Chloride	U	25	5.0	5	25
Acetone	U	50	5.0	10	50
trans-1,2-Dichloroethene	U	25	5.0	5	25
Methyl tert-butyl ether	U	25	5.0	5	25
1,1-Dichloroethane	U	25	5.0	5	25
Vinyl Acetate	U	25	5.0	5	25
cis-1,2-Dichloroethene	U	25	5.0	5	25
1,2-Dichloroethylene (total)	U	50	5.0	10	50
2,2-Dichloropropane	U	25	5.0	5	25
Bromochloromethane	U	25	5.0	5	25
Chloroform	U	25	5.0	5	25
Carbon Tetrachloride	U	25	5.0	5	25
Tetrahydrofuran	U	50	5.0	10	50
1,1,1-Trichloroethane	U	25	5.0	5	25
1,1-Dichloropropene	U	25	5.0	5	25
2-Butanone	U	50	5.0	10	50
Benzene		300	5.0	5	25
1,2-Dichloroethane	U	25	5.0	5	25
Trichloroethene	U	25	5.0	5	25
Dibromomethane	U	25	5.0	5	25
1,2-Dichloropropane	U	25	5.0	5	25
Bromodichloromethane	U	25	5.0	5	25
cis-1,3-dichloropropene	U	25	5.0	5	25
Toluene		27	5.0	5	25
4-methyl-2-pentanone	U	50	5.0	10	50
Tetrachloroethene	U	25	5.0	5	25
trans-1,3-Dichloropropene	U	25	5.0	5	25
1,1,2-Trichloroethane	U	25	5.0	5	25
Dibromochloromethane	U	25	5.0	5	25
1,3-Dichloropropane	U	25	5.0	5	25
1,2-Dibromoethane	U	25	5.0	5	25
2-Hexanone	U	50	5.0	10	50
Chlorobenzene	U	25	5.0	5	25
Ethylbenzene		63	5.0	5	25

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 12:14
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-2DL
 Client ID: SP03(EFF#1)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
1,1,1,2-Tetrachloroethane	U	25	5.0	5	25
m+p-Xylenes		250	5.0	10	50
o-Xylene		35	5.0	5	25
Styrene	U	25	5.0	5	25
Xylenes (total)		280	5.0	15	75
Bromoform	U	25	5.0	5	25
Isopropylbenzene	U	25	5.0	5	25
Bromobenzene	U	25	5.0	5	25
N-Propylbenzene	U	25	5.0	5	25
1,1,2,2-Tetrachloroethane	U	25	5.0	5	25
1,3,5-Trimethylbenzene	U	25	5.0	5	25
2-Chlorotoluene	U	25	5.0	5	25
1,2,3-Trichloropropane	U	25	5.0	5	25
4-Chlorotoluene	U	25	5.0	5	25
tert-Butylbenzene	U	25	5.0	5	25
1,2,4-Trimethylbenzene		68	5.0	5	25
P-Isopropyltoluene	U	25	5.0	5	25
1,3-Dichlorobenzene	U	25	5.0	5	25
1,4-Dichlorobenzene	U	25	5.0	5	25
N-Butylbenzene	U	25	5.0	5	25
sec-Butylbenzene	U	25	5.0	5	25
1,2-Dichlorobenzene	U	25	5.0	5	25
1,2-Dibromo-3-Chloropropane	U	25	5.0	5	25
1,3,5-Trichlorobenzene	U	25	5.0	5	25
Hexachlorobutadiene	U	25	5.0	5	25
1,2,4-Trichlorobenzene	U	25	5.0	5	25
Naphthalene	U	25	5.0	5	25
1,2,3-Trichlorobenzene	U	25	5.0	5	25
Dibromofluoromethane		91%			
1,2-Dichloroethane-D4		88%			
Toluene-D8		89%			
P-Bromofluorobenzene		98%			

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: SP03(EFF#1)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, TOTAL	17400			P	1	100	3.87

Bottle ID: D

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: SP03(EFF#1)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, DISSOLVED	4290			P	I	100	3.87

Bottle ID: A

Comments:

FORM I - IN

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 12:46
 Report Date: 12/06/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-4RA
 Client ID: SP03(EFF#2)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj. PQL	Adj. MDL
75-71-8	Dichlorodifluoromethane	U	5	1.0	5	5	0.3
74-87-3	Chloromethane	U	10	1.0	10	10	0.6
75-01-4	Vinyl chloride	U	10	1.0	10	10	0.6
74-83-9	Bromomethane	U	10	1.0	10	10	0.6
75-00-3	Chloroethane	U	10	1.0	10	10	0.5
75-69-4	Trichlorofluoromethane	U	5	1.0	5	5	0.4
60-29-7	Diethyl Ether	U	5	1.0	5	5	0.6
75-35-4	1,1-Dichloroethene	U	5	1.0	5	5	0.6
75-15-0	Carbon Disulfide	U	5	1.0	5	5	0.6
75-09-2	Methylene Chloride	U	5	1.0	5	5	2
67-64-1	Acetone		15	1.0	10	10	3
156-60-5	trans-1,2-Dichloroethene	U	5	1.0	5	5	0.6
1634-04-4	Methyl tert-butyl ether	U	5	1.0	5	5	0.5
75-34-3	1,1-Dichloroethane	U	5	1.0	5	5	0.4
108-05-4	Vinyl Acetate	U	5	1.0	5	5	0.5
156-59-2	cis-1,2-Dichloroethene	U	5	1.0	5	5	0.5
540-59-0	1,2-Dichloroethylene (total)	U	10	1.0	10	10	0.8
594-20-7	2,2-Dichloropropane	U	5	1.0	5	5	0.5
74-97-5	Bromochloromethane	U	5	1.0	5	5	0.5
67-66-3	Chloroform	U	5	1.0	5	5	0.4
56-23-5	Carbon Tetrachloride	U	5	1.0	5	5	0.5
109-99-9	Tetrahydrofuran	U	10	1.0	10	10	3
71-55-6	1,1,1-Trichloroethane	U	5	1.0	5	5	0.5
563-58-6	1,1-Dichloropropene	U	5	1.0	5	5	0.6
78-93-3	2-Butanone	U	10	1.0	10	10	3
71-43-2	Benzene		100	1.0	5	5	0.5
107-06-2	1,2-Dichloroethane	U	5	1.0	5	5	0.4
79-01-6	Trichloroethene	U	5	1.0	5	5	0.4
74-95-3	Dibromomethane	U	5	1.0	5	5	0.4
78-87-5	1,2-Dichloropropane	U	5	1.0	5	5	0.5
75-27-4	Bromodichloromethane	U	5	1.0	5	5	0.4
10061-01-5	cis-1,3-dichloropropene	U	5	1.0	5	5	0.4
108-88-3	Toluene		7	1.0	5	5	0.4
108-10-1	4-methyl-2-pentanone	U	10	1.0	10	10	2
127-18-4	Tetrachloroethene	U	5	1.0	5	5	0.6
10061-02-6	trans-1,3-Dichloropropene	U	5	1.0	5	5	0.4
79-00-5	1,1,2-Trichloroethane	U	5	1.0	5	5	0.5
124-48-1	Dibromochloromethane	U	5	1.0	5	5	0.3
142-28-9	1,3-Dichloropropane	U	5	1.0	5	5	0.3
106-93-4	1,2-Dibromoethane	U	5	1.0	5	5	0.3
591-78-6	2-Hexanone	U	10	1.0	10	10	2
108-90-7	Chlorobenzene	U	5	1.0	5	5	0.3
100-41-4	Ethylbenzene		30	1.0	5	5	0.3

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 12:46
 Report Date: 12/06/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-4RA
 Client ID: SP03(EFF#2)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
630-20-6	1,1,1,2-Tetrachloroethane	U	5	1.0	5	5	0.4
	m+p-Xylenes		59	1.0	10	10	1.0
95-47-6	o-Xylene		12	1.0	5	5	0.4
100-42-5	Styrene	U	5	1.0	5	5	0.3
1330-20-7	Xylenes (total)		71	1.0	15	15	1
75-25-2	Bromoform	U	5	1.0	5	5	0.4
98-82-8	Isopropylbenzene	J	1	1.0	5	5	0.4
108-86-1	Bromobenzene	U	5	1.0	5	5	0.4
103-65-1	N-Propylbenzene	J	1	1.0	5	5	0.4
79-34-5	1,1,2,2-Tetrachloroethane	U	5	1.0	5	5	0.6
108-67-8	1,3,5-Trimethylbenzene		5	1.0	5	5	0.4
95-49-8	2-Chlorotoluene	U	5	1.0	5	5	0.3
96-18-4	1,2,3-Trichloropropane	U	5	1.0	5	5	0.5
106-43-4	4-Chlorotoluene	U	5	1.0	5	5	0.3
98-06-6	tert-Butylbenzene	U	5	1.0	5	5	0.3
95-63-6	1,2,4-Trimethylbenzene		22	1.0	5	5	0.2
99-87-6	P-Isopropyltoluene	U	5	1.0	5	5	0.4
541-73-1	1,3-Dichlorobenzene	U	5	1.0	5	5	0.4
106-46-7	1,4-Dichlorobenzene	U	5	1.0	5	5	0.4
104-51-8	N-Butylbenzene	U	5	1.0	5	5	0.4
135-98-8	sec-Butylbenzene	U	5	1.0	5	5	0.5
95-50-1	1,2-Dichlorobenzene	U	5	1.0	5	5	0.3
96-12-8	1,2-Dibromo-3-Chloropropane	U	5	1.0	5	5	0.6
108-70-3	1,3,5-Trichlorobenzene	U	5	1.0	5	5	0.4
87-68-3	Hexachlorobutadiene	U	5	1.0	5	5	0.6
120-82-1	1,2,4-Trichlorobenzene	U	5	1.0	5	5	0.4
91-20-3	Naphthalene		9	1.0	5	5	0.5
87-61-6	1,2,3-Trichlorobenzene	U	5	1.0	5	5	0.6
1868-53-7	Dibromofluoromethane		92%				
17060-07-0	1,2-Dichloroethane-D4		90%				
2037-26-5	Toluene-D8		92%				
460-00-4	P-Bromofluorobenzene		102%				

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE ID

SP03 (EFF#2)

Lab Name: KATAHDIN ANALYTICAL SERVICES

Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO

SDG No.: WW5978

Matrix: (soil/water) WATER

Lab Sample ID: WW5978-4RA

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: T3705

Level: (low/med) LOW

Date Received: 11/03/06

% Moisture: not dec. _____

Date Analyzed: 11/14/06

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/l

Number TICs found: 19

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C4H10 ISOMER	2.13	4	J
2.	C4H10 ISOMER	2.27	10	J
3. 78-78-4	BUTANE, 2-METHYL-	2.75	20	NJ
4. 109-66-0	PENTANE	2.99	10	NJ
5. 627-20-3	2-PENTENE, (Z)-	3.15	6	NJ
6. 627-20-3	2-PENTENE, (Z)-	3.29	3	NJ
7. 930-18-7	CYCLOPROPANE, 1,2-DIMETHYL-,	3.36	8	NJ
8.	C5H8 ISOMER	4.04	5	J
9.	C6H14 ISOMER	4.44	6	J
10. 96-37-7	CYCLOPENTANE, METHYL-	5.91	20	NJ
11. 110-82-7	CYCLOHEXANE	7.35	8	NJ
12. 108-87-2	CYCLOHEXANE, METHYL-	9.59	4	NJ
13. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	15.12	3	NJ
14. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	15.54	8	NJ
15. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	16.40	3	NJ
16. 496-11-7	INDANE	16.59	7	NJ
17. 934-80-5	BENZENE, 4-ETHYL-1,2-DIMETHY	17.25	2	NJ
18. 27133-93-3	2,3-DIHYDRO-1-METHYLINDENE	17.40	2	NJ
19. 27133-93-3	2,3-DIHYDRO-1-METHYLINDENE	18.51	2	NJ
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-TIC

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: SP03(EFF#2)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, TOTAL	16600			P	1	100	3.87

Bottle ID: D

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: SP03(EFF#2)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, DISSOLVED	8240			P	1	100	3.87

Bottle ID: A

Comments:

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 13:18
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-6RA
 Client ID: SP03(EFF#3)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
Dichlorodifluoromethane	U	5	1.0	5	5
Chloromethane	U	10	1.0	10	10
Vinyl chloride	U	10	1.0	10	10
Bromomethane	U	10	1.0	10	10
Chloroethane	U	10	1.0	10	10
Trichlorofluoromethane	U	5	1.0	5	5
Diethyl Ether	U	5	1.0	5	5
1,1-Dichloroethene	U	5	1.0	5	5
Carbon Disulfide	U	5	1.0	5	5
Methylene Chloride	U	5	1.0	5	5
Acetone	U	10	1.0	10	10
trans-1,2-Dichloroethene	U	5	1.0	5	5
Methyl tert-butyl ether	U	5	1.0	5	5
1,1-Dichloroethane	U	5	1.0	5	5
Vinyl Acetate	U	5	1.0	5	5
cis-1,2-Dichloroethene	U	5	1.0	5	5
1,2-Dichloroethylene (total)	U	10	1.0	10	10
2,2-Dichloropropane	U	5	1.0	5	5
Bromochloromethane	U	5	1.0	5	5
Chloroform	U	5	1.0	5	5
Carbon Tetrachloride	U	5	1.0	5	5
Tetrahydrofuran	U	10	1.0	10	10
1,1,1-Trichloroethane	U	5	1.0	5	5
1,1-Dichloropropene	U	5	1.0	5	5
2-Butanone	U	10	1.0	10	10
Benzene	U	5	1.0	5	5
1,2-Dichloroethane	U	5	1.0	5	5
Trichloroethene	U	5	1.0	5	5
Dibromomethane	U	5	1.0	5	5
1,2-Dichloropropane	U	5	1.0	5	5
Bromodichloromethane	U	5	1.0	5	5
cis-1,3-dichloropropene	U	5	1.0	5	5
Toluene	U	5	1.0	5	5
4-methyl-2-pentanone	U	10	1.0	10	10
Tetrachloroethene	U	5	1.0	5	5
trans-1,3-Dichloropropene	U	5	1.0	5	5
1,1,2-Trichloroethane	U	5	1.0	5	5
Dibromochloromethane	U	5	1.0	5	5
1,3-Dichloropropane	U	5	1.0	5	5
1,2-Dibromoethane	U	5	1.0	5	5
2-Hexanone	U	10	1.0	10	10
Chlorobenzene	U	5	1.0	5	5
Ethylbenzene	U	5	1.0	5	5

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 13:18
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-6RA
 Client ID: SP03(EFF#3)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
1,1,1,2-Tetrachloroethane	U	5	1.0	5	5
m-p-Xylenes	U	10	1.0	10	10
o-Xylene	U	5	1.0	5	5
Styrene	U	5	1.0	5	5
Xylenes (total)	U	15	1.0	15	15
Bromoform	U	5	1.0	5	5
Isopropylbenzene	U	5	1.0	5	5
Bromobenzene	U	5	1.0	5	5
N-Propylbenzene	U	5	1.0	5	5
1,1,2,2-Tetrachloroethane	U	5	1.0	5	5
1,3,5-Trimethylbenzene	U	5	1.0	5	5
2-Chlorotoluene	U	5	1.0	5	5
1,2,3-Trichloropropane	U	5	1.0	5	5
4-Chlorotoluene	U	5	1.0	5	5
tert-Butylbenzene	U	5	1.0	5	5
1,2,4-Trimethylbenzene	U	5	1.0	5	5
P-Isopropyltoluene	U	5	1.0	5	5
1,3-Dichlorobenzene	U	5	1.0	5	5
1,4-Dichlorobenzene	U	5	1.0	5	5
N-Butylbenzene	U	5	1.0	5	5
sec-Butylbenzene	U	5	1.0	5	5
1,2-Dichlorobenzene	U	5	1.0	5	5
1,2-Dibromo-3-Chloropropane	U	5	1.0	5	5
1,3,5-Trichlorobenzene	U	5	1.0	5	5
Hexachlorobutadiene	U	5	1.0	5	5
1,2,4-Trichlorobenzene	U	5	1.0	5	5
Naphthalene	U	5	1.0	5	5
1,2,3-Trichlorobenzene	U	5	1.0	5	5
Dibromofluoromethane		91%			
1,2-Dichloroethane-D4		90%			
Toluene-D8		89%			
P-Bromofluorobenzene		99%			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE ID

SP03 (EFF#3)

Lab Name: KATAHDIN ANALYTICAL SERVICES

Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO

SDG No.: WW5978

Matrix: (soil/water) WATER

Lab Sample ID: WW5978-6RA

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: T3706

Level: (low/med) LOW

Date Received: 11/03/06

% Moisture: not dec. _____

Date Analyzed: 11/14/06

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/l

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 78-78-4	BUTANE, 2-METHYL-	2.76	1	NJ
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-TIC

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: SP03(EFF#3)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, TOTAL	2040			P	1	100	3.87

Bottle ID: D

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katabdin Analytical Services

Client Field ID: SP03(EFF#3)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, DISSOLVED	292			P	1	100	3.87

Bottle ID: A

Comments:

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 17:43
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-8
 Client ID: SP03 (MID)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34141
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
Dichlorodifluoromethane	U	5	1.0	5	5
Chloromethane	U	10	1.0	10	10
Vinyl chloride	U	10	1.0	10	10
Bromomethane	U	10	1.0	10	10
Chloroethane	U	10	1.0	10	10
Trichlorofluoromethane	U	5	1.0	5	5
Diethyl Ether	U	5	1.0	5	5
1,1-Dichloroethene	U	5	1.0	5	5
Carbon Disulfide	U	5	1.0	5	5
Methylene Chloride	U	5	1.0	5	5
Acetone		27	1.0	10	10
trans-1,2-Dichloroethene	U	5	1.0	5	5
Methyl tert-butyl ether	U	5	1.0	5	5
1,1-Dichloroethane	U	5	1.0	5	5
Vinyl Acetate	U	5	1.0	5	5
cis-1,2-Dichloroethene	U	5	1.0	5	5
1,2-Dichloroethylene (total)	U	10	1.0	10	10
2,2-Dichloropropane	U	5	1.0	5	5
Bromochloromethane	U	5	1.0	5	5
Chloroform	U	5	1.0	5	5
Carbon Tetrachloride	U	5	1.0	5	5
Tetrahydrofuran	U	10	1.0	10	10
1,1,1-Trichloroethane	U	5	1.0	5	5
1,1-Dichloropropene	U	5	1.0	5	5
2-Butanone		11	1.0	10	10
Benzene		23	1.0	5	5
1,2-Dichloroethane	U	5	1.0	5	5
Trichloroethene	U	5	1.0	5	5
Dibromomethane	U	5	1.0	5	5
1,2-Dichloropropane	U	5	1.0	5	5
Bromodichloromethane	U	5	1.0	5	5
cis-1,3-dichloropropene	U	5	1.0	5	5
Toluene	U	5	1.0	5	5
4-methyl-2-pentanone	U	10	1.0	10	10
Tetrachloroethene	U	5	1.0	5	5
trans-1,3-Dichloropropene	U	5	1.0	5	5
1,1,2-Trichloroethane	U	5	1.0	5	5
Dibromochloromethane	U	5	1.0	5	5
1,3-Dichloropropane	U	5	1.0	5	5
1,2-Dibromoethane	U	5	1.0	5	5
2-Hexanone	U	10	1.0	10	10
Chlorobenzene	U	5	1.0	5	5
Ethylbenzene		5	1.0	5	5

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 17:43
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-8
 Client ID: SP03 (MID)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34141
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
1,1,1,2-Tetrachloroethane	U	5	1.0	5	5
m+p-Xylenes	U	10	1.0	10	10
o-Xylene	U	5	1.0	5	5
Styrene	U	5	1.0	5	5
Xylenes (total)	U	15	1.0	15	15
Bromoform	U	5	1.0	5	5
Isopropylbenzene	U	5	1.0	5	5
Bromobenzene	U	5	1.0	5	5
N-Propylbenzene	U	5	1.0	5	5
1,1,2,2-Tetrachloroethane	U	5	1.0	5	5
1,3,5-Trimethylbenzene	U	5	1.0	5	5
2-Chlorotoluene	U	5	1.0	5	5
1,2,3-Trichloropropane	U	5	1.0	5	5
4-Chlorotoluene	U	5	1.0	5	5
tert-Butylbenzene	U	5	1.0	5	5
1,2,4-Trimethylbenzene	U	5	1.0	5	5
P-Isopropyltoluene	U	5	1.0	5	5
1,3-Dichlorobenzene	U	5	1.0	5	5
1,4-Dichlorobenzene	U	5	1.0	5	5
N-Butylbenzene	U	5	1.0	5	5
sec-Butylbenzene	U	5	1.0	5	5
1,2-Dichlorobenzene	U	5	1.0	5	5
1,2-Dibromo-3-Chloropropane	U	5	1.0	5	5
1,3,5-Trichlorobenzene	U	5	1.0	5	5
Hexachlorobutadiene	U	5	1.0	5	5
1,2,4-Trichlorobenzene	U	5	1.0	5	5
Naphthalene	U	5	1.0	5	5
1,2,3-Trichlorobenzene	U	5	1.0	5	5
Dibromofluoromethane		80%			
1,2-Dichloroethane-D4		73%			
Toluene-D8		83%			
P-Bromofluorobenzene		100%			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE ID

SP03 (MID)

Lab Name: KATAHDIN ANALYTICAL SERVICES

Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO

SDG No.: WW5978

Matrix: (soil/water) WATER

Lab Sample ID: WW5978-8

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: S2135

Level: (low/med) LOW

Date Received: 11/03/06

% Moisture: not dec. _____

Date Analyzed: 11/14/06

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/l

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C4H10 ISOMER	1.70	1	J
2.	C4H10 ISOMER	1.80	7	J
3. 78-78-4	BUTANE, 2-METHYL-	2.18	10	NJ
4.	C5H12 ISOMER	2.37	2	J
5. 598-61-8	CYCLOBUTANE, METHYL-	3.26	7	NJ
6.	C6H14 ISOMER	3.50	2	J
7. 96-37-7	CYCLOPENTANE, METHYL-	4.65	6	NJ
8. 110-82-7	CYCLOHEXANE	5.81	3	NJ
9. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	14.54	3	NJ
10.	UNKNOWN	15.57	3	J
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FORM I VOA-TIC

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: SP03(MID)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, TOTAL	15500			P	1	100	3.87

Bottle ID: D

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: SP03(MID)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, DISSOLVED	7190			P	1	100	3.87

Bottle ID: A

Comments:

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 18:16
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-10
 Client ID: SP03(INF.)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34141
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
Dichlorodifluoromethane	U	5	1.0	5	5
Chloromethane	U	10	1.0	10	10
Vinyl chloride	U	10	1.0	10	10
Bromomethane	U	10	1.0	10	10
Chloroethane	U	10	1.0	10	10
Trichlorofluoromethane	U	5	1.0	5	5
Diethyl Ether	U	5	1.0	5	5
1,1-Dichloroethene	U	5	1.0	5	5
Carbon Disulfide	U	5	1.0	5	5
Methylene Chloride	U	5	1.0	5	5
Acetone		26	1.0	10	10
trans-1,2-Dichloroethene	U	5	1.0	5	5
Methyl tert-butyl ether	U	5	1.0	5	5
1,1-Dichloroethane	U	5	1.0	5	5
Vinyl Acetate	U	5	1.0	5	5
cis-1,2-Dichloroethene	U	5	1.0	5	5
1,2-Dichloroethylene (total)	U	10	1.0	10	10
2,2-Dichloropropane	U	5	1.0	5	5
Bromochloromethane	U	5	1.0	5	5
Chloroform	U	5	1.0	5	5
Carbon Tetrachloride	U	5	1.0	5	5
Tetrahydrofuran	U	10	1.0	10	10
1,1,1-Trichloroethane	U	5	1.0	5	5
1,1-Dichloropropene	U	5	1.0	5	5
2-Butanone		15	1.0	10	10
Benzene		120	1.0	5	5
1,2-Dichloroethane	U	5	1.0	5	5
Trichloroethene	U	5	1.0	5	5
Dibromomethane	U	5	1.0	5	5
1,2-Dichloropropane	U	5	1.0	5	5
Bromodichloromethane	U	5	1.0	5	5
cis-1,3-dichloropropene	U	5	1.0	5	5
Toluene		14	1.0	5	5
4-methyl-2-pentanone	U	10	1.0	10	10
Tetrachloroethene	U	5	1.0	5	5
trans-1,3-Dichloropropene	U	5	1.0	5	5
1,1,2-Trichloroethane	U	5	1.0	5	5
Dibromochloromethane	U	5	1.0	5	5
1,3-Dichloropropane	U	5	1.0	5	5
1,2-Dibromoethane	U	5	1.0	5	5
2-Hexanone	U	10	1.0	10	10
Chlorobenzene	U	5	1.0	5	5
Ethylbenzene		50	1.0	5	5

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Malcolm Pirnie, Inc
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date: 11/02/06
 Received Date: 11/03/06
 Extraction Date:
 Analysis Date: 14-NOV-2006 18:16
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WW5978-10
 Client ID: SP03(INF.)
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34141
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
1,1,1,2-Tetrachloroethane	U	5	1.0	5	5
m+p-Xylenes		110	1.0	10	10
o-Xylene		44	1.0	5	5
Styrene	U	5	1.0	5	5
Xylenes (total)		150	1.0	15	15
Bromoform	U	5	1.0	5	5
Isopropylbenzene	U	5	1.0	5	5
Bromobenzene	U	5	1.0	5	5
N-Propylbenzene	U	5	1.0	5	5
1,1,2,2-Tetrachloroethane	U	5	1.0	5	5
1,3,5-Trimethylbenzene		10	1.0	5	5
2-Chlorotoluene	U	5	1.0	5	5
1,2,3-Trichloropropane	U	5	1.0	5	5
4-Chlorotoluene	U	5	1.0	5	5
tert-Butylbenzene	U	5	1.0	5	5
1,2,4-Trimethylbenzene		34	1.0	5	5
P-Isopropyltoluene	U	5	1.0	5	5
1,3-Dichlorobenzene	U	5	1.0	5	5
1,4-Dichlorobenzene	U	5	1.0	5	5
N-Butylbenzene	U	5	1.0	5	5
sec-Butylbenzene	U	5	1.0	5	5
1,2-Dichlorobenzene	U	5	1.0	5	5
1,2-Dibromo-3-Chloropropane	U	5	1.0	5	5
1,3,5-Trichlorobenzene	U	5	1.0	5	5
Hexachlorobutadiene	U	5	1.0	5	5
1,2,4-Trichlorobenzene	U	5	1.0	5	5
Naphthalene		11	1.0	5	5
1,2,3-Trichlorobenzene	U	5	1.0	5	5
Dibromofluoromethane		79%			
1,2-Dichloroethane-D4		72%			
Toluene-D8		82%			
P-Bromofluorobenzene		102%			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE ID

SP03 (INF.)

Lab Name: KATAHDIN ANALYTICAL SERVICES

Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO

SDG No.: WW5978

Matrix: (soil/water) WATER

Lab Sample ID: WW5978-10

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: S2136

Level: (low/med) LOW

Date Received: 11/03/06

% Moisture: not dec. _____

Date Analyzed: 11/14/06

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/l

Number TICs found: 8

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 78-78-4	BUTANE, 2-METHYL-	2.18	10	NJ
2. 109-66-0	PENTANE	2.37	6	NJ
3.	C5H10 ISOMER	3.25	10	J
4. 96-37-7	CYCLOPENTANE, METHYL-	4.66	9	NJ
5. 110-82-7	CYCLOHEXANE	5.81	4	NJ
6. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	14.14	6	NJ
7. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	14.55	7	NJ
8.	C9H10 ISOMER	15.57	7	J
9.				
10.				
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FORM I VOA-TIC

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: SP03(INF.)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-010

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, TOTAL	60000			P	1	100	3.87

Bottle ID: D

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: SP03(INF.)

Matrix: WATER

SDG Name: WW5978

Percent Solids: 0.00

Lab Sample ID: WW5978-011

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-89-6	IRON, DISSOLVED	5410			P	1	100	3.87

Bottle ID: A

Comments:

WG34141-BLANK

Lab Name: KATAHDIN ANALYTICAL SERVICES Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO SDG No.: WW5978

Lab File ID: S2124 Lab Sample ID: WG34141-2

Date Analyzed: 11/14/06 Time Analyzed: 1124

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: GCMS-S

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	WG34141-LCS	WG34141-1	S2121	11/14/06	0937
02	SP03 (MID)	WW5978-8	S2135	11/14/06	1743
03	SP03 (INF.)	WW5978-10	S2136	11/14/06	1816
04					
05					
06					
07					
08					
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COMMENTS:

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client:
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date:
 Received Date:
 Extraction Date:
 Analysis Date: 14-NOV-2006 11:24
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WG34141-2
 Client ID: WG34141-Blank
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34141
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
Dichlorodifluoromethane	U	1	1.0	1	1
Chloromethane	U	1	1.0	1	1
Vinyl chloride	U	1	1.0	1	1
Bromomethane	U	1	1.0	1	1
Chloroethane	U	1	1.0	1	1
Trichlorofluoromethane	U	1	1.0	1	1
Diethyl Ether	U	1	1.0	1	1
1,1-Dichloroethene	U	1	1.0	1	1
Carbon Disulfide	U	1	1.0	1	1
Methylene Chloride	U	5	1.0	5	5
Acetone	U	5	1.0	5	5
trans-1,2-Dichloroethene	U	1	1.0	1	1
Methyl tert-butyl ether	U	1	1.0	1	1
1,1-Dichloroethane	U	1	1.0	1	1
Vinyl Acetate	U	1	1.0	1	1
cis-1,2-Dichloroethene	U	1	1.0	1	1
1,2-Dichloroethylene (total)	U	2	1.0	2	2
2,2-Dichloropropane	U	1	1.0	1	1
Bromochloromethane	U	1	1.0	1	1
Chloroform	U	1	1.0	1	1
Carbon Tetrachloride	U	1	1.0	1	1
Tetrahydrofuran	U	5	1.0	5	5
1,1,1-Trichloroethane	U	1	1.0	1	1
1,1-Dichloropropene	U	1	1.0	1	1
2-Butanone	U	5	1.0	5	5
Benzene	U	1	1.0	1	1
1,2-Dichloroethane	U	1	1.0	1	1
Trichloroethene	U	1	1.0	1	1
Dibromomethane	U	1	1.0	1	1
1,2-Dichloropropane	U	1	1.0	1	1
Bromodichloromethane	U	1	1.0	1	1
cis-1,3-dichloropropene	U	1	1.0	1	1
Toluene	U	1	1.0	1	1
4-methyl-2-pentanone	U	5	1.0	5	5
Tetrachloroethene	U	1	1.0	1	1
trans-1,3-Dichloropropene	U	1	1.0	1	1
1,1,2-Trichloroethane	U	1	1.0	1	1
Dibromochloromethane	U	1	1.0	1	1
1,3-Dichloropropane	U	1	1.0	1	1
1,2-Dibromoethane	U	1	1.0	1	1
2-Hexanone	U	5	1.0	5	5
Chlorobenzene	U	1	1.0	1	1
Ethylbenzene	U	1	1.0	1	1

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client:
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date:
 Received Date:
 Extraction Date:
 Analysis Date: 14-NOV-2006 11:24
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WG34141-2
 Client ID: WG34141-Blank
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34141
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
1,1,1,2-Tetrachloroethane	U	1	1.0	1	1
m+p-Xylenes	U	2	1.0	2	2
o-Xylene	U	1	1.0	1	1
Styrene	U	1	1.0	1	1
Xylenes (total)	U	3	1.0	3	3
Bromoform	U	1	1.0	1	1
Isopropylbenzene	U	1	1.0	1	1
Bromobenzene	U	1	1.0	1	1
N-Propylbenzene	U	1	1.0	1	1
1,1,2,2-Tetrachloroethane	U	1	1.0	1	1
1,3,5-Trimethylbenzene	U	1	1.0	1	1
2-Chlorotoluene	U	1	1.0	1	1
1,2,3-Trichloropropane	U	1	1.0	1	1
4-Chlorotoluene	U	1	1.0	1	1
tert-Butylbenzene	U	1	1.0	1	1
1,2,4-Trimethylbenzene	U	1	1.0	1	1
P-Isopropyltoluene	U	1	1.0	1	1
1,3-Dichlorobenzene	U	1	1.0	1	1
1,4-Dichlorobenzene	U	1	1.0	1	1
N-Butylbenzene	U	1	1.0	1	1
sec-Butylbenzene	U	1	1.0	1	1
1,2-Dichlorobenzene	U	1	1.0	1	1
1,2-Dibromo-3-Chloropropane	U	1	1.0	1	1
1,3,5-Trichlorobenzene	U	1	1.0	1	1
Hexachlorobutadiene	U	1	1.0	1	1
1,2,4-Trichlorobenzene	U	1	1.0	1	1
Naphthalene	U	1	1.0	1	1
1,2,3-Trichlorobenzene	U	1	1.0	1	1
Dibromofluoromethane		82%			
1,2-Dichloroethane-D4		73%			
Toluene-D8		83%			
P-Bromofluorobenzene		100%			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE ID

WG34141-Blank

Lab Name: KATAHDIN ANALYTICAL SERVICES

Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO

SDG No.: WW5978

Matrix: (soil/water) WATER

Lab Sample ID: WG34141-2

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: S2124

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 11/14/06

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/l

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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FORM I VOA-TIC

KATAHDIN ANALYTICAL SERVICES
LAB CONTROL SAMPLE

Client:
Project: Fort Drum Basewide Phyto
PO No:
Sample Date:
Received Date:
Extraction Date:
Analysis Date: 11/14/06
Report Date: 12/05/2006
Matrix: WATER

Lab ID: WG34141-1
Client ID: WG34141-LCS
SDG: WW5978
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG34141
Units: ug/l

COMPOUND	LCS	SAMPLE	LCS	%REC.	QC.
	SPIKE	CONC.	CONC.		LIMITS
Dichlorodifluoromethane	50	NA	54	109	10-200
Chloromethane	50	NA	52	105	40-125
Vinyl chloride	50	NA	58	116	27-143
Bromomethane	50	NA	61	123	52-141
Chloroethane	50	NA	67	* 134	64-124
Trichlorofluoromethane	50	NA	63	127	63-153
Diethyl Ether	50	NA	57	114	63-146
Tertiary-butyl alcohol	250	NA	157	63	50-150
1,1-Dichloroethene	50	NA	56	112	85-129
Carbon Disulfide	50	NA	58	116	80-134
Freon-113	50	NA	56	113	79-129
Iodomethane	50	NA	45	91	67-144
Acrolein	250	NA	286	114	10-200
Methylene Chloride	50	NA	55	110	86-124
Acetone	50	NA	86	172	41-180
Isobutyl Alcohol	1000	NA	683	68	20-176
trans-1,2-Dichloroethene	50	NA	54	109	80-128
Allyl Chloride	50	NA	62	124	68-133
Methyl tert-butyl ether	100	NA	108	108	79-132
Acetonitrile	500	NA	607	121	35-171
Di-isopropyl ether	50	NA	54	109	82-122
Chloroprene	50	NA	54	107	77-133
Methacrylonitrile	500	NA	565	113	73-137
Propionitrile	500	NA	665	133	54-148
1,1-Dichloroethane	50	NA	58	116	90-127
Acrylonitrile	250	NA	306	122	70-135
Ethyl tertiary-butyl ether	50	NA	53	106	84-122
Vinyl Acetate	50	NA	61	122	47-122
cis-1,2-Dichloroethene	50	NA	53	107	84-121
1,2-Dichloroethylene (total)	100	NA	108	108	83-123
Methyl Methacrylate	50	NA	51	102	73-133
2,2-Dichloropropane	50	NA	57	114	68-149
Bromochloromethane	50	NA	57	114	87-120
Chloroform	50	NA	56	111	87-127
Carbon Tetrachloride	50	NA	52	104	74-149
Tetrahydrofuran	50	NA	60	121	46-154
1,1,1-Trichloroethane	50	NA	56	112	76-145
1,1-Dichloropropene	50	NA	54	108	87-130
2-Butanone	50	NA	75	150	30-150
Benzene	50	NA	53	106	90-116
Cyclohexane	50	NA	51	101	70-130
Ethyl Methacrylate	50	NA	57	114	60-138
Tertiary-amyl methyl ether	50	NA	51	102	82-118
1,2-Dichloroethane	50	NA	53	105	71-149
Trichloroethene	50	NA	51	103	83-132

KATAHDIN ANALYTICAL SERVICES
LAB CONTROL SAMPLE

Client:
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date:
 Received Date:
 Extraction Date:
 Analysis Date: 11/14/06
 Report Date: 12/05/2006
 Matrix: WATER

Lab ID: WG34141-1
 Client ID: WG34141-LCS
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34141
 Units: ug/l

COMPOUND	LCS SPIKE	SAMPLE CONC.	LCS CONC.	%REC.	QC. LIMITS
Dibromomethane	50	NA	53	105	76-132
1,2-Dichloropropane	50	NA	55	109	95-112
Bromodichloromethane	50	NA	52	104	76-132
cis-1,3-dichloropropene	50	NA	54	109	85-127
1,4-Dioxane	1000	NA	220	22	10-125
2-Chloroethylvinylether	50	NA	76	* 153	20-137
Toluene	50	NA	53	106	85-122
4-methyl-2-pentanone	50	NA	58	116	63-154
Tetrachloroethene	50	NA	48	96	48-155
trans-1,3-Dichloropropene	50	NA	59	118	85-144
1,1,2-Trichloroethane	50	NA	53	107	78-124
Dibromochloromethane	50	NA	50	100	63-128
1,3-Dichloropropane	50	NA	53	106	65-127
1,2-Dibromoethane	50	NA	52	104	75-129
2-Hexanone	50	NA	65	130	47-160
Chlorobenzene	50	NA	54	107	68-128
Ethylbenzene	50	NA	53	106	76-124
1,1,1,2-Tetrachloroethane	50	NA	54	108	69-133
Xylenes (total)	150	NA	158	105	67-129
m+p-Xylenes	100	NA	105	105	68-127
o-Xylene	50	NA	53	106	64-133
Styrene	50	NA	52	105	66-130
Bromoform	50	NA	54	107	59-135
Isopropylbenzene	50	NA	56	113	95-140
cis-1,4-Dichloro-2-Butene	50	NA	53	106	56-155
trans-1,4-Dichloro-2-Butene	50	NA	53	105	66-151
Bromobenzene	50	NA	50	100	86-122
N-Propylbenzene	50	NA	53	106	92-124
1,1,2,2-Tetrachloroethane	50	NA	53	106	75-128
1,3,5-Trimethylbenzene	50	NA	50	100	86-127
2-Chlorotoluene	50	NA	52	103	84-129
1,2,3-Trichloropropane	50	NA	51	102	57-145
4-Chlorotoluene	50	NA	51	103	83-129
tert-Butylbenzene	50	NA	52	104	86-131
Pentachloroethane	50	NA	57	114	22-197
1,2,4-Trimethylbenzene	50	NA	50	99	85-124
P-Isopropyltoluene	50	NA	52	103	84-131
1,3-Dichlorobenzene	50	NA	50	101	81-121
1,4-Dichlorobenzene	50	NA	51	102	81-120
N-Butylbenzene	50	NA	50	101	67-138
sec-Butylbenzene	50	NA	50	101	82-128
1,2-Dichlorobenzene	50	NA	49	99	74-124
1,2-Dibromo-3-Chloropropane	50	NA	52	103	55-151
1,3,5-Trichlorobenzene	50	NA	46	93	77-122
Hexachlorobutadiene	50	NA	44	88	75-119

**KATAHDIN ANALYTICAL SERVICES
LAB CONTROL SAMPLE**

Client:
Project: Fort Drum Basewide Phyto
PO No:
Sample Date:
Received Date:
Extraction Date:
Analysis Date: 11/14/06
Report Date: 12/05/2006
Matrix: WATER

Lab ID: WG34141-1
Client ID: WG34141-LCS
SDG: WW5978
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG34141
Units: ug/l

COMPOUND	LCS	SAMPLE	LCS	QC.	
	SPIKE	CONC.	CONC.	%RRC.	LIMITS
1,2,4-Trichlorobenzene	50	NA	43	87	64-125
1,2,3-Trimethylbenzene	50	NA	49	98	84-122
Naphthalene	50	NA	49	98	40-137
1,2,3-Trichlorobenzene	50	NA	46	93	38-140
Methyl Acetate	50	NA	52	105	61-168
Methylcyclohexane	50	NA	54	107	81-130
1-Chlorohexane	50	NA	51	102	80-120
Total Alkylbenzenes	400	NA	356	89	60-140

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE ID

WG3 4074-BLANK

Lab Name: KATAHDIN ANALYTICAL SERVICES Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO SDG No.: WW5978

Lab File ID: T3679 Lab Sample ID: WG34074-2

Date Analyzed: 11/13/06 Time Analyzed: 1314

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: GCMS-T

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	WG34074-LCS	WG34074-1	T3677	11/13/06	1158
02	TRIP BLANK 11.2.06	WW5978-1	T3682	11/13/06	1503
03	SP03 (EFF#1)	WW5978-2	T3683	11/13/06	1535
04					
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COMMENTS:

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client:
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date:
 Received Date:
 Extraction Date:
 Analysis Date: 13-NOV-2006 13:14
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WG34074-2
 Client ID: WG34074-Blank
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34074
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
Dichlorodifluoromethane	U	1	1.0	1	1
Chloromethane	U	1	1.0	1	1
Vinyl chloride	U	1	1.0	1	1
Bromomethane	U	1	1.0	1	1
Chloroethane	U	1	1.0	1	1
Trichlorofluoromethane	U	1	1.0	1	1
Diethyl Ether	U	1	1.0	1	1
1,1-Dichloroethene	U	1	1.0	1	1
Carbon Disulfide	U	1	1.0	1	1
Methylene Chloride	U	5	1.0	5	5
Acetone	U	5	1.0	5	5
trans-1,2-Dichloroethene	U	1	1.0	1	1
Methyl tert-butyl ether	U	1	1.0	1	1
1,1-Dichloroethane	U	1	1.0	1	1
Vinyl Acetate	U	1	1.0	1	1
cis-1,2-Dichloroethene	U	1	1.0	1	1
1,2-Dichloroethylene (total)	U	2	1.0	2	2
2,2-Dichloropropane	U	1	1.0	1	1
Bromochloromethane	U	1	1.0	1	1
Chloroform	U	1	1.0	1	1
Carbon Tetrachloride	U	1	1.0	1	1
Tetrahydrofuran	U	5	1.0	5	5
1,1,1-Trichloroethane	U	1	1.0	1	1
1,1-Dichloropropene	U	1	1.0	1	1
2-Butanone	U	5	1.0	5	5
Benzene	U	1	1.0	1	1
1,2-Dichloroethane	U	1	1.0	1	1
Trichloroethene	U	1	1.0	1	1
Dibromomethane	U	1	1.0	1	1
1,2-Dichloropropane	U	1	1.0	1	1
Bromodichloromethane	U	1	1.0	1	1
cis-1,3-dichloropropene	U	1	1.0	1	1
Toluene	U	1	1.0	1	1
4-methyl-2-pentanone	U	5	1.0	5	5
Tetrachloroethene	U	1	1.0	1	1
trans-1,3-Dichloropropene	U	1	1.0	1	1
1,1,2-Trichloroethane	U	1	1.0	1	1
Dibromochloromethane	U	1	1.0	1	1
1,3-Dichloropropane	U	1	1.0	1	1
1,2-Dibromoethane	U	1	1.0	1	1
2-Hexanone	U	5	1.0	5	5
Chlorobenzene	U	1	1.0	1	1
Ethylbenzene	U	1	1.0	1	1

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client:
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date:
 Received Date:
 Extraction Date:
 Analysis Date: 13-NOV-2006 13:14
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WG34074-2
 Client ID: WG34074-Blank
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34074
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
1,1,1,2-Tetrachloroethane	U	1	1.0	1	1
m+p-Xylenes	U	2	1.0	2	2
o-Xylene	U	1	1.0	1	1
Styrene	U	1	1.0	1	1
Xylenes (total)	U	3	1.0	3	3
Bromoform	U	1	1.0	1	1
Isopropylbenzene	U	1	1.0	1	1
Bromobenzene	U	1	1.0	1	1
N-Propylbenzene	U	1	1.0	1	1
1,1,2,2-Tetrachloroethane	U	1	1.0	1	1
1,3,5-Trimethylbenzene	U	1	1.0	1	1
2-Chlorotoluene	U	1	1.0	1	1
1,2,3-Trichloropropane	U	1	1.0	1	1
4-Chlorotoluene	U	1	1.0	1	1
tert-Butylbenzene	U	1	1.0	1	1
1,2,4-Trimethylbenzene	U	1	1.0	1	1
P-Isopropyltoluene	U	1	1.0	1	1
1,3-Dichlorobenzene	U	1	1.0	1	1
1,4-Dichlorobenzene	U	1	1.0	1	1
N-Butylbenzene	U	1	1.0	1	1
sec-Butylbenzene	U	1	1.0	1	1
1,2-Dichlorobenzene	U	1	1.0	1	1
1,2-Dibromo-3-Chloropropane	U	1	1.0	1	1
1,3,5-Trichlorobenzene	U	1	1.0	1	1
Hexachlorobutadiene	U	1	1.0	1	1
1,2,4-Trichlorobenzene	U	1	1.0	1	1
Naphthalene	U	1	1.0	1	1
1,2,3-Trichlorobenzene	U	1	1.0	1	1
Dibromofluoromethane		103%			
1,2-Dichloroethane-D4		107%			
Toluene-D8		93%			
P-Bromofluorobenzene		97%			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE ID

WG34074-Blank

Lab Name: KATAHDIN ANALYTICAL SERVICES

Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO

SDG No.: WW5978

Matrix: (soil/water) WATER

Lab Sample ID: WG34074-2

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: T3679

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 11/13/06

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/l

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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FORM I VOA-TIC

**KATAHDIN ANALYTICAL SERVICES
LAB CONTROL SAMPLE**

Client:
Project: Fort Drum Basewide Phyto
PO NO:
Sample Date:
Received Date:
Extraction Date:
Analysis Date: 11/13/06
Report Date: 12/05/2006
Matrix: WATER

Lab ID: WG34074-1
Client ID: WG34074-LCS
SDG: WW5978
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG34074
Units: ug/l

COMPOUND	LCS SPIKE	SAMPLE CONC.	LCS CONC.	%REC.	QC. LIMITS
Dichlorodifluoromethane	50	NA	57	114	10-200
Chloromethane	50	NA	57	115	40-125
Vinyl chloride	50	NA	60	120	27-143
Bromomethane	50	NA	55	110	52-141
Chloroethane	50	NA	63	* 126	64-124
Trichlorofluoromethane	50	NA	66	131	63-153
Diethyl Ether	50	NA	61	122	63-146
Tertiary-butyl alcohol	250	NA	248	99	50-150
1,1-Dichloroethene	50	NA	54	108	85-129
Carbon Disulfide	50	NA	55	111	80-134
Freon-113	50	NA	54	107	79-129
Iodomethane	50	NA	48	95	67-144
Acrolein	250	NA	281	112	10-200
Methylene Chloride	50	NA	54	108	86-124
Acetone	50	NA	95	* 189	41-180
Isobutyl Alcohol	1000	NA	1290	129	20-176
trans-1,2-Dichloroethene	50	NA	52	104	80-128
Allyl Chloride	50	NA	62	123	68-133
Methyl tert-butyl ether	100	NA	118	118	79-132
Acetonitrile	500	NA	609	122	35-171
Di-isopropyl ether	50	NA	58	117	82-122
Chloroprene	50	NA	56	111	77-133
Methacrylonitrile	500	NA	647	129	73-137
Propionitrile	500	NA	626	125	54-148
1,1-Dichloroethane	50	NA	60	119	90-127
Acrylonitrile	250	NA	306	122	70-135
Ethyl tertiary-butyl ether	50	NA	59	119	84-122
Vinyl Acetate	50	NA	56	112	47-122
cis-1,2-Dichloroethene	50	NA	51	102	84-121
1,2-Dichloroethylene (total)	100	NA	103	103	83-123
Methyl Methacrylate	50	NA	55	110	73-133
2,2-Dichloropropane	50	NA	55	109	68-149
Bromochloromethane	50	NA	56	112	87-120
Chloroform	50	NA	58	116	87-127
Carbon Tetrachloride	50	NA	53	106	74-149
Tetrahydrofuran	50	NA	57	115	46-154
1,1,1-Trichloroethane	50	NA	58	117	76-145
1,1-Dichloropropene	50	NA	55	111	87-130
2-Butanone	50	NA	66	131	30-150
Benzene	50	NA	52	105	90-116
Cyclohexane	50	NA	48	95	70-130
Ethyl Methacrylate	50	NA	54	109	60-138
Tertiary-amyl methyl ether	50	NA	58	116	82-118
1,2-Dichloroethane	50	NA	55	109	71-149
Trichloroethene	50	NA	51	102	83-132

KATAHDIN ANALYTICAL SERVICES
LAB CONTROL SAMPLE

Client:
Project: Fort Drum Basewide Phyto
PO No:
Sample Date:
Received Date:
Extraction Date:
Analysis Date: 11/13/06
Report Date: 12/05/2006
Matrix: WATER

Lab ID: WG34074-1
Client ID: WG34074-LCS
SDG: WW5978
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG34074
Units: ug/l

COMPOUND	LCS SPIKE	SAMPLE CONC.	LCS CONC.	%REC.	QC. LIMITS
Dibromomethane	50	NA	53	105	76-132
1,2-Dichloropropane	50	NA	57	* 113	95-112
Bromodichloromethane	50	NA	51	101	76-132
cis-1,3-dichloropropene	50	NA	57	115	85-127
1,4-Dioxane	1000	NA	1090	109	10-125
2-Chloroethylvinylether	50	NA	72	* 144	20-137
Toluene	50	NA	53	107	85-122
4-methyl-2-pentanone	50	NA	59	118	63-154
Tetrachloroethene	50	NA	50	99	48-155
trans-1,3-Dichloropropene	50	NA	63	126	85-144
1,1,2-Trichloroethane	50	NA	51	103	78-124
Dibromochloromethane	50	NA	49	97	63-128
1,3-Dichloropropane	50	NA	52	104	65-127
1,2-Dibromoethane	50	NA	57	113	75-129
2-Hexanone	50	NA	58	115	47-160
Chlorobenzene	50	NA	52	105	68-128
Ethylbenzene	50	NA	52	104	76-124
1,1,1,2-Tetrachloroethane	50	NA	50	100	69-133
Xylenes (total)	150	NA	161	107	67-129
m+p-Xylenes	100	NA	107	107	68-127
o-Xylene	50	NA	54	107	64-133
Styrene	50	NA	52	103	66-130
Bromoform	50	NA	47	94	59-135
Isopropylbenzene	50	NA	60	120	95-140
cis-1,4-Dichloro-2-Butene	50	NA	57	114	56-155
trans-1,4-Dichloro-2-Butene	50	NA	56	111	66-151
Bromobenzene	50	NA	50	100	86-122
N-Propylbenzene	50	NA	56	112	92-124
1,1,2,2-Tetrachloroethane	50	NA	52	104	75-128
1,3,5-Trimethylbenzene	50	NA	55	110	86-127
2-Chlorotoluene	50	NA	54	108	84-129
1,2,3-Trichloropropane	50	NA	52	104	57-145
4-Chlorotoluene	50	NA	55	109	83-129
tert-Butylbenzene	50	NA	56	112	86-131
Pentachloroethane	50	NA	58	115	22-197
1,2,4-Trimethylbenzene	50	NA	54	109	85-124
P-Isopropyltoluene	50	NA	58	116	84-131
1,3-Dichlorobenzene	50	NA	51	101	81-121
1,4-Dichlorobenzene	50	NA	50	99	81-120
N-Butylbenzene	50	NA	57	114	67-138
sec-Butylbenzene	50	NA	57	114	82-128
1,2-Dichlorobenzene	50	NA	51	102	74-124
1,2-Dibromo-3-Chloropropane	50	NA	54	108	55-151
1,3,5-Trichlorobenzene	50	NA	55	109	77-122
Hexachlorobutadiene	50	NA	48	97	75-119

page 2 of 3

FORM III VOA-1

T3677.D

**KATAHDIN ANALYTICAL SERVICES
LAB CONTROL SAMPLE**

Client:
Project: Fort Drum Basewide Phyto
PO No:
Sample Date:
Received Date:
Extraction Date:
Analysis Date: 11/13/06
Report Date: 12/05/2006
Matrix: WATER

Lab ID: WG34074-1
Client ID: WG34074-LCS
SDG: WW5978
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG34074
Units: ug/l

COMPOUND	LCS	SAMPLE	LCS	QC.	
	SPIKE	CONC.	CONC.	%REC.	LIMITS
1,2,4-Trichlorobenzene	50	NA	52	104	64-125
1,2,3-Trimethylbenzene	50	NA	57	113	84-122
Naphthalene	50	NA	51	103	40-137
1,2,3-Trichlorobenzene	50	NA	49	98	38-140
Methyl Acetate	50	NA	57	114	61-168
Methylcyclohexane	50	NA	54	108	81-130
1-Chlorohexane	50	NA	58	115	80-120
Total Alkylbenzenes	350	NA	393	112	60-140

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE ID

WG34140-BLANK

Lab Name: KATAHDIN ANALYTICAL SERVICES Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO SDG No.: WW5978

Lab File ID: T3703 Lab Sample ID: WG34140-2

Date Analyzed: 11/14/06 Time Analyzed: 1132

GC Column: RTX-VMS ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: GCMS-T

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	WG34140-LCS	WG34140-1	T3701	11/14/06	1017
02	SP03 (EFF#1)	WW5978-2DL	T3704	11/14/06	1214
03	SP03 (EFF#2)	WW5978-4RA	T3705	11/14/06	1246
04	SP03 (EFF#3)	WW5978-6RA	T3706	11/14/06	1318
05					
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COMMENTS :

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client:
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date:
 Received Date:
 Extraction Date:
 Analysis Date: 14-NOV-2006 11:32
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WG34140-2
 Client ID: WG34140-Blank
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
Dichlorodifluoromethane	U	1	1.0	1	1
Chloromethane	U	1	1.0	1	1
Vinyl chloride	U	1	1.0	1	1
Bromomethane	U	1	1.0	1	1
Chloroethane	U	1	1.0	1	1
Trichlorofluoromethane	U	1	1.0	1	1
Diethyl Ether	U	1	1.0	1	1
1,1-Dichloroethene	U	1	1.0	1	1
Carbon Disulfide	U	1	1.0	1	1
Methylene Chloride	U	5	1.0	5	5
Acetone	U	5	1.0	5	5
trans-1,2-Dichloroethene	U	1	1.0	1	1
Methyl tert-butyl ether	U	1	1.0	1	1
1,1-Dichloroethane	U	1	1.0	1	1
Vinyl Acetate	U	1	1.0	1	1
cis-1,2-Dichloroethene	U	1	1.0	1	1
1,2-Dichloroethylene (total)	U	2	1.0	2	2
2,2-Dichloropropane	U	1	1.0	1	1
Bromochloromethane	U	1	1.0	1	1
Chloroform	U	1	1.0	1	1
Carbon Tetrachloride	U	1	1.0	1	1
Tetrahydrofuran	U	5	1.0	5	5
1,1,1-Trichloroethane	U	1	1.0	1	1
1,1-Dichloropropene	U	1	1.0	1	1
2-Butanone	U	5	1.0	5	5
Benzene	U	1	1.0	1	1
1,2-Dichloroethane	U	1	1.0	1	1
Trichloroethene	U	1	1.0	1	1
Dibromomethane	U	1	1.0	1	1
1,2-Dichloropropane	U	1	1.0	1	1
Bromodichloromethane	U	1	1.0	1	1
cis-1,3-dichloropropene	U	1	1.0	1	1
Toluene	U	1	1.0	1	1
4-methyl-2-pentanone	U	5	1.0	5	5
Tetrachloroethene	U	1	1.0	1	1
trans-1,3-Dichloropropene	U	1	1.0	1	1
1,1,2-Trichloroethane	U	1	1.0	1	1
Dibromochloromethane	U	1	1.0	1	1
1,3-Dichloropropane	U	1	1.0	1	1
1,2-Dibromoethane	U	1	1.0	1	1
2-Hexanone	U	5	1.0	5	5
Chlorobenzene	U	1	1.0	1	1
Ethylbenzene	U	1	1.0	1	1

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client:
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date:
 Received Date:
 Extraction Date:
 Analysis Date: 14-NOV-2006 11:32
 Report Date: 12/05/2006
 Matrix: WATER
 % Solids: NA

Lab ID: WG34140-2
 Client ID: WG34140-Blank
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

Compound	Flags	Results	DF	PQL	Adj.PQL
1,1,1,2-Tetrachloroethane	U	1	1.0	1	1
m+p-Xylenes	U	2	1.0	2	2
o-Xylene	U	1	1.0	1	1
Styrene	U	1	1.0	1	1
Xylenes (total)	U	3	1.0	3	3
Bromoform	U	1	1.0	1	1
Isopropylbenzene	U	1	1.0	1	1
Bromobenzene	U	1	1.0	1	1
N-Propylbenzene	U	1	1.0	1	1
1,1,2,2-Tetrachloroethane	U	1	1.0	1	1
1,3,5-Trimethylbenzene	U	1	1.0	1	1
2-Chlorotoluene	U	1	1.0	1	1
1,2,3-Trichloropropane	U	1	1.0	1	1
4-Chlorotoluene	U	1	1.0	1	1
tert-Butylbenzene	U	1	1.0	1	1
1,2,4-Trimethylbenzene	U	1	1.0	1	1
P-Isopropyltoluene	U	1	1.0	1	1
1,3-Dichlorobenzene	U	1	1.0	1	1
1,4-Dichlorobenzene	U	1	1.0	1	1
N-Butylbenzene	U	1	1.0	1	1
sec-Butylbenzene	U	1	1.0	1	1
1,2-Dichlorobenzene	U	1	1.0	1	1
1,2-Dibromo-3-Chloropropane	U	1	1.0	1	1
1,3,5-Trichlorobenzene	U	1	1.0	1	1
Hexachlorobutadiene	U	1	1.0	1	1
1,2,4-Trichlorobenzene	U	1	1.0	1	1
Naphthalene	U	1	1.0	1	1
1,2,3-Trichlorobenzene	U	1	1.0	1	1
Dibromofluoromethane		91%			
1,2-Dichloroethane-D4		85%			
Toluene-D8		91%			
P-Bromofluorobenzene		97%			

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE ID

WG34140-Blank

Lab Name: KATAHDIN ANALYTICAL SERVICES

Lab Code: KAS

Project: FORT DRUM BASEWIDE PHYTO

SDG No.: WW5978

Matrix: (soil/water) WATER

Lab Sample ID: WG34140-2

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: T3703

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 11/14/06

GC Column: RTX-VMS ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/l

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
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19.				
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26.				
27.				
28.				
29.				
30.				

FORM I VOA-TIC

**KATAHDIN ANALYTICAL SERVICES
LAB CONTROL SAMPLE**

Client:
Project: Fort Drum Basewide Phyto
PO No:
Sample Date:
Received Date:
Extraction Date:
Analysis Date: 11/14/06
Report Date: 12/05/2006
Matrix: WATER

Lab ID: WG34140-1
Client ID: WG34140-LCS
SDG: WW5978
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG34140
Units: ug/l

COMPOUND	LCS SPIKE	SAMPLE CONC.	LCS CONC.	%REC.	QC. LIMITS
Dichlorodifluoromethane	50	NA	49	98	10-200
Chloromethane	50	NA	46	92	40-125
Vinyl chloride	50	NA	50	100	27-143
Bromomethane	50	NA	42	84	52-141
Chloroethane	50	NA	44	88	64-124
Trichlorofluoromethane	50	NA	49	98	63-153
Diethyl Ether	50	NA	47	94	63-146
Tertiary-butyl alcohol	250	NA	261	104	50-150
1,1-Dichloroethene	50	NA	46	91	85-129
Carbon Disulfide	50	NA	46	91	80-134
Freon-113	50	NA	44	88	79-129
Iodomethane	50	NA	41	82	67-144
Acrolein	250	NA	166	66	10-200
Methylene Chloride	50	NA	39	77	86-124
Acetone	50	NA	84	167	41-180
Isobutyl Alcohol	1000	NA	1150	115	20-176
trans-1,2-Dichloroethene	50	NA	48	96	80-128
Allyl Chloride	50	NA	46	91	68-133
Methyl tert-butyl ether	100	NA	110	110	79-132
Acetonitrile	500	NA	501	100	35-171
Di-isopropyl ether	50	NA	47	94	82-122
Chloroprene	50	NA	46	91	77-133
Methacrylonitrile	500	NA	528	106	73-137
Propionitrile	500	NA	547	109	54-148
1,1-Dichloroethane	50	NA	51	103	90-127
Acrylonitrile	250	NA	258	103	70-135
Ethyl tertiary-butyl ether	50	NA	51	102	84-122
Vinyl Acetate	50	NA	50	101	47-122
cis-1,2-Dichloroethene	50	NA	47	94	84-121
1,2-Dichloroethylene (total)	100	NA	95	95	83-123
Methyl Methacrylate	50	NA	48	96	73-133
2,2-Dichloropropane	50	NA	52	105	68-149
Bromochloromethane	50	NA	53	106	87-120
Chloroform	50	NA	52	103	87-127
Carbon Tetrachloride	50	NA	50	99	74-149
Tetrahydrofuran	50	NA	52	105	46-154
1,1,1-Trichloroethane	50	NA	51	102	76-145
1,1-Dichloropropene	50	NA	52	104	87-130
2-Butanone	50	NA	62	124	30-150
Benzene	50	NA	50	101	90-116
Cyclohexane	50	NA	43	85	70-130
Ethyl Methacrylate	50	NA	51	102	60-138
Tertiary-amyl methyl ether	50	NA	51	102	82-118
1,2-Dichloroethane	50	NA	48	96	71-149
Trichloroethene	50	NA	49	99	83-132

KATAHDIN ANALYTICAL SERVICES
LAB CONTROL SAMPLE

Client:
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date:
 Received Date:
 Extraction Date:
 Analysis Date: 11/14/06
 Report Date: 12/05/2006
 Matrix: WATER

Lab ID: WG34140-1
 Client ID: WG34140-LCS
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

COMPOUND	LCS SPIKE	SAMPLE CONC.	LCS CONC.	%REC.	QC. LIMITS
Dibromomethane	50	NA	50	100	76-132
1,2-Dichloropropane	50	NA	52	103	95-112
Bromodichloromethane	50	NA	47	95	76-132
cis-1,3-dichloropropene	50	NA	54	108	85-127
1,4-Dioxane	1000	NA	1120	112	10-125
2-Chloroethylvinylether	50	NA	80	* 159	20-137
Toluene	50	NA	50	100	85-122
4-methyl-2-pentanone	50	NA	54	109	63-154
Tetrachloroethene	50	NA	51	101	48-155
trans-1,3-Dichloropropene	50	NA	57	114	85-144
1,1,2-Trichloroethane	50	NA	49	98	78-124
Dibromochloromethane	50	NA	47	93	63-128
1,3-Dichloropropane	50	NA	50	99	65-127
1,2-Dibromoethane	50	NA	55	110	75-129
2-Hexanone	50	NA	56	113	47-160
Chlorobenzene	50	NA	49	98	68-128
Ethylbenzene	50	NA	48	96	76-124
1,1,1,2-Tetrachloroethane	50	NA	48	96	69-133
Xylenes (total)	150	NA	154	103	67-129
m+p-Xylenes	100	NA	103	103	68-127
o-Xylene	50	NA	51	103	64-133
Styrene	50	NA	50	99	66-130
Bromoform	50	NA	48	95	59-135
Isopropylbenzene	50	NA	56	112	95-140
cis-1,4-Dichloro-2-Butene	50	NA	48	97	56-155
trans-1,4-Dichloro-2-Butene	50	NA	48	95	66-151
Bromobenzene	50	NA	48	96	86-122
N-Propylbenzene	50	NA	51	102	92-124
1,1,2,2-Tetrachloroethane	50	NA	49	98	75-128
1,3,5-Trimethylbenzene	50	NA	50	100	86-127
2-Chlorotoluene	50	NA	50	99	84-129
1,2,3-Trichloropropane	50	NA	48	96	57-145
4-Chlorotoluene	50	NA	49	98	83-129
tert-Butylbenzene	50	NA	52	104	86-131
Pentachloroethane	50	NA	52	103	22-197
1,2,4-Trimethylbenzene	50	NA	50	100	85-124
P-Isopropyltoluene	50	NA	54	109	84-131
1,3-Dichlorobenzene	50	NA	48	97	81-121
1,4-Dichlorobenzene	50	NA	47	94	81-120
N-Butylbenzene	50	NA	52	104	67-138
sec-Butylbenzene	50	NA	52	105	82-128
1,2-Dichlorobenzene	50	NA	49	98	74-124
1,2-Dibromo-3-Chloropropane	50	NA	49	98	55-151
1,3,5-Trichlorobenzene	50	NA	52	103	77-122
Hexachlorobutadiene	50	NA	48	96	75-119

KATAHDIN ANALYTICAL SERVICES
LAB CONTROL SAMPLE

Client:
 Project: Fort Drum Basewide Phyto
 PO No:
 Sample Date:
 Received Date:
 Extraction Date:
 Analysis Date: 11/14/06
 Report Date: 12/05/2006
 Matrix: WATER

Lab ID: WG34140-1
 Client ID: WG34140-LCS
 SDG: WW5978
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG34140
 Units: ug/l

COMPOUND	LCS SPIKE	SAMPLE CONC.	LCS CONC.	%REC.	QC. LIMITS
1,2,4-Trichlorobenzene	50	NA	52	104	64-125
1,2,3-Trimethylbenzene	50	NA	50	100	84-122
Naphthalene	50	NA	53	107	40-137
1,2,3-Trichlorobenzene	50	NA	50	101	38-140
Methyl Acetate	50	NA	48	96	61-168
Methylcyclohexane	50	NA	48	97	81-130
1-Chlorohexane	50	NA	56	112	80-120
Total Alkylbenzenes	400	NA	362	90	60-140

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services**Sample ID:** PBWWK28ICW0**Matrix:** WATER**SDG Name:** WW5978**QC Batch ID:** WK28ICW0

Concentration Units : ug/L

Analyte	RESULT	C
IRON	17.300	U

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services**Sample ID:** LCSWWK28ICW0**Matrix:** WATER**SDG Name:** WW5978**QC Batch ID:** WK28ICW0

Concentration Units : ug/L					
Analyte	TRUE	FOUND	% R	LIMITS (%)	
IRON	1000.0	1021.13	102.1	80	120



340 County Road No. 5
P.O. Box 720
Westbrook, ME 04092
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND
PRINT LEGIBLY IN PEN

Cooler 1 of 1

Client Malcolm Pirnie Inc. Contact Terri Akbas Phone # (914)641-2414 Fax # (914)641-2455

Address 104 Corporate Park Dr City White Plains State NY Zip Code 10602

Purchase Order # Proj# 2118-106 Proj. Name / No. Fort Drum Basewide Phyto/Seeps Katahdin Quote #

Bill (if different than above) Address

Sampler (Print / Sign) Kelley J. Roe, Adam Mazerauer, Kelley Roe Copies To:

LAB USE ONLY WORK ORDER #: ww5977, 5978
KATAHDIN PROJECT NUMBER

ANALYSIS AND CONTAINER TYPE
PRESERVATIVES

REMARKS:

SHIPPING INFO: FED EX UPS CLIENT

INVOICE NO:

EMP'C TEMP BLANK INTACT NOT INTACT

Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOCs	SVOCs	Pesticides	TAL Metals	Trace	Cyanide	VOCs	Total Iron	Dissolved Iron
				40 ml vials/HCl	8270C 2x 1L. Amb/4pc	2x 1L. Amb/4pc	500 ml P./HNO3	500 ml P./HNO3	850 ml P./NaOH	5030P/8260B 40 ml vials/HCl	250 ml P./HNO3	250 ml P./HNO3
TRIP BLANK 11.2.06	10/10/1200	AQ	2	✓						✓		
SP-03	11/2/06/1325	SW	9	✓	✓	✓	✓	✓	✓			
SP-01	/1530		9	✓	✓	✓	✓	✓				
SPO3 (Eff #1)	/1255		5							✓	✓	✓
SPO3 (Eff #2)	/1235		5							✓	✓	✓
SPO3 (Eff #3)	/1215		5							✓	✓	✓
SPO3 (Mid)	/1315		5							✓	✓	✓
SPO3 (Inf.)	/1335		5							✓	✓	✓

COMMENTS: This shipment completes FT DRUM BASEWIDE (Groundwater; Phyto) (Surface water; Seeps) SAMPLING. ! ☺

Relinquished By: (Signature) <u>Kelley Roe</u>	Date / Time <u>11/2/06 1900</u>	Received By: (Signature) <u>FedEx TRK</u>	Relinquished By: (Signature) <u>8592 0661 6460</u>	Date / Time <u>11/2/06 0600</u>	Received By: (Signature) <u>11/2/06 0600</u>
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

ORIGINAL

Login Number: WW5978

Account: MALPIR001
Malcolm Pirnie, Inc.

Project: MALPIRGAS001
Fort Drum Gas Alley

Primary Report Address:

Terri Akbas
Malcolm Pirnie, Inc.
104 Corporate Park Drive

White Plains, NY 10602-0751

Primary Invoice Address:

Accounts Payable
Malcolm Pirnie, Inc.
P.O. Box 1240

White Plains, NY 10602-1240

Report CC Addresses:

Invoice CC Addresses:

Login Information

ANALYSIS INSTRUCTIONS : If VOA dilutions are needed must run 10x lesser dil than highest needed.
CHECK NO. :
CLIENT PO# : 2118-106
COOLER TEMPERATURE : 3.6
DELIVERY SERVICES : Fed Ex
EDD FORMAT : KAS047QC-XLS, KAS054-TXT, KAS081-XLS
MAIL DATE :
PM : AJC
PROJECT NAME : Fort Drum Basewide Phyto
QC LEVEL : II+ w/ narrative
REGULATORY LIST : USACOE
REPORT INSTRUCTIONS :
SDG ID :
SDG STATUS :

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Comments
WW5978-1	TRIP BLANK 11.2.06	10-OCT-06 12:00	03-NOV-06			29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>		
Aqueous	S SW8260-LIB-SEARCH						
Aqueous	S SW8260-S	24-OCT-06	40mL Vial+HCl		1		
WW5978-2	SP03(EFF#1)	02-NOV-06 12:55	03-NOV-06			29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07					
Aqueous	S SW6010-IRON	01-MAY-07	250mL Plastic+HNO3		1		
Aqueous	S SW8260-LIB-SEARCH						
Aqueous	S SW8260-S	16-NOV-06	40mL Vial+HCl		3		
WW5978-3	SP03(EFF#1)	02-NOV-06 12:55	03-NOV-06			29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07					
Aqueous	S SW6010-IRON-DIS	01-MAY-07	250mL Plastic+HNO3		1		
WW5978-4	SP03(EFF#2)	02-NOV-06 12:35	03-NOV-06			29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07					
Aqueous	S SW6010-IRON	01-MAY-07	250mL Plastic+HNO3		1		
Aqueous	S SW8260-LIB-SEARCH						
Aqueous	S SW8260-S	16-NOV-06	40mL Vial+HCl		3		
WW5978-5	SP03(EFF#2)	02-NOV-06 12:35	03-NOV-06			29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07					
Aqueous	S SW6010-IRON-DIS	01-MAY-07	250mL Plastic+HNO3		1		
WW5978-6	SP03(EFF#3)	02-NOV-06 12:15	03-NOV-06			29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07					
Aqueous	S SW6010-IRON	01-MAY-07	250mL Plastic+HNO3		1		
Aqueous	S SW8260-LIB-SEARCH						
Aqueous	S SW8260-S	16-NOV-06	40mL Vial+HCl		3		
WW5978-7	SP03(EFF#3)	02-NOV-06 12:15	03-NOV-06			29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>		<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07					
Aqueous	S SW6010-IRON-DIS	01-MAY-07					

Login Number: WW5978

Account: MALPIR001

NoWeb

Malcolm Pirnie, Inc.

Project: MALPIRGAS001

Fort Drum Gas Alley

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	Verbal PR Date	Due Date	Comments
WW5978-8	SP03(MID)	02-NOV-06 13:15	03-NOV-06		29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07				
Aqueous	S SW6010-IRON	01-MAY-07	250mL Plastic+HNO3	1		
Aqueous	S SW8260-LIB-SEARCH					
Aqueous	S SW8260-S	16-NOV-06	40mL Vial+HCl	3		
WW5978-9	SP03(MID)	02-NOV-06 13:15	03-NOV-06		29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07				
Aqueous	S SW6010-IRON-DIS	01-MAY-07	250mL Plastic+HNO3	1		
WW5978-10	SP03(INF.)	02-NOV-06 13:35	03-NOV-06		29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07				
Aqueous	S SW6010-IRON	01-MAY-07	250mL Plastic+HNO3	1		
Aqueous	S SW8260-LIB-SEARCH					
Aqueous	S SW8260-S	16-NOV-06	40mL Vial+HCl	3		
WW5978-11	SP03(INF.)	02-NOV-06 13:35	03-NOV-06		29-NOV-06	
<i>Matrix</i>	<i>Product</i>	<i>Hold Date (shortest)</i>	<i>Bottle Type</i>	<i>Bottle Count</i>		
Aqueous	S SW3010-PREP	01-MAY-07				
Aqueous	S SW6010-IRON-DIS	01-MAY-07	250mL Plastic+HNO3	1		

Total Samples: 11
Total Analyses: 32

ADDENDUM
ORIGINAL CHAIN OF CUSTODY



340 County Road No. 5
 P.O. Box 720
 Westbrook, ME 04092
 Tel: (207) 874-2400
 Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND
 PRINT LEGIBLY IN PEN

Page 1 of 1

Cooler 1 of 1

Client: Malcolm Pirnie Inc. Contact: Terri Akbas Phone #: (914)641-2414 Fax #: (914)641-2455

Address: 104 Corporate Park Dr City: White Plains State: NY Zip Code: 10602

Purchase Order #: Proj# 2118-106 Proj. Name / No.: Fort Drum Basewide Phyto/Seeps Katahdin Quote #

Address (if different than above)

Sampler (Print / Sign): Kelley J. Roe, Adam Mazenauer, Kelley Roe Copies To:

AB USE ONLY WORK ORDER #: ww5977,5978
 KATAHDIN PROJECT NUMBER

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

REMARKS:

SHIPPING INFO: FED EX UPS CLIENT

REBILL NO:

TEMP °C TEMP BLANK INTACT NOT INTACT

Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Fit/	Fit/	Filt/	Filt/	Filt/	Filt/	Filt/	Filt/	Filt/	Filt/	Filt/
				Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
TRIP BLANK 11.2.06	10/10/1200	AQ	2	✓										
SP-03	11/2/06/1325	SW	9	✓	✓	✓	✓	✓	✓					
SP-01	/1530		9	✓	✓	✓	✓	✓	✓					
SPO3 (EFF#1)	/1255		5							✓	✓	✓		
SPO3 (EFF#2)	/1235		5							✓	✓	✓		
SPO3 (EFF#3)	/1215		5							✓	✓	✓		
SPO3 (Mid)	/1315		5							✓	✓	✓		
SPO3 (Inf.)	/1335		5							✓	✓	✓		

COMMENTS: This shipment completes FT DRUM BASEWIDE (Groundwater; Phyto Surface water; Seeps) SAMPLING. ! ☺

Relinquished By: (Signature) <u>Kelley Roe</u>	Date / Time <u>11/2/06 1900</u>	Received By: (Signature) <u>FedEx TRK#</u>	Relinquished By: (Signature) <u>8592 0661 6460</u>	Date / Time <u></u>	Received By: (Signature) <u></u>
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

ORIGINAL