

December 21, 2010

Project No. 96-1412-853B
E/10/2266

Ed Emswiler
Alaska Department of Environmental Conservation- Solid Waste Program
410 Willoughby Avenue, Suite 303
P.O. Box 111800
Juneau, Alaska
99811-1800

RESULTS OF THE CHEMICAL CHARACTERIZATION OF WOOD CHIPS AT WHITE PASS & YUKON ROUTE RAILROAD YARD, SKAGWAY ALASKA

Dear Mr. Emswiler,

Further to your letter dated July 26, 2010 addressed to White Pass & Yukon Route Railroad (White Pass), Golder Associates Ltd. (Golder), on behalf of White Pass, is pleased to provide the Alaska State Department of Environmental Conservation (ADEC) with the results of the wood chip stockpile sampling completed at the White Pass shops in Skagway, Alaska to determine the chemical composition of the wood chips and what chemicals, if any, are capable of leaching. In order to characterize the pile a two phase program of chemical characterization followed by leachate testing was completed in accordance to ADECs approval on July 26, 2010.

1.0 SCOPE OF WORK

Stockpile sampling was conducted on August 13 and 14, 2010. Sampling was undertaken by a qualified person from Golder as defined in Title 18 Chapter 75 of the Alaska Administrative Code (18AAC 75.990(100)). The stockpile was first divided into approximately six, 500 cubic meter cells (C1-C6). Five discrete samples and one composite sample were collected on a "dice" pattern throughout out each cell. One discrete sample, chosen at random, and one composite sample from each segment was submitted to TestAmerica Laboratories, Inc. in Beaverton, Oregon and analyzed for the following parameters:

- benzene, toluene, ethylbenzene, xylenes (BTEX, Method #AK101);
- Volatile and Gasoline Range Organics (GRO, Method #AK101);
- Diesel Range Organics (DRO, Method #AK102/103); and,
- Polyaromatic Hydrocarbons (PAHs, Method #8270C).



All six composite samples were also analyzed for DRO and PAH leachability.

A total of 14 samples (including two quality control and/or quality assurance [QA/QC] duplicates) were submitted for Laboratory analysis. The approximate location of each stockpile sample is shown on the White Pass Stockpile Sampling Location Plan, Figure 1.

Golder standard sampling and decontamination procedures were followed during this investigation. Samples were placed in appropriate laboratory supplied jars and stored in a chilled cooler for transportation to the laboratory.

2.0 RESULTS

Analytical results from phase one, chemical characterization were received by Golder on August 31, 2010. The laboratory test results were compared to ADEC cleanup levels for direct contact and migration to groundwater (groundwater protection). The analytical results are attached and summarised in Table 1. Quality Assurance/Quality Control results are summarised in Table 2. Due to the heterogeneity of the woodchip matrix discrepancies between the duplicated samples and originals can be rationalized.

As shown on the Table 1, there were no concentrations which exceeded ADEC standards for (BTEX). The discrete sample in Cell 4 (C4-d) and the composite sample from Cell 6 (C6-c) were the only samples to exceed the ADEC standard for Gasoline Range Organics (GRO). All samples exceed both direct contact and groundwater protection levels for diesel-range organics (DRO) and polycyclic aromatic hydrocarbons (PAHs): benzo(a)anthracene; benzo(a)pyrene and benzo(a)fluoranthene. In addition, the concentrations of 3 samples (C4-d, C4-c and C4-c (duplicate)) also exceed ADECs maximum allowable range for petroleum hydrocarbons with potential for migration to groundwater.

Due to the exceedances of concentrations in the above parameters, an evaluation of the leaching potential of the wood chips was requested by Golder on September 16, 2010. All six composite samples collected were analyzed for the leachability of DRO and PAHs. The results were received from TestAmerica on October 4, 2010.

The results of phase two, leachate characterization attached and summarized in Table 3. As shown on this table, the leachate exceeded ADEC groundwater cleanup levels for DRO and benzo(a)anthracene in all samples. One leachate sample also exceeded groundwater cleanup levels for benzo(a)pyrene and benzo(b)fluoranthene.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on this data, pending final disposition of the material, a plan should be prepared to manage the wood chip pile to minimize leachate generation and potential contamination of storm water runoff and submitted to ADEC for approval. The groundwater monitoring plan currently in place at the site would include additional monitoring of wells located immediately up-gradient and down-gradient of the pile. Should any permitting be required or the transport of the material for off-site use, storage or disposal, written authorization will be obtained from ADEC.

4.0 LIMITATIONS

This letter was prepared for the exclusive use of White Pass & Yukon Route Railroad and their representatives. The report is based on data and information collected during the previous documented investigations for the Site. The findings, interpretations and conclusions are based solely on the site conditions observed while at the property. The data presented in this report represent the soil conditions at the sampling locations tested. Soil and water conditions may vary with location, depth, sampling, methodology, analytical techniques and other factors.

Golder makes no warranty, expressed or implied, and assumes no liability with respect to the use of the information contained in this report at the subject site, or at any other site, for other than its intended purpose.

Any use which a third party makes of this report, or any reliance on, or decisions to be made based on it, are the responsibilities of such third parties. Golder accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

If new information is discovered during future work, including excavations, borings or other studies, Golder should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required.

5.0 CLOSURE

We trust that this letter adequately provides the results of the wood chip stockpile sampling at the White Pass Shops in Skagway, Alaska for your current needs and approval. Should you have any questions or require any additional information please call Gary Hamilton at (604) 296-4271.

Yours very truly,

GOLDER ASSOCIATES LTD.

ORIGINAL SIGNED

Erin Liebrecht, GIT (AB)
Junior Hydrogeologist

ORIGINAL SIGNED

Gary Hamilton, P.Geo. (BC)
Principal - Senior Hydrogeologist

EL/GH/nlb

CC: Ed Hanousek, Superintendent of Rail Operations, White Pass & Yukon Route Railroad

Attachments: Table 1 - Chemical Characterization
Table 2 - QA/QC Results
Table 3 - Leachate Analysis
Figure 1 - White Pass Stockpile Sampling Location Plan
TestAmerica Laboratory Certificates

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TABLE 1
WhitePass Stockpile Sampling, August 2010
Chemical Characterization

Location SCN Date QA/QC	ADEC Clean-up Levels DC ¹	Notes	ADEC Clean-up Levels MG ²	Notes	C4 -c	C4 -d	C5 -d	C5 -c	C1 -d	C1 -c	C2-d	C2-c	C3-d	C3-c	C6-d	C6-c	C4-d	C6-d
					5150-1 14-Aug-2010	5150-3 14-Aug-2010	5150-9 14-Aug-2010	5150-10 14-Aug-2010	5149-2 13-Aug-2010	5149-6 13-Aug-2010	5149-10 13-Aug-2010	5148-2 13-Aug-2010	5148-5 13-Aug-2010	5148-8 13-Aug-2010	5151-5 14-Aug-2010	5151-6 14-Aug-2010	5151-7 14-Aug-2010	5151-8 14-Aug-2010
						FDA									FDA		FD	FD
Physical Tests																		
% Solids ³																		
					74.1	47.3	52.2	44	54.3	52.2	81.4	44.4	64.9	57	46.2	42	40.7	52.3
BTEX																		
	150		0.025		<0.284	<0.438	<0.196	<0.249	<0.192	<0.208	<0.123	<0.245	<0.162	<0.188	<0.237	<0.266	<0.516	<0.198
	8,100		6.5		<1.42	<2.19	<0.980	<1.24	<0.962	<1.04	<0.614	<1.23	<0.810	<0.941	<1.18	<1.33	<2.58	<0.992
	2		6.9		<1.42	<2.19	<0.980	<1.24	<0.962	<1.04	<0.614	<1.23	<0.810	<0.941	<1.18	<1.33	<2.58	<0.992
	20,300		63		<1.42	2.34	<0.980	<1.24	<0.962	<1.04	<0.614	<1.23	<0.810	<0.941	<1.18	<1.33	<2.58	<0.992
Petroleum Hydrocarbons																		
	10,250	I	250		15200*	45800*	10800	12000	6090	10000	8080	10300	7200	10400	4740	6440	76700*	5480
	1400	I	300		148	399	63.2	220	55	<41.6	<24.6	235	<32.4	60.9	<47.4	327	131	208
Polyaromatic Hydrocarbons																		
	2,800		180		274	2370	184	234	120	204	42.6	148	82.7	191	68.6	54.2	3270	86.5
	2,800		180		6.78	41.9	<9.40	<11.4	<9.22	<9.44	<6.06	<11.2	<7.62	<8.81	<5.37	<5.91	62.9	<9.54
	20,600		3,000		316	1040	174	161	61.3	154	183	213	128	192	59.8	61.1	1440	86.4
	4.9		3.6		140	525	86.7	104	45.2	101	158	177	98.9	107	33.4	25.3	705	51.2
	0.49		2.1		41	121	26.7	30.4	13	31	49	52.1	33.4	33.3	10.3	8.19	171	15.1
	4.9		12		55.1	184	35.6	42.7	17.7	40.7	67.3	72.9	41.2	45.8	13.5	9.82	242	21.2
	1,400		38,700		10.3	26.4	<9.40	<11.4	<9.22	<9.44	11.6	12.1	9.83	9	<5.37	<5.91	35.5	<9.54
	49		120		48.6	139	30.8	32.8	14	32.5	56.2	58.2	36.9	36.2	12.2	9.88	205	17.2
	490		360		147	538	94.8	107	45.5	111	163	178	109	121	37.3	29.1	670	56.9
	0.49		4		<6.76	13.2	<9.40	<11.4	<9.22	<9.44	<6.06	<11.2	<7.62	<8.81	<5.37	<5.91	17.7	<9.54
	1,900		1,400		871	3480	463	545	278	523	783	936	515	674	176	132	4390	284
	2,300		220		385	2290	212	247	106	193	108	174	69.3	173	51.3	54.8	3110	74.5
	4.9		41		10.7	32.6	<9.40	<11.4	<9.22	<9.44	13.4	13.3	8.67	8.94	<5.37	<5.91	43.8	<9.54
	1,400		20		8.8	45.2	<9.40	<11.4	<9.22	<9.44	<6.06	<11.2	<7.62	<8.81	<5.37	<5.91	110	<9.54
	20,600		3,000		1190	6570	652	777	360	590	257	488	231	706	168	171	8810	267
	1,400		1,000		549	2020	304	351	163	334	572	632	346	400	120	95.6	2650	183

Notes:

All concentrations are in milligrams per kilogram (mg/kg).

1. Alaska Department of Environmental Conservation (ADEC) Tables B1 & B2 of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control" Regulations as amended through October 9, 2008. "Direct Contact - Under 40 inch Zone"

2. Alaska Department of Environmental Conservation (ADEC) Tables B1 & B2 of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control" Regulations as amended through October 9, 2008. "Migration to Groundwater - Under 40 inch Zone"

3. Percent calculated by weight

* - sample exceeds Maximum Allowable Concentrations (Table B2)

I - Ingestion Pathway (Table B2)

FDA = Field Duplicate Available

FD = Field Duplicate

ND = (X) - Not detected at concentrations above laboratory detection limit (LDL) shown in parentheses.

X	Concentration exceeds ADEC standard for "Migration to Groundwater"
X	Concentration exceeds ADEC standard for "Direct Contact"
X	Concentration exceeds ADEC standard for both "Direct Contact" and "Migration to Groundwater"

TABLE 2
White Pass StockPile Sampling August 2010
Quality Assurance/Quality Control

Location SCN Date QA/QC	ADEC Clean-up Levels ¹	ADEC Clean-up ² Levels ²	C4-d	C4-d	MRL	RPD %	DF	C6-d	C6-d	MRL	RPD %	DF
			5150-3 14-Aug-2010 FDA	5151-7 14-Aug-2010 FD				5151-5 14-Aug-2010 FDA	5151-8 14-Aug-2010 FD			
Physical Tests												
% Solids ³			47.3	40.7	0.01	15%		46.2	52.3	0.01	12%	
BTEX												
Benzene	5.0	0.025	<0.438	<0.516	0.438	NC	NC	<0.237	<0.198	0.198	NC	NC
Toluene	1,000	6.5	<2.19	<2.58	2.19	NC	NC	<1.18	<0.992	0.992	NC	NC
Ethylbenzene	700	6.9	<2.19	<2.58	2.19	NC	NC	<1.18	<0.992	0.992	NC	NC
Xylene (total m,p,o)	10,000	63	2.34	<2.58	2.19	NC	NC	<1.18	<0.992	0.992	NC	NC
Petroleum Hydrocarbons												
Diesel Range Organics (DRO)	10,250	250	45800	76700	520	50%	59.42	4740	5480	267	14%	17.75
Gasoline Range Organics (GRO)	1400	300	399	131	87.6	101%	3.06	<47.4	208	39.7	NC	NC
Polyaromatic Hydrocarbons												
Acenaphthene	2,800	180	2370	3270	209	32%	4.31	68.6	86.5	9.54	23%	1.88
Acenaphthylene	2,800	180	41.9	62.9	5.22	40%	4.02	<5.37	<9.54	9.54	NC	NC
Anthracene	20,600	9,000	1040	1440	209	32%	1.91	59.8	86.4	9.54	36%	2.79
Benzo (a) anthracene	4.90	3.6	525	705	209	29%	0.86	33.4	51.2	9.54	42%	1.87
Benzo (a) pyrene	0.49	2.1	121	171	5.22	34%	9.58	10.3	15.1	9.54	38%	0.50
Benzo (b) fluoranthene	4.90	12	184	242	5.22	27%	11.11	13.5	21.2	9.54	44%	0.81
Benzo (ghi) perylene	1,400	38,700	26.4	35.5	5.22	29%	1.74	<5.37	<9.54	9.54	NC	NC
Benzo (k) fluoranthene	49	120	139	205	5.22	38%	12.64	12.2	17.2	9.54	34%	0.52
Chrysene	490	360	538	670	209	22%	0.63	37.3	56.9	9.54	42%	2.05
Dibenzo (a,h) anthracene	0.49	4	13.2	17.7	5.22	29%	0.86	<5.37	<9.54	9.54	NC	NC
Fluoranthene	1,900	1,400	3480	4390	209	23%	4.35	176	284	9.54	47%	11.32
Fluorene	2,300	220	2290	3110	209	30%	3.92	51.3	74.5	9.54	37%	2.43
Indeno (1,2,3-cd) pyrene	4.90	41	32.6	43.8	5.22	29%	2.15	<5.37	<9.54	9.54	NC	NC
Naphthalene	1,400	20	45.2	110	5.22	84%	12.41	<5.37	<9.54	9.54	NC	NC
Phenanthrene	20,600	3,000	6570	8810	209	29%	10.72	168	267	9.54	46%	10.38
Pyrene	1,400	1,000	2020	2650	209	27%	3.01	120	183	9.54	42%	6.60

Notes:

All concentrations are in milligrams per kilogram (mg/kg).

1. Alaska Department of Environmental Conservation (ADEC) Tables B1 & B2 of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control" Regulations as amended through October 9, 2008. "Direct Contact"

2. Alaska Department of Environmental Conservation (ADEC) Tables B1 & B2 of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control" Regulations as amended through October 9, 2008. "Migration to Groundwater"

3. Percent Calculated by weight

RPD - Relative Percent Difference

MRL- Method Reporting Limit

DF- Difference Factor

NC - Not Calculated

ND (X) - Not detected at concentrations above laboratory

detection limit (LDL) shown in parentheses.

X	Concentration exceeds ADEC standard for "Migration to Groundwater"
X	Concentration exceeds ADEC standard for "Direct Contact"
X	Concentration exceeds ADEC standard for both "Direct Contact" and "Migration to Groundwater"

MRL is above clean-up level (in bold, italics) ND (X)

TABLE 3
WhitePass Stockpile Sampling August 2010
Leachate Analysis (SPLP)

Location SCN Date QA/QC	ADEC Clean-up Levels GW ¹	C4 -c 5150-1 14-Aug-2010	C5 -c 5150-10 14-Aug-2010	C1 -c 5149-6 13-Aug-2010	C2-c 5148-2 13-Aug-2010	C3-c 5148-8 13-Aug-2010	C6-c 5151-6 14-Aug-2010
Petroleum Hydrocarbons (mg/L)							
Diesel Range Organics (DRO)	1.5	6.86	4.03	3.63	4.10	3.97	2.59
Polyaromatic Hydrocarbons (µg/L)							
Acenaphthene	2200	181	140	193	98.5	97.2	95.1
Acenaphthylene	2200	4.82	3.1	6.07	4.01	2.88	2.06
Anthracene	11000	22.3	11.2	14	12.2	5.93	7.93
Benzo (a) anthracene	1.2	7.36	2.94	4.77	7.63	3.22	1.52
Benzo (a) pyrene	0.2	ND	ND	ND	1.34	ND	ND
Benzo (b) fluoranthene	1.2	ND	ND	ND	2.13	0.963	ND
Benzo (ghi) perylene	1100	ND	ND	ND	ND	ND	ND
Benzo (k) fluoranthene	12	ND	ND	ND	1.55	ND	ND
Chrysene	120	6.46	2.8	3.89	5.88	3.17	1.43
Dibenzo (a,h) anthracene	0.12	ND	ND	ND	ND	ND	ND
Fluoranthene	1500	82	34.4	57.6	81.1	34.7	21.9
Fluorene	1500	142	73.2	92.6	45.4	16.1	47.8
Indeno (1,2,3-cd) pyrene	1.2	ND	ND	ND	ND	ND	ND
Naphthalene	730	2.57	ND	ND	ND	ND	ND
Phenanthrene	11000	195	77.3	91.9	29.4	ND	52.6
Pyrene	1100	47.8	20.3	32.7	49.2	21.1	12.3

Notes:

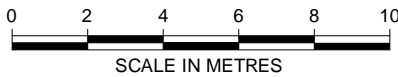
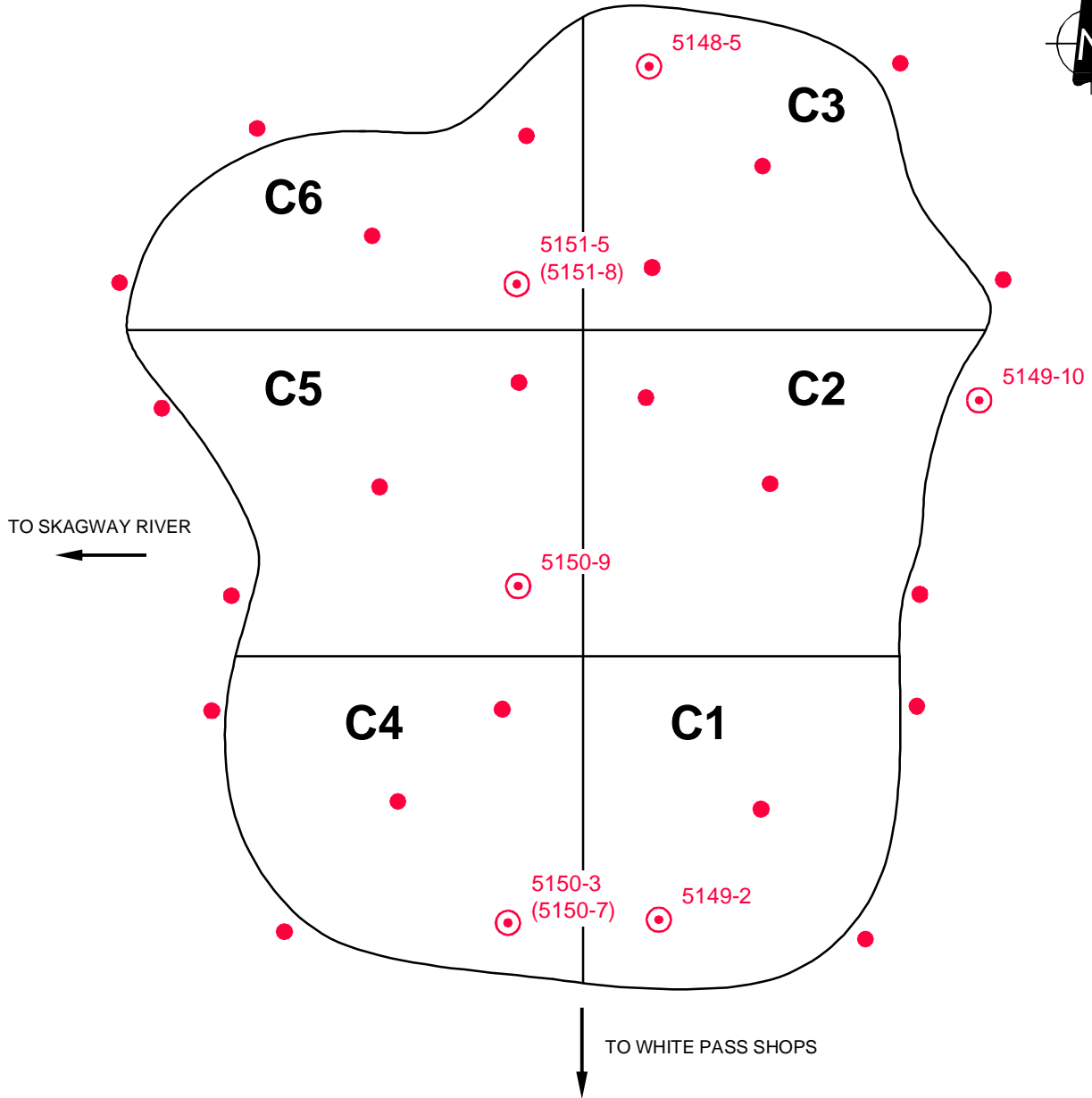
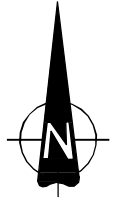
1. Alaska Department of Environmental Conservation (ADEC) Tables B1 & B2 of "18 AAC 75, Articles 3 and 9, Oil and Other Hazardous Substances Pollution Control" Regulations as amended through October 9, 2008. "Direct Contact"

FDA = Field Duplicate Available

FD = Field Duplicate

ND = (X) - Not detected at concentrations above laboratory detection limit (LDL) shown in parentheses.

X Shaded box indicates concentration equals or exceeds ADEC clean up levels.



DRAFT

LEGEND

- DISCRETE SAMPLE LOCATION
- ⊙ DISCRETE SAMPLE SUBMITTED FOR ANALYSIS

NOTES

1. (5150-7) and (5151-8) ARE DUPLICATE SAMPLES.
2. PILE APPROXIMATELY 5 m HIGH.
3. EACH SEGMENT (C1-C6) APPROXIMATELY 500 m³.
4. DISCRETE SAMPLES ON PARAMETER TAKEN FROM SIDE OF PILE.

PROJECT		WHITE PASS & YUKON ROUTE SHOPS SKAGWAY, ALASKA			
TITLE		WHITE PASS STOCKPILE SAMPLING LOCATION PLAN			
		PROJECT No. 96-1412-853B		PHASE No. 1000	
DESIGN	EL	19OCT10	SCALE	AS SHOWN	REV. --
CADD	GC	19OCT10	FIGURE 1		
CHECK					
REVIEW					



Amended Report

October 04, 2010

Erin Liebrecht
Golder Associates - Canada
500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

RE: Stock Pile WP/YR

Enclosed are the results of analyses for samples received by the laboratory on 08/16/10 15:00.
The following list is a summary of the Work Orders contained in this report, generated on 10/04/10 15:02.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
PTH0487	Stock Pile WP/YR	96-1412-853B

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
5150-1	PTH0487-01	Other dry	08/14/10 09:05	08/16/10 15:00
5150-3	PTH0487-03	Other dry	08/14/10 09:05	08/16/10 15:00
5150-9	PTH0487-09	Other dry	08/14/10 10:11	08/16/10 15:00
5150-10	PTH0487-10	Other dry	08/14/10 11:45	08/16/10 15:00

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:02

Analytical Case Narrative

TestAmerica - Portland, OR

PTH0487

10/4/10: Amended Report

This report includes additional analyses for SPLP 8270 SIM PAH and SPLP AK 102 (for Diesel) as requested by the client.

8/31/10:

The AK101 GRO/BTEX method requires soil/solid samples to be extracted into methanol within 48 hours of sampling. The samples requested for this analysis were not received by the lab as extracts. They were past the 48 hour time frame upon arrival. The samples were extracted by the lab. Due to the absorbant nature of the matrix (wood chips), 10 grams of sample was extracted into 50 mls of methanol with the appropriate surrogate.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0487-01RE1 (5150-1)		Other dry			Sampled: 08/14/10 09:05					N1
Gasoline Range Organics	AK101/8021B	148	----	56.7	mg/kg dry	2x	10H0547	08/17/10 15:00	08/19/10 10:19	Q1
Benzene	"	ND	----	0.284	"	"	"	"	"	RL3
Toluene	"	ND	----	1.42	"	"	"	"	"	RL3
Ethylbenzene	"	ND	----	1.42	"	"	"	"	"	RL3
Xylenes (total)	"	ND	----	1.42	"	"	"	"	"	RL3
<i>Surrogate(s): a,a,a-TFT (FID)</i>				117%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				109%		50 - 150 %	"			"

PTH0487-03RE1 (5150-3)		Other dry			Sampled: 08/14/10 09:05					N1
Gasoline Range Organics	AK101/8021B	399	----	87.6	mg/kg dry	2x	10H0547	08/17/10 15:00	08/19/10 10:48	Q1
Benzene	"	ND	----	0.438	"	"	"	"	"	RL3
Toluene	"	ND	----	2.19	"	"	"	"	"	RL3
Ethylbenzene	"	ND	----	2.19	"	"	"	"	"	RL3
Xylenes (total)	"	2.34	----	2.19	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				122%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				112%		50 - 150 %	"			"

PTH0487-09 (5150-9)		Other dry			Sampled: 08/14/10 10:11					N1
Gasoline Range Organics	AK101/8021B	63.2	----	39.2	mg/kg dry	1x	10H0547	08/17/10 15:00	08/19/10 00:26	Q1
Benzene	"	ND	----	0.196	"	"	"	"	"	
Toluene	"	ND	----	0.980	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.980	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.980	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				113%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				109%		50 - 150 %	"			"

PTH0487-10 (5150-10)		Other dry			Sampled: 08/14/10 11:45					N1
Gasoline Range Organics	AK101/8021B	220	----	49.7	mg/kg dry	1x	10H0547	08/17/10 15:00	08/19/10 00:55	Q1
Benzene	"	ND	----	0.249	"	"	"	"	"	
Toluene	"	ND	----	1.24	"	"	"	"	"	
Ethylbenzene	"	ND	----	1.24	"	"	"	"	"	
Xylenes (total)	"	ND	----	1.24	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				112%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				110%		50 - 150 %	"			"

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Diesel Range Organics (C10-C25) per AK102

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0487-01 (5150-1)		Other dry			Sampled: 08/14/10 09:05					
Diesel Range Organics	AK102	15200	----	336	mg/kg dry	20x	10H0676	08/20/10 09:35	08/20/10 17:16	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				10300%		50 - 150 %	"		"	Z3
PTH0487-03 (5150-3)		Other dry			Sampled: 08/14/10 09:05					
Diesel Range Organics	AK102	45800	----	520	mg/kg dry	20x	10H0676	08/20/10 09:35	08/20/10 17:33	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				NR		50 - 150 %	"		"	Z3
PTH0487-09 (5150-9)		Other dry			Sampled: 08/14/10 10:11					
Diesel Range Organics	AK102	10800	----	468	mg/kg dry	20x	10H0676	08/20/10 09:35	08/20/10 17:50	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				5300%		50 - 150 %	"		"	Z3
PTH0487-10 (5150-10)		Other dry			Sampled: 08/14/10 11:45					
Diesel Range Organics	AK102	12000	----	566	mg/kg dry	20x	10H0676	08/20/10 09:35	08/20/10 18:08	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				2600%		50 - 150 %	"		"	Z3

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Diesel Range Organics (C10-C25) per AK102 on SPLP Extracted Sample

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0487-01 (5150-1)		Other dry			Sampled: 08/14/10 09:05					
Diesel Range Organics	1312/AK102	6.86	----	0.250	mg/l	1x	1010878	09/29/10 11:00	09/30/10 17:36	
<i>Surrogate(s): 1-Chlorooctadecane</i>				91.5%		50 - 150 %	"			"
PTH0487-10 (5150-10)		Other dry			Sampled: 08/14/10 11:45					
Diesel Range Organics	1312/AK102	4.03	----	0.250	mg/l	1x	1010878	09/29/10 11:00	09/30/10 17:54	
<i>Surrogate(s): 1-Chlorooctadecane</i>				77.2%		50 - 150 %	"			"

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0487-01 (5150-1)										
										Other dry
										Sampled: 08/14/10 09:05
Acenaphthene	EPA 8270m	274000	----	6760	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 15:41	
Acenaphthylene	"	6780	----	6760	"	"	"	"	"	
Anthracene	"	316000	----	6760	"	"	"	"	"	
Benzo (a) anthracene	"	140000	----	6760	"	"	"	"	"	
Benzo (a) pyrene	"	41000	----	6760	"	"	"	"	"	
Benzo (b) fluoranthene	"	55100	----	6760	"	"	"	"	"	
Benzo (ghi) perylene	"	10300	----	6760	"	"	"	"	"	
Benzo (k) fluoranthene	"	48600	----	6760	"	"	"	"	"	
Chrysene	"	147000	----	6760	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	6760	"	"	"	"	"	
Fluoranthene	"	871000	----	67600	"	1000x	"	"	08/24/10 10:37	
Fluorene	"	385000	----	67600	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	10700	----	6760	"	100x	"	"	08/23/10 15:41	
Naphthalene	"	8800	----	6760	"	"	"	"	"	
Phenanthrene	"	1190000	----	6760	"	"	"	"	"	
Pyrene	"	549000	----	67600	"	1000x	"	"	08/24/10 10:37	
Surrogate(s):	Fluorene-d10			NR		24 - 125 %	100x		08/23/10 15:41	Z3
	Pyrene-d10			NR		41 - 141 %	"		"	Z3
	Benzo (a) pyrene-d12			NR		38 - 143 %	"		"	Z3

PTH0487-03 (5150-3)

Other dry

Sampled: 08/14/10 09:05

Acenaphthene	EPA 8270m	2370000	----	209000	ug/kg dry	2000x	10H0676	08/20/10 09:35	08/25/10 21:14	
Acenaphthylene	"	41900	----	5220	"	50x	"	"	08/23/10 14:02	
Anthracene	"	1040000	----	209000	"	2000x	"	"	08/25/10 21:14	
Benzo (a) anthracene	"	525000	----	209000	"	"	"	"	"	
Benzo (a) pyrene	"	121000	----	5220	"	50x	"	"	08/23/10 14:02	
Benzo (b) fluoranthene	"	184000	----	5220	"	"	"	"	"	
Benzo (ghi) perylene	"	26400	----	5220	"	"	"	"	"	
Benzo (k) fluoranthene	"	139000	----	5220	"	"	"	"	"	
Chrysene	"	538000	----	209000	"	2000x	"	"	08/25/10 21:14	
Dibenzo (a,h) anthracene	"	13200	----	5220	"	50x	"	"	08/23/10 14:02	
Fluoranthene	"	3480000	----	209000	"	2000x	"	"	08/25/10 21:14	
Fluorene	"	2290000	----	209000	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	32600	----	5220	"	50x	"	"	08/23/10 14:02	
Naphthalene	"	45200	----	5220	"	"	"	"	"	
Phenanthrene	"	6570000	----	209000	"	2000x	"	"	08/25/10 21:14	

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	-------	----------	----------	-------

PTH0487-03 (5150-3)

Other dry

Sampled: 08/14/10 09:05

Pyrene	EPA 8270m	202000	----	209000	ug/kg dry	2000x	10H0676	08/20/10 09:35	08/25/10 21:14	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	50x		08/23/10 14:02	Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"		"	Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"		"	Z3

PTH0487-09 (5150-9)

Other dry

Sampled: 08/14/10 10:11

Acenaphthene	EPA 8270m	184000	----	9400	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 16:12	
Acenaphthylene	"	ND	----	9400	"	"	"	"	"	
Anthracene	"	174000	----	9400	"	"	"	"	"	
Benzo (a) anthracene	"	86700	----	9400	"	"	"	"	"	
Benzo (a) pyrene	"	26700	----	9400	"	"	"	"	"	
Benzo (b) fluoranthene	"	35600	----	9400	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	9400	"	"	"	"	"	
Benzo (k) fluoranthene	"	30800	----	9400	"	"	"	"	"	
Chrysene	"	94800	----	9400	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	9400	"	"	"	"	"	
Fluoranthene	"	463000	----	94000	"	1000x	"	"	08/24/10 11:08	
Fluorene	"	212000	----	9400	"	100x	"	"	08/23/10 16:12	
Indeno (1,2,3-cd) pyrene	"	ND	----	9400	"	"	"	"	"	
Naphthalene	"	ND	----	9400	"	"	"	"	"	
Phenanthrene	"	652000	----	94000	"	1000x	"	"	08/24/10 11:08	
Pyrene	"	304000	----	9400	"	100x	"	"	08/23/10 16:12	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	"		"	Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"		"	Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"		"	Z3

PTH0487-10 (5150-10)

Other dry

Sampled: 08/14/10 11:45

Acenaphthene	EPA 8270m	234000	----	11400	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 16:44	
Acenaphthylene	"	ND	----	11400	"	"	"	"	"	
Anthracene	"	161000	----	11400	"	"	"	"	"	
Benzo (a) anthracene	"	104000	----	11400	"	"	"	"	"	
Benzo (a) pyrene	"	30400	----	11400	"	"	"	"	"	
Benzo (b) fluoranthene	"	42700	----	11400	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	11400	"	"	"	"	"	
Benzo (k) fluoranthene	"	32800	----	11400	"	"	"	"	"	
Chrysene	"	107000	----	11400	"	"	"	"	"	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:02

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0487-10 (5150-10)		Other dry			Sampled: 08/14/10 11:45					
Dibenzo (a,h) anthracene	EPA 8270m	ND	----	11400	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 16:44	
Fluoranthene	"	545000	----	11400	"	"	"	"	"	
Fluorene	"	247000	----	11400	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	11400	"	"	"	"	"	
Naphthalene	"	ND	----	11400	"	"	"	"	"	
Phenanthrene	"	777000	----	114000	"	1000x	"	"	08/24/10 11:39	
Pyrene	"	351000	----	11400	"	100x	"	"	08/23/10 16:44	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	"			" Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"			" Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"			" Z3

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0487-01 (5150-1)										H4
										Other dry
										Sampled: 08/14/10 09:05
Acenaphthene	1311-2/8270m	181	----	4.00	ug/l	10x	1010755	09/24/10 12:15	09/27/10 19:11	
Acenaphthylene	"	4.82	----	2.00	"	5x	"	"	09/28/10 14:37	
Anthracene	"	22.3	----	2.00	"	"	"	"	"	
Benzo (a) anthracene	"	7.36	----	2.00	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	2.00	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	2.00	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	2.00	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	2.00	"	"	"	"	"	
Chrysene	"	6.46	----	2.00	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	2.00	"	"	"	"	"	
Fluoranthene	"	82.0	----	2.00	"	"	"	"	"	
Fluorene	"	142	----	2.00	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	2.00	"	"	"	"	"	
Naphthalene	"	2.57	----	2.00	"	"	"	"	"	
Phenanthrene	"	195	----	4.00	"	10x	"	"	09/27/10 19:11	
Pyrene	"	47.8	----	2.00	"	5x	"	"	09/28/10 14:37	
Surrogate(s):	Fluorene-d10			82.6%		25 - 125 %	"			"
	Pyrene-d10			89.6%		23 - 150 %	"			"
	Benzo (a) pyrene-d12			80.1%		10 - 125 %	"			"

PTH0487-10 (5150-10)										H4
										Other dry
										Sampled: 08/14/10 11:45
Acenaphthene	1311-2/8270m	140	----	2.00	ug/l	5x	1010755	09/24/10 12:15	09/28/10 15:08	
Acenaphthylene	"	3.10	----	2.00	"	"	"	"	"	
Anthracene	"	11.2	----	2.00	"	"	"	"	"	
Benzo (a) anthracene	"	2.94	----	2.00	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	2.00	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	2.00	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	2.00	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	2.00	"	"	"	"	"	
Chrysene	"	2.80	----	2.00	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	2.00	"	"	"	"	"	
Fluoranthene	"	34.4	----	2.00	"	"	"	"	"	
Fluorene	"	73.2	----	2.00	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	2.00	"	"	"	"	"	
Naphthalene	"	ND	----	2.00	"	"	"	"	"	
Phenanthrene	"	77.3	----	2.00	"	"	"	"	"	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0487-10 (5150-10)										H4
				Other dry				Sampled: 08/14/10 11:45		
Pyrene	1311-2/8270m	20.3	----	2.00	ug/l	5x	1010755	09/24/10 12:15	09/28/10 15:08	
<i>Surrogate(s): Fluorene-d10</i>				77.9%		25 - 125 %	"			"
<i>Pyrene-d10</i>				84.6%		23 - 150 %	"			"
<i>Benzo (a) pyrene-d12</i>				76.9%		10 - 125 %	"			"

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Percent Dry Weight (Solids) per ASTM D2216-80

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0487-01 (5150-1)										Other dry
										Sampled: 08/14/10 09:05
% Solids	ASTM D2216-80	74.1	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	
PTH0487-03 (5150-3)										Other dry
										Sampled: 08/14/10 09:05
% Solids	ASTM D2216-80	47.3	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	
PTH0487-09 (5150-9)										Other dry
										Sampled: 08/14/10 10:11
% Solids	ASTM D2216-80	52.2	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	
PTH0487-10 (5150-10)										Other dry
										Sampled: 08/14/10 11:45
% Solids	ASTM D2216-80	44.0	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0547

Soil Preparation Method: EPA 5035 Modified

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Blank (10H0547-BLK1)

Extracted: 08/17/10 13:00

Gasoline Range Organics	AK101/8021 B	ND	---	3.98	mg/kg wet	1x	--	--	--	--	--	--	08/18/10 16:58	
Benzene	"	ND	---	0.0199	"	"	--	--	--	--	--	--	"	
Toluene	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"	
Ethylbenzene	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"	
Xylenes (total)	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"	

Surrogate(s): a,a,a-TFT (FID) Recovery: 112% Limits: 50-150% " 08/18/10 16:58
a,a,a-TFT (PID) 108% 50-150% " "

LCS (10H0547-BS1)

Extracted: 08/17/10 13:00

Benzene	AK101/8021 B	1.05	---	0.0198	mg/kg wet	1x	--	0.992	106%	(70-130)	--	--	08/18/10 15:03	
Toluene	"	1.02	---	0.0992	"	"	--	"	103%	"	--	--	"	
Ethylbenzene	"	1.08	---	0.0992	"	"	--	"	109%	"	--	--	"	
Xylenes (total)	"	3.16	---	0.0992	"	"	--	2.98	106%	"	--	--	"	

Surrogate(s): a,a,a-TFT (PID) Recovery: 114% Limits: 50-150% " 08/18/10 15:03

LCS (10H0547-BS2)

Extracted: 08/17/10 13:00

Gasoline Range Organics	AK101/8021 B	25.6	---	3.98	mg/kg wet	1x	--	24.9	103%	(60-120)	--	--	08/18/10 16:01	
-------------------------	-----------------	------	-----	------	-----------	----	----	------	------	----------	----	----	----------------	--

Surrogate(s): a,a,a-TFT (FID) Recovery: 111% Limits: 50-150% " 08/18/10 16:01

LCS Dup (10H0547-BSD1)

Extracted: 08/17/10 13:00

Benzene	AK101/8021 B	1.07	---	0.0196	mg/kg wet	1x	--	0.979	109%	(70-130)	1.73% (20)		08/18/10 15:32	
Toluene	"	1.00	---	0.0979	"	"	--	"	102%	"	1.69%	"	"	
Ethylbenzene	"	1.06	---	0.0979	"	"	--	"	109%	"	1.51%	"	"	
Xylenes (total)	"	3.10	---	0.0979	"	"	--	2.94	106%	"	1.87%	"	"	

Surrogate(s): a,a,a-TFT (PID) Recovery: 117% Limits: 50-150% " 08/18/10 15:32

LCS Dup (10H0547-BSD2)

Extracted: 08/17/10 13:00

Gasoline Range Organics	AK101/8021 B	26.4	---	3.97	mg/kg wet	1x	--	24.8	106%	(60-120)	3.26% (20)		08/18/10 16:29	
-------------------------	-----------------	------	-----	------	-----------	----	----	------	------	----------	------------	--	----------------	--

Surrogate(s): a,a,a-TFT (FID) Recovery: 115% Limits: 50-150% " 08/18/10 16:29

Duplicate (10H0547-DUP1)

QC Source: PTH0490-02

Extracted: 08/17/10 15:00

N1

Gasoline Range Organics	AK101/8021 B	232	---	49.1	mg/kg dry	1x	235	--	--	--	1.40% (50)		08/18/10 19:11	QP
-------------------------	-----------------	-----	-----	------	-----------	----	-----	----	----	----	------------	--	----------------	----

Surrogate(s): a,a,a-TFT (PID) Recovery: 114% Limits: 50-150% " 08/18/10 19:11

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0547

Soil Preparation Method: EPA 5035 Modified

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (10H0547-DUP2)				QC Source: PTH0490-05				Extracted: 08/17/10 15:00						N1
Gasoline Range Organics	AK101/8021 B	ND	---	32.4	mg/kg dry	1x	ND	--	--	--	3.72%	(50)	08/18/10 23:01	
<i>Surrogate(s): a,a,a-TFT (FID)</i>		<i>Recovery: 114%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>08/18/10 23:01</i>		
Matrix Spike (10H0547-MS1)				QC Source: PTH0490-08				Extracted: 08/17/10 15:00						N1
Benzene	AK101/8021 B	8.95	---	0.188	mg/kg dry	1x	ND	8.65	103%	(50-150)	--	--	08/18/10 18:14	
Toluene	"	8.63	---	0.941	"	"	0.109	"	98.4%	"	--	--	"	
Ethylbenzene	"	9.06	---	0.941	"	"	ND	"	105%	"	--	--	"	
Xylenes (total)	"	26.9	---	0.941	"	"	ND	26.0	104%	"	--	--	"	
<i>Surrogate(s): a,a,a-TFT (PID)</i>		<i>Recovery: 118%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>08/18/10 18:14</i>		
Matrix Spike Dup (10H0547-MSD1)				QC Source: PTH0490-08				Extracted: 08/17/10 15:00						N1
Benzene	AK101/8021 B	8.98	---	0.188	mg/kg dry	1x	ND	8.65	104%	(50-150)	0.378%	(20)	08/18/10 18:43	
Toluene	"	8.68	---	0.941	"	"	0.109	"	99.0%	"	0.603%	"	"	
Ethylbenzene	"	9.14	---	0.941	"	"	ND	"	106%	"	0.884%	"	"	
Xylenes (total)	"	27.2	---	0.941	"	"	ND	26.0	105%	"	0.989%	"	"	
<i>Surrogate(s): a,a,a-TFT (PID)</i>		<i>Recovery: 114%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>08/18/10 18:43</i>		

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Diesel Range Organics (C10-C25) per AK102 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0676

Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10H0676-BLK1)							Extracted: 08/20/10 09:35							
Diesel Range Organics	AK102	ND	---	12.5	mg/kg wet	1x	--	--	--	--	--	--	08/20/10 16:00	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 90.1%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>08/20/10 16:00</i>	
LCS (10H0676-BS1)							Extracted: 08/20/10 09:35							
Diesel Range Organics	AK102	132	---	12.5	mg/kg wet	1x	--	125	106%	(75-125)	--	--	08/20/10 15:43	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 88.7%</i>		<i>Limits: 60-120%</i>	<i>"</i>								<i>08/20/10 15:43</i>	
Duplicate (10H0676-DUP1)							QC Source: PTH0487-01			Extracted: 08/20/10 09:35				
Diesel Range Organics	AK102	14500	---	334	mg/kg dry	20x	15200	--	--	--	4.81% (40)		08/20/10 16:14	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 12000%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>08/20/10 16:14</i>	Z3
Duplicate (10H0676-DUP2)							QC Source: PTH0489-02			Extracted: 08/20/10 09:35				
Diesel Range Organics	AK102	6010	---	225	mg/kg dry	10x	6090	--	--	--	1.31% (40)		08/20/10 16:59	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 1780%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>08/20/10 16:59</i>	ZX

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Diesel Range Organics (C10-C25) per AK102 on SPLP Extracted Sample - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10I0878

Other dry Preparation Method: EPA 1312/3510

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10I0878-BLK1)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	09/30/10 16:26	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 85.5%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>09/30/10 16:26</i>	
Blank (10I0878-BLK2)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	ND	---	0.240	mg/l	1x	--	--	--	--	--	--	09/30/10 16:44	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 79.0%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>09/30/10 16:44</i>	
LCS (10I0878-BS1)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	2.10	---	0.250	mg/l	1x	--	2.50	83.9%	(75-125)	--	--	09/30/10 17:01	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 81.4%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>09/30/10 17:01</i>	
LCS Dup (10I0878-BSD1)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	2.01	---	0.250	mg/l	1x	--	2.50	80.6%	(75-125)	4.02% (20)		09/30/10 17:19	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 82.8%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>09/30/10 17:19</i>	

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:02

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 10H0676 Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10H0676-BLK1)													Extracted: 08/20/10 09:35	
Acenaphthene	EPA 8270m	197	---	50.2	ug/kg wet	1x	--	--	--	--	--	--	08/23/10 15:04	B1
Acenaphthylene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Fluorene	"	83.3	---	50.2	"	"	--	--	--	--	--	--	"	B1
Indeno (1,2,3-cd) pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	B1
Pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		Recovery:	66.6%	Limits:	24-125%	"							08/23/10 15:04	
Pyrene-d10			92.0%		41-141%	"							"	
Benzo (a) pyrene-d12			82.6%		38-143%	"							"	

LCS (10H0676-BS2)

Extracted: 08/20/10 09:35

Acenaphthene	EPA 8270m	269	---	50.2	ug/kg wet	1x	--	250	108%	(33-139)	--	--	08/23/10 14:33	
Benzo (a) pyrene	"	256	---	50.2	"	"	--	"	103%	(45-149)	--	--	"	
Pyrene	"	266	---	50.2	"	"	--	"	107%	(39-138)	--	--	"	
Surrogate(s): Fluorene-d10		Recovery:	91.0%	Limits:	24-125%	"							08/23/10 14:33	
Pyrene-d10			102%		41-141%	"							"	
Benzo (a) pyrene-d12			99.0%		38-143%	"							"	


Duplicate (10H0676-DUP1)

QC Source: PTH0487-01

Extracted: 08/20/10 09:35

Acenaphthene	EPA 8270m	278000	---	6710	ug/kg dry	100x	274000	--	--	--	1.47%	(40)	08/24/10 16:52	
Acenaphthylene	"	7060	---	6710	"	"	6780	--	--	--	4.02%	"	"	
Anthracene	"	274000	---	6710	"	"	316000	--	--	--	14.2%	"	"	
Benzo (a) anthracene	"	138000	---	6710	"	"	140000	--	--	--	0.862%	"	"	
Benzo (a) pyrene	"	38100	---	6710	"	"	41000	--	--	--	7.22%	"	"	
Benzo (b) fluoranthene	"	51100	---	6710	"	"	55100	--	--	--	7.50%	"	"	
Benzo (ghi) perylene	"	9720	---	6710	"	"	10300	--	--	--	5.50%	"	"	
Benzo (k) fluoranthene	"	47300	---	6710	"	"	48600	--	--	--	2.83%	"	"	
Chrysene	"	147000	---	6710	"	"	147000	--	--	--	0.582%	"	"	
Dibenzo (a,h) anthracene	"	ND	---	6710	"	"	ND	--	--	--	14.3%	"	"	
Fluoranthene	"	892000	---	67100	"	1000x	871000	--	--	--	2.36%	"	08/24/10 17:23	

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 10H0676

Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (10H0676-DUP1)			QC Source: PTH0487-01				Extracted: 08/20/10 09:35							
Fluorene	"	408000	---	67100	"	"	385000	--	--	--	5.81%	"	"	
Indeno (1,2,3-cd) pyrene	"	10600	---	6710	"	100x	10700	--	--	--	0.783%	"	08/24/10 16:52	
Naphthalene	"	11300	---	6710	"	"	8800	--	--	--	25.3%	"	"	
Phenanthrene	"	1480000	---	67100	"	1000x	1190000	--	--	--	21.3%	"	08/24/10 17:23	
Pyrene	"	571000	---	67100	"	"	549000	--	--	--	4.08%	"	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>NR</i>	<i>Limits: 24-125%</i>		<i>100x</i>							<i>08/24/10 16:52</i>	<i>Z3</i>
<i>Pyrene-d10</i>			<i>NR</i>	<i>41-141%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>
<i>Benzo (a) pyrene-d12</i>			<i>NR</i>	<i>38-143%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>
Duplicate (10H0676-DUP2)			QC Source: PTH0489-02				Extracted: 08/20/10 09:35							
Acenaphthene	EPA 8270m	92400	---	9040	ug/kg dry	100x	120000	--	--	--	25.9%	(40)	08/24/10 17:55	
Acenaphthylene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Anthracene	"	58400	---	9040	"	"	61300	--	--	--	4.77%	"	"	
Benzo (a) anthracene	"	29700	---	9040	"	"	45200	--	--	--	41.3%	"	"	R2
Benzo (a) pyrene	"	ND	---	9040	"	"	13000	--	--	--	37.1%	"	"	
Benzo (b) fluoranthene	"	11300	---	9040	"	"	17700	--	--	--	44.3%	"	"	R2
Benzo (ghi) perylene	"	ND	---	9040	"	"	ND	--	--	--	25.2%	"	"	
Benzo (k) fluoranthene	"	10300	---	9040	"	"	14000	--	--	--	30.8%	"	"	
Chrysene	"	33400	---	9040	"	"	45500	--	--	--	30.6%	"	"	
Dibenzo (a,h) anthracene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Fluoranthene	"	163000	---	9040	"	"	278000	--	--	--	52.2%	"	"	R2
Fluorene	"	70700	---	9040	"	"	106000	--	--	--	40.0%	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	9040	"	"	ND	--	--	--	36.1%	"	"	
Naphthalene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Phenanthrene	"	209000	---	9040	"	"	360000	--	--	--	53.1%	"	"	R2
Pyrene	"	110000	---	9040	"	"	163000	--	--	--	39.0%	"	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>NR</i>	<i>Limits: 24-125%</i>		<i>"</i>							<i>08/24/10 17:55</i>	<i>Z3</i>
<i>Pyrene-d10</i>			<i>NR</i>	<i>41-141%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>
<i>Benzo (a) pyrene-d12</i>			<i>NR</i>	<i>38-143%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:02

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10I0755

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10I0755-BLK1)													Extracted: 09/24/10 12:15	
Acenaphthene	1311-2/8270 m	ND	---	0.400	ug/l	1x	--	--	--	--	--	--	09/27/10 17:39	
Acenaphthylene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>81.3%</i>	<i>Limits: 25-125%</i>		<i>"</i>							<i>09/27/10 17:39</i>	
<i>Pyrene-d10</i>			<i>85.3%</i>	<i>23-150%</i>		<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>83.0%</i>	<i>10-125%</i>		<i>"</i>							<i>"</i>	

LCS (10I0755-BS1)

Extracted: 09/24/10 12:15

Acenaphthene	1311-2/8270 m	8.33	---	0.400	ug/l	1x	--	10.0	83.3%	(26-135)	--	--	09/27/10 18:10	
Benzo (a) pyrene	"	8.16	---	0.400	"	"	--	"	81.6%	(38-137)	--	--	"	
Pyrene	"	8.11	---	0.400	"	"	--	"	81.1%	(33-133)	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>79.8%</i>	<i>Limits: 25-125%</i>		<i>"</i>							<i>09/27/10 18:10</i>	
<i>Pyrene-d10</i>			<i>80.5%</i>	<i>23-150%</i>		<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>81.7%</i>	<i>10-125%</i>		<i>"</i>							<i>"</i>	

Matrix Spike (10I0755-MS1)

QC Source: PTH0487-01

Extracted: 09/24/10 12:15

Acenaphthene	1311-2/8270 m	210	---	8.00	ug/l	20x	181	10.0	285%	(26-135)	--	--	09/27/10 18:40	MHA
Benzo (a) pyrene	"	ND	---	8.00	"	"	ND	"	NR	(38-137)	--	--	"	M4
Pyrene	"	56.2	---	8.00	"	"	47.8	"	83.3%	(33-133)	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>87.2%</i>	<i>Limits: 25-125%</i>		<i>"</i>							<i>09/27/10 18:40</i>	
<i>Pyrene-d10</i>			<i>80.7%</i>	<i>23-150%</i>		<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>72.9%</i>	<i>10-125%</i>		<i>"</i>							<i>"</i>	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:02

Percent Dry Weight (Solids) per ASTM D2216-80 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0554

Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Duplicate (10H0554-DUP1)			QC Source: PTH0464-01					Extracted: 08/17/10 19:00							
% Solids	ASTM D2216-80	91.2	---	0.0100	% by Weight	1x	93.2	--	--	--	2.20% (20)		08/19/10 09:50		
Duplicate (10H0554-DUP2)			QC Source: PTH0464-02					Extracted: 08/17/10 19:00							
% Solids	ASTM D2216-80	92.4	---	0.0100	% by Weight	1x	92.4	--	--	--	0.0163% (20)		08/19/10 09:50		

TestAmerica Portland



Estella Rieben, Project Manager

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:02

Notes and Definitions

Report Specific Notes:

- B1 - Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
- H4 - Sample was extracted past holding time, but analyzed within analysis holding time.
- M4 - The sample required a dilution due to matrix interference. Because of this dilution, the matrix spike concentrations in the sample were reduced to a level where the recovery calculation does not provide useful information. See Blank Spike (LCS).
- MHA - Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- N1 - See case narrative.
- Q1 - Does not match typical pattern
- Q9 - Hydrocarbon pattern most closely resembles creosote or similar product.
- QP - Hydrocarbon result partly due to individual peak(s) in quantitation range.
- R2 - The RPD exceeded the acceptance limit.
- RL3 - Reporting limit raised due to high concentrations of non-target analytes.
- Z3 - The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:02

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*.
Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.
Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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CERTIFICATION SUMMARY

TestAmerica Portland

Method	Matrix	Alaska
1311-2/8270m	Other dry	
1312/AK102	Other dry	
AK101/8021B	Other dry	X
AK102	Other dry	X
ASTM D2216-80	Other dry	
EPA 1312	Other dry	
EPA 8270m	Other dry	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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CHAIN-OF-CUSTODY TEST REQUEST FORM

NL 5150



500 - 4260 Still Creek Drive
Burnaby, B.C.
Canada V5C 6C6
Tel: 604-296-4200
Fax: 604-298-5253
www.golder.com

Client Name: Golder Associates Client Contact: En Liebrecht Ship to: TEST AMERICA INC
Address: 2013 170 Titanium Way Phone: 867-334-7673 9405 Nimbus Ave. S.W
Whitnorse, YT Y1A 0G1 Fax: 867-633-6077 Beaverton, AB
Canada Sampled by: En Liebrecht Attn: Darrell Auvi Shipping Date: Aug 15, 2010

1 Collection Date (DD/MM/YYYY)	1 Time (24-h clock)	Sample Identification	2 Type of Each Sample	Material Safety Data Sheet Attached? (S)	Sample Collection Method G=grab C=composite	Number of Sample Containers x Volume of (1 x 20L)	Sample Container Type	3 Test(s) Requested			4 Sample Notes (preserved, saltwater, freshwater, may contain sewage...)
								DRO	GR	BTEX	
14/08/2010	9:05	5150-1	WOOD CHIP		G	2 x 90L	GS	✓	✓	✓	0-0.25m
	↓	5150-2						✓	✓	X	
	↓	5150-3						✓	✓	X	
	10:11	5150-4						✓	✓	X	
	↓	5150-5						✓	✓	X	
	↓	5150-6						✓	✓	X	
	↓	5150-7						✓	✓	X	
	↓	5150-8						✓	✓	X	
	↓	5150-9						✓	✓	X	
	11:45	5150-10						✓	✓	X	

Comments/Instructions: On Ice.

PO/Reference No. 96-1412-8533
Project Title Stoxx Rive WPIYR
Results Needed By _____
1) Released by: En Liebrecht Date: Aug 15, 2010
Company: Golder Associates Time: 11:11 am
Courier Name: NIKS, Goldstrack
2) Released by: _____ Date: _____
Company: _____ Time: _____
Courier Name: _____
1) Received by: En Liebrecht Date: 8/16/10 3:30
Company: TAP Time: 1500
2) Received by: _____ Date: _____
Company: _____ Time: _____
Courier Name: _____

1 For composite effluent or water samples, the sample collection date/time is the end of the composting period.
2 Receiving Water (RW); Effluent (E); Elutriate (ELU); Sediment (SED); Chemical (CHEM); Stormwater (SW); Other (Please Specify)
3 Collapsible Carboy (CC); glass jar (GJ); Jerry Can (JC); Plastic HDPE (P); Other (Please Specify)
4 Please note any conditions the lab should be aware of for safety and storage concerns

Distribution of copies: White, Yellow—accompany the shipment
Pink—kept by consignor (e.g. shipper)
Yellow—kept by consignee (e.g. receiver)
White—returned to consignor by consignee

TestAmerica Portland
Sample Receiving Checklist

Work Order #: PTH0487 Date/Time Received: 8/16/10 1500
 Client Name and Project: Golden White Pass

Time Zone:
 EDT/EST CDT/CST MDT/MST PDT/PST AK^{PS} OTHER

Unpacking Checks:

Cooler #(s): 1
 Temperatures: 3.8
 Digi #1 Digi #2 IR Gun (Plastic Glass)
Rayteck

Temperature out of Range:

Not enough or No Ice
 Ice Melted
 W/in 4 Hrs of collection
 Other: _____

Initials: PS

- | N/A | Yes | No | |
|-------------------------------------|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1. If ESI client, were temp blanks received? If no, document on NOD. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2. Cooler Seals intact? (N/A if hand delivered) if no, document on NOD. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. Chain of Custody present? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. Bottles received intact? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. Sample is not multiphasic? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. Proper Container and preservatives used? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. pH of all samples checked and meet requirements? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. Cyanide samples checked for sulfides and meet requirements? If no, notify PM. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9. HF Dilution required? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. Sufficient volume provided for all analysis? If no, document on NOD and consult PM before proceeding. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11. Did chain of custody agree with samples received? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12. Is the "Sampled by" section of the COC completed? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 13. Were VOA/Oil Syringe samples without headspace? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14. Were VOA vials preserved? <input type="checkbox"/> HCl <input type="checkbox"/> Sodium Thiosulfate <input type="checkbox"/> Ascorbic Acid |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 15. Did samples require preservation with sodium thiosulfate? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 16. If yes to #15, was the residual chlorine test negative? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 17. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 18. Is sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM before proceeding. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 19. Are analyses with short holding times received in hold? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 20. Was Standard Turn Around (TAT) requested? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 21. Receipt date(s) < 48 hours past the collection date(s)? If no, notify PM. |

TestAmerica Portland
Sample Receiving Checklist

Work Order #: PTH0487

Login Checks:

Initials: PS

N/A Yes No

- 22. Sufficient volume provided for all analysis? If no, document on NOD & contact PM.
- 23. Sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM.
- 24. Did the chain of custody include "received by" and "relinquished by" signatures, dates and times?
- 25. Were special log in instructions read and followed?
- 26. Were tests logged checked against the COC?
- 27. Were rush notices printed and delivered?
- 28. Were short hold notices printed and delivered?
- 29. Were subcontract COCs printed?
- 30. Was HF dilution logged?

Labeling and Storage Checks:

Initials: PS

N/A Yes No

- 31. Were the subcontracted samples/containers put in Sx fridge?
- 32. Were sample bottles and COC double checked for dissolved/filtered metals?
- 33. Did the sample ID, Date, and Time from label match what was logged?
- 34. Were Foreign sample stickers affixed to each container and containers stored in foreign fridge?
- 35. Were HF stickers affixed to each container, and containers stored in Sx fridge?
- 36. Was an NOD for created for noted discrepancies and placed in folder?

Document any problems or discrepancies and the actions taken to resolve them on a Notice of Discrepancy form (NOD).

Amended Report

October 04, 2010

Erin Liebrecht
Golder Associates - Canada
500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

RE: Stock Pile WP/YR

Enclosed are the results of analyses for samples received by the laboratory on 08/16/10 15:00.
The following list is a summary of the Work Orders contained in this report, generated on 10/04/10 15:14.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
PTH0489	Stock Pile WP/YR	96-1412-853B

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
5149-2	PTH0489-02	Other dry	08/13/10 16:00	08/16/10 15:00
5149-6	PTH0489-06	Other dry	08/13/10 16:00	08/16/10 15:00
5149-10	PTH0489-10	Other dry	08/13/10 16:00	08/16/10 15:00

TestAmerica Portland



Estella Rieben, Project Manager

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:14

Analytical Case Narrative

TestAmerica - Portland, OR

PTH0489

10/4/10: Amended Report

This report includes additional analyses for SPLP 8270 SIM PAH and SPLP AK 102 (for Diesel) as requested by the client.

8/31/10:

The AK101 GRO/BTEX method requires soil/solid samples to be extracted into methanol within 48 hours of sampling. The samples requested for this analysis were not received by the lab as extracts. They were past the 48 hour time frame upon arrival. The samples were extracted by the lab. Due to the absorbant nature of the matrix (wood chips), 10 grams of sample was extracted into 50 mls of methanol with the appropriate surrogate.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0489-02 (5149-2)										NI
										Other dry
										Sampled: 08/13/10 16:00
Gasoline Range Organics	AK101/8021B	55.0	----	38.5	mg/kg dry	1x	10H0547	08/17/10 15:00	08/18/10 23:58	Q1
Benzene	"	ND	----	0.192	"	"	"	"	"	
Toluene	"	ND	----	0.962	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.962	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.962	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				113%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				112%		50 - 150 %	"			"

PTH0489-06RE1 (5149-6)										NI
										Other dry
										Sampled: 08/13/10 16:00
Gasoline Range Organics	AK101/8021B	ND	----	41.6	mg/kg dry	1x	10H0547	08/17/10 15:00	08/19/10 09:21	
Benzene	"	ND	----	0.208	"	"	"	"	"	
Toluene	"	ND	----	1.04	"	"	"	"	"	
Ethylbenzene	"	ND	----	1.04	"	"	"	"	"	
Xylenes (total)	"	ND	----	1.04	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				114%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				117%		50 - 150 %	"			"

PTH0489-10RE1 (5149-10)										P-HS, NI
										Other dry
										Sampled: 08/13/10 16:00
Gasoline Range Organics	AK101/8021B	ND	----	24.6	mg/kg dry	1x	10H0547	08/17/10 15:00	08/19/10 08:52	
Benzene	"	ND	----	0.123	"	"	"	"	"	
Toluene	"	ND	----	0.614	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.614	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.614	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				114%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				115%		50 - 150 %	"			"

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Diesel Range Organics (C10-C25) per AK102

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0489-02 (5149-2)		Other dry			Sampled: 08/13/10 16:00					
Diesel Range Organics	AK102	6090	-----	229	mg/kg dry	10x	10H0676	08/20/10 09:35	08/23/10 11:12	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				3450%		50 - 150 %	"			" ZX
PTH0489-06 (5149-6)		Other dry			Sampled: 08/13/10 16:00					
Diesel Range Organics	AK102	10000	-----	470	mg/kg dry	20x	10H0676	08/20/10 09:35	08/23/10 11:29	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				5840%		50 - 150 %	"			" Z3
PTH0489-10 (5149-10)		Other dry			Sampled: 08/13/10 16:00					
Diesel Range Organics	AK102	8080	-----	302	mg/kg dry	20x	10H0676	08/20/10 09:35	08/23/10 11:46	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				13400%		50 - 150 %	"			" Z3

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:14

Diesel Range Organics (C10-C25) per AK102 on SPLP Extracted Sample

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0489-06 (5149-6)		Other dry			Sampled: 08/13/10 16:00					
Diesel Range Organics	1312/AK102	3.63	----	0.250	mg/l	1x	1010878	09/29/10 11:00	09/30/10 18:11	
Surrogate(s): 1-Chlorooctadecane				60.1%		50 - 150 %	"			"

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0489-02 (5149-2)										Other dry
										Sampled: 08/13/10 16:00
Acenaphthene	EPA 8270m	120000	----	9220	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 17:15	
Acenaphthylene	"	ND	----	9220	"	"	"	"	"	
Anthracene	"	61300	----	9220	"	"	"	"	"	
Benzo (a) anthracene	"	45200	----	9220	"	"	"	"	"	
Benzo (a) pyrene	"	13000	----	9220	"	"	"	"	"	
Benzo (b) fluoranthene	"	17700	----	9220	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	9220	"	"	"	"	"	
Benzo (k) fluoranthene	"	14000	----	9220	"	"	"	"	"	
Chrysene	"	45500	----	9220	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	9220	"	"	"	"	"	
Fluoranthene	"	278000	----	9220	"	"	"	"	"	
Fluorene	"	106000	----	9220	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	9220	"	"	"	"	"	
Naphthalene	"	ND	----	9220	"	"	"	"	"	
Phenanthrene	"	360000	----	9220	"	"	"	"	"	
Pyrene	"	163000	----	9220	"	"	"	"	"	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	"			" Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"			" Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"			" Z3

PTH0489-06 (5149-6)

Other dry

Sampled: 08/13/10 16:00

Acenaphthene	EPA 8270m	204000	----	9440	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 17:46	
Acenaphthylene	"	ND	----	9440	"	"	"	"	"	
Anthracene	"	154000	----	9440	"	"	"	"	"	
Benzo (a) anthracene	"	101000	----	9440	"	"	"	"	"	
Benzo (a) pyrene	"	31000	----	9440	"	"	"	"	"	
Benzo (b) fluoranthene	"	40700	----	9440	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	9440	"	"	"	"	"	
Benzo (k) fluoranthene	"	32500	----	9440	"	"	"	"	"	
Chrysene	"	111000	----	9440	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	9440	"	"	"	"	"	
Fluoranthene	"	523000	----	94400	"	1000x	"	"	08/24/10 12:40	
Fluorene	"	193000	----	9440	"	100x	"	"	08/23/10 17:46	
Indeno (1,2,3-cd) pyrene	"	ND	----	9440	"	"	"	"	"	
Naphthalene	"	ND	----	9440	"	"	"	"	"	
Phenanthrene	"	590000	----	94400	"	1000x	"	"	08/24/10 12:40	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0489-06 (5149-6)		Other dry			Sampled: 08/13/10 16:00					
Pyrene	EPA 8270m	334000	----	9440	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 17:46	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	"			" Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"			" Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"			" Z3
PTH0489-10 (5149-10)		Other dry			Sampled: 08/13/10 16:00					
Acenaphthene	EPA 8270m	42600	----	6060	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 18:17	
Acenaphthylene	"	ND	----	6060	"	"	"	"	"	
Anthracene	"	183000	----	6060	"	"	"	"	"	
Benzo (a) anthracene	"	158000	----	6060	"	"	"	"	"	
Benzo (a) pyrene	"	49000	----	6060	"	"	"	"	"	
Benzo (b) fluoranthene	"	67300	----	6060	"	"	"	"	"	
Benzo (ghi) perylene	"	11600	----	6060	"	"	"	"	"	
Benzo (k) fluoranthene	"	56200	----	6060	"	"	"	"	"	
Chrysene	"	163000	----	6060	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	6060	"	"	"	"	"	
Fluoranthene	"	783000	----	60600	"	1000x	"	"	08/24/10 13:12	
Fluorene	"	108000	----	6060	"	100x	"	"	08/23/10 18:17	
Indeno (1,2,3-cd) pyrene	"	13400	----	6060	"	"	"	"	"	
Naphthalene	"	ND	----	6060	"	"	"	"	"	
Phenanthrene	"	257000	----	6060	"	"	"	"	"	
Pyrene	"	572000	----	60600	"	1000x	"	"	08/24/10 13:12	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	100x		08/23/10 18:17	Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"			" Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"			" Z3

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0489-06 (5149-6)				Other dry			Sampled: 08/13/10 16:00			H4
Acenaphthene	1311-2/8270m	193	----	2.00	ug/l	5x	1010755	09/24/10 12:15	09/28/10 15:38	
Acenaphthylene	"	6.07	----	2.00	"	"	"	"	"	
Anthracene	"	14.0	----	2.00	"	"	"	"	"	
Benzo (a) anthracene	"	4.77	----	2.00	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	2.00	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	2.00	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	2.00	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	2.00	"	"	"	"	"	
Chrysene	"	3.89	----	2.00	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	2.00	"	"	"	"	"	
Fluoranthene	"	57.6	----	2.00	"	"	"	"	"	
Fluorene	"	92.6	----	2.00	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	2.00	"	"	"	"	"	
Naphthalene	"	ND	----	2.00	"	"	"	"	"	
Phenanthrene	"	91.9	----	2.00	"	"	"	"	"	
Pyrene	"	32.7	----	2.00	"	"	"	"	"	
<i>Surrogate(s): Fluorene-d10</i>				83.6%		25 - 125 %	"			"
<i>Pyrene-d10</i>				89.7%		23 - 150 %	"			"
<i>Benzo (a) pyrene-d12</i>				83.6%		10 - 125 %	"			"

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:14

Percent Dry Weight (Solids) per ASTM D2216-80

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0489-02 (5149-2)		Other dry			Sampled: 08/13/10 16:00					
% Solids	ASTM D2216-80	54.3	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	
PTH0489-06 (5149-6)		Other dry			Sampled: 08/13/10 16:00					
% Solids	ASTM D2216-80	52.2	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	
PTH0489-10 (5149-10)		Other dry			Sampled: 08/13/10 16:00					
% Solids	ASTM D2216-80	81.4	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0547

Soil Preparation Method: EPA 5035 Modified

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes			
Blank (10H0547-BLK1)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101/8021 B	ND	---	3.98	mg/kg wet	1x	--	--	--	--	--	--	08/18/10 16:58				
Benzene	"	ND	---	0.0199	"	"	--	--	--	--	--	--	"				
Toluene	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"				
Ethylbenzene	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"				
Xylenes (total)	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"				
Surrogate(s): a,a,a-TFT (FID)		Recovery: 112%		Limits: 50-150%		"						08/18/10 16:58					
a,a,a-TFT (PID)		108%		50-150%		"						"					
LCS (10H0547-BS1)													Extracted: 08/17/10 13:00				
Benzene	AK101/8021 B	1.05	---	0.0198	mg/kg wet	1x	--	0.992	106%	(70-130)	--	--	08/18/10 15:03				
Toluene	"	1.02	---	0.0992	"	"	--	"	103%	"	--	--	"				
Ethylbenzene	"	1.08	---	0.0992	"	"	--	"	109%	"	--	--	"				
Xylenes (total)	"	3.16	---	0.0992	"	"	--	2.98	106%	"	--	--	"				
Surrogate(s): a,a,a-TFT (PID)		Recovery: 114%		Limits: 50-150%		"						08/18/10 15:03					
LCS (10H0547-BS2)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101/8021 B	25.6	---	3.98	mg/kg wet	1x	--	24.9	103%	(60-120)	--	--	08/18/10 16:01				
Surrogate(s): a,a,a-TFT (FID)		Recovery: 111%		Limits: 50-150%		"						08/18/10 16:01					
LCS Dup (10H0547-BSD1)													Extracted: 08/17/10 13:00				
Benzene	AK101/8021 B	1.07	---	0.0196	mg/kg wet	1x	--	0.979	109%	(70-130)	1.73% (20)		08/18/10 15:32				
Toluene	"	1.00	---	0.0979	"	"	--	"	102%	"	1.69%	"	"				
Ethylbenzene	"	1.06	---	0.0979	"	"	--	"	109%	"	1.51%	"	"				
Xylenes (total)	"	3.10	---	0.0979	"	"	--	2.94	106%	"	1.87%	"	"				
Surrogate(s): a,a,a-TFT (PID)		Recovery: 117%		Limits: 50-150%		"						08/18/10 15:32					
LCS Dup (10H0547-BSD2)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101/8021 B	26.4	---	3.97	mg/kg wet	1x	--	24.8	106%	(60-120)	3.26% (20)		08/18/10 16:29				
Surrogate(s): a,a,a-TFT (FID)		Recovery: 115%		Limits: 50-150%		"						08/18/10 16:29					
Duplicate (10H0547-DUP1)													QC Source: PTH0490-02		Extracted: 08/17/10 15:00		N1
Gasoline Range Organics	AK101/8021 B	232	---	49.1	mg/kg dry	1x	235	--	--	--	1.40% (50)		08/18/10 19:11	QP			
Surrogate(s): a,a,a-TFT (FID)		Recovery: 114%		Limits: 50-150%		"						08/18/10 19:11					

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0547

Soil Preparation Method: EPA 5035 Modified

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	---------------	-----------	-------	----------	-------	----------	----------	-------

Duplicate (10H0547-DUP2)

QC Source: PTH0490-05

Extracted: 08/17/10 15:00

N1

Gasoline Range Organics	AK101/8021 B	ND	---	32.4	mg/kg dry	1x	ND	--	--	--	3.72%	(50)	08/18/10 23:01	
-------------------------	-----------------	----	-----	------	-----------	----	----	----	----	----	-------	------	----------------	--

Surrogate(s): a,a,a-TFT (FID) Recovery: 114% Limits: 50-150% " 08/18/10 23:01

Matrix Spike (10H0547-MS1)

QC Source: PTH0490-08

Extracted: 08/17/10 15:00

N1

Benzene	AK101/8021 B	8.95	---	0.188	mg/kg dry	1x	ND	8.65	103%	(50-150)	--	--	08/18/10 18:14	
Toluene	"	8.63	---	0.941	"	"	0.109	"	98.4%	"	--	--	"	
Ethylbenzene	"	9.06	---	0.941	"	"	ND	"	105%	"	--	--	"	
Xylenes (total)	"	26.9	---	0.941	"	"	ND	26.0	104%	"	--	--	"	

Surrogate(s): a,a,a-TFT (PID) Recovery: 118% Limits: 50-150% " 08/18/10 18:14

Matrix Spike Dup (10H0547-MSD1)

QC Source: PTH0490-08

Extracted: 08/17/10 15:00

N1

Benzene	AK101/8021 B	8.98	---	0.188	mg/kg dry	1x	ND	8.65	104%	(50-150)	0.378%	(20)	08/18/10 18:43	
Toluene	"	8.68	---	0.941	"	"	0.109	"	99.0%	"	0.603%	"	"	
Ethylbenzene	"	9.14	---	0.941	"	"	ND	"	106%	"	0.884%	"	"	
Xylenes (total)	"	27.2	---	0.941	"	"	ND	26.0	105%	"	0.989%	"	"	

Surrogate(s): a,a,a-TFT (PID) Recovery: 114% Limits: 50-150% " 08/18/10 18:43

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Diesel Range Organics (C10-C25) per AK102 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0676

Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes		
Blank (10H0676-BLK1)													Extracted: 08/20/10 09:35			
Diesel Range Organics	AK102	ND	---	12.5	mg/kg wet	1x	--	--	--	--	--	--	08/20/10 16:00			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 90.1%</i>		<i>Limits: 50-150%</i>	<i>"</i>								08/20/10 16:00			
LCS (10H0676-BS1)													Extracted: 08/20/10 09:35			
Diesel Range Organics	AK102	132	---	12.5	mg/kg wet	1x	--	125	106%	(75-125)	--	--	08/20/10 15:43			
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 88.7%</i>		<i>Limits: 60-120%</i>	<i>"</i>								08/20/10 15:43			
Duplicate (10H0676-DUP1)													QC Source: PTH0487-01		Extracted: 08/20/10 09:35	
Diesel Range Organics	AK102	14500	---	334	mg/kg dry	20x	15200	--	--	--	4.81% (40)		08/20/10 16:14	Q9		
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 12000%</i>		<i>Limits: 50-150%</i>	<i>"</i>								08/20/10 16:14	Z3		
Duplicate (10H0676-DUP2)													QC Source: PTH0489-02		Extracted: 08/20/10 09:35	
Diesel Range Organics	AK102	6010	---	225	mg/kg dry	10x	6090	--	--	--	1.31% (40)		08/20/10 16:59	Q9		
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 1780%</i>		<i>Limits: 50-150%</i>	<i>"</i>								08/20/10 16:59	ZX		

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Diesel Range Organics (C10-C25) per AK102 on SPLP Extracted Sample - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10I0878

Other dry Preparation Method: EPA 1312/3510

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10I0878-BLK1)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	09/30/10 16:26	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 85.5%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>09/30/10 16:26</i>	
Blank (10I0878-BLK2)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	ND	---	0.240	mg/l	1x	--	--	--	--	--	--	09/30/10 16:44	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 79.0%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>09/30/10 16:44</i>	
LCS (10I0878-BS1)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	2.10	---	0.250	mg/l	1x	--	2.50	83.9%	(75-125)	--	--	09/30/10 17:01	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 81.4%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>09/30/10 17:01</i>	
LCS Dup (10I0878-BSD1)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	2.01	---	0.250	mg/l	1x	--	2.50	80.6%	(75-125)	4.02% (20)		09/30/10 17:19	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 82.8%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>09/30/10 17:19</i>	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:14

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 10H0676 Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10H0676-BLK1)													Extracted: 08/20/10 09:35	
Acenaphthene	EPA 8270m	197	---	50.2	ug/kg wet	1x	--	--	--	--	--	--	08/23/10 15:04	B1
Acenaphthylene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Fluorene	"	83.3	---	50.2	"	"	--	--	--	--	--	--	"	B1
Indeno (1,2,3-cd) pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	B1
Pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		Recovery:	66.6%	Limits:	24-125%	"							08/23/10 15:04	
Pyrene-d10			92.0%		41-141%	"							"	
Benzo (a) pyrene-d12			82.6%		38-143%	"							"	

LCS (10H0676-BS2)

Extracted: 08/20/10 09:35

Acenaphthene	EPA 8270m	269	---	50.2	ug/kg wet	1x	--	250	108%	(33-139)	--	--	08/23/10 14:33	
Benzo (a) pyrene	"	256	---	50.2	"	"	--	"	103%	(45-149)	--	--	"	
Pyrene	"	266	---	50.2	"	"	--	"	107%	(39-138)	--	--	"	
Surrogate(s): Fluorene-d10		Recovery:	91.0%	Limits:	24-125%	"							08/23/10 14:33	
Pyrene-d10			102%		41-141%	"							"	
Benzo (a) pyrene-d12			99.0%		38-143%	"							"	


Duplicate (10H0676-DUP1)

QC Source: PTH0487-01

Extracted: 08/20/10 09:35

Acenaphthene	EPA 8270m	278000	---	6710	ug/kg dry	100x	274000	--	--	--	1.47%	(40)	08/24/10 16:52	
Acenaphthylene	"	7060	---	6710	"	"	6780	--	--	--	4.02%	"	"	
Anthracene	"	274000	---	6710	"	"	316000	--	--	--	14.2%	"	"	
Benzo (a) anthracene	"	138000	---	6710	"	"	140000	--	--	--	0.862%	"	"	
Benzo (a) pyrene	"	38100	---	6710	"	"	41000	--	--	--	7.22%	"	"	
Benzo (b) fluoranthene	"	51100	---	6710	"	"	55100	--	--	--	7.50%	"	"	
Benzo (ghi) perylene	"	9720	---	6710	"	"	10300	--	--	--	5.50%	"	"	
Benzo (k) fluoranthene	"	47300	---	6710	"	"	48600	--	--	--	2.83%	"	"	
Chrysene	"	147000	---	6710	"	"	147000	--	--	--	0.582%	"	"	
Dibenzo (a,h) anthracene	"	ND	---	6710	"	"	ND	--	--	--	14.3%	"	"	
Fluoranthene	"	892000	---	67100	"	1000x	871000	--	--	--	2.36%	"	08/24/10 17:23	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0676

Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (10H0676-DUP1)			QC Source: PTH0487-01				Extracted: 08/20/10 09:35							
Fluorene	"	408000	---	67100	"	"	385000	--	--	--	5.81%	"	"	
Indeno (1,2,3-cd) pyrene	"	10600	---	6710	"	100x	10700	--	--	--	0.783%	"	08/24/10 16:52	
Naphthalene	"	11300	---	6710	"	"	8800	--	--	--	25.3%	"	"	
Phenanthrene	"	1480000	---	67100	"	1000x	1190000	--	--	--	21.3%	"	08/24/10 17:23	
Pyrene	"	571000	---	67100	"	"	549000	--	--	--	4.08%	"	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>NR</i>	<i>Limits: 24-125%</i>		<i>100x</i>							<i>08/24/10 16:52</i>	<i>Z3</i>
<i>Pyrene-d10</i>			<i>NR</i>	<i>41-141%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>
<i>Benzo (a) pyrene-d12</i>			<i>NR</i>	<i>38-143%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>
Duplicate (10H0676-DUP2)			QC Source: PTH0489-02				Extracted: 08/20/10 09:35							
Acenaphthene	EPA 8270m	92400	---	9040	ug/kg dry	100x	120000	--	--	--	25.9% (40)	"	08/24/10 17:55	
Acenaphthylene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Anthracene	"	58400	---	9040	"	"	61300	--	--	--	4.77%	"	"	
Benzo (a) anthracene	"	29700	---	9040	"	"	45200	--	--	--	41.3%	"	"	R2
Benzo (a) pyrene	"	ND	---	9040	"	"	13000	--	--	--	37.1%	"	"	
Benzo (b) fluoranthene	"	11300	---	9040	"	"	17700	--	--	--	44.3%	"	"	R2
Benzo (ghi) perylene	"	ND	---	9040	"	"	ND	--	--	--	25.2%	"	"	
Benzo (k) fluoranthene	"	10300	---	9040	"	"	14000	--	--	--	30.8%	"	"	
Chrysene	"	33400	---	9040	"	"	45500	--	--	--	30.6%	"	"	
Dibenzo (a,h) anthracene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Fluoranthene	"	163000	---	9040	"	"	278000	--	--	--	52.2%	"	"	R2
Fluorene	"	70700	---	9040	"	"	106000	--	--	--	40.0%	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	9040	"	"	ND	--	--	--	36.1%	"	"	
Naphthalene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Phenanthrene	"	209000	---	9040	"	"	360000	--	--	--	53.1%	"	"	R2
Pyrene	"	110000	---	9040	"	"	163000	--	--	--	39.0%	"	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>NR</i>	<i>Limits: 24-125%</i>		<i>"</i>							<i>08/24/10 17:55</i>	<i>Z3</i>
<i>Pyrene-d10</i>			<i>NR</i>	<i>41-141%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>
<i>Benzo (a) pyrene-d12</i>			<i>NR</i>	<i>38-143%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:14

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10I0755

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10I0755-BLK1)													Extracted: 09/24/10 12:15	
Acenaphthene	1311-2/8270 m	ND	---	0.400	ug/l	1x	--	--	--	--	--	--	09/27/10 17:39	
Acenaphthylene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>81.3%</i>	<i>Limits: 25-125%</i>		<i>"</i>							<i>09/27/10 17:39</i>	
<i>Pyrene-d10</i>			<i>85.3%</i>	<i>23-150%</i>		<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>83.0%</i>	<i>10-125%</i>		<i>"</i>							<i>"</i>	

LCS (10I0755-BS1)

Extracted: 09/24/10 12:15

Acenaphthene	1311-2/8270 m	8.33	---	0.400	ug/l	1x	--	10.0	83.3%	(26-135)	--	--	09/27/10 18:10	
Benzo (a) pyrene	"	8.16	---	0.400	"	"	--	"	81.6%	(38-137)	--	--	"	
Pyrene	"	8.11	---	0.400	"	"	--	"	81.1%	(33-133)	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>79.8%</i>	<i>Limits: 25-125%</i>		<i>"</i>							<i>09/27/10 18:10</i>	
<i>Pyrene-d10</i>			<i>80.5%</i>	<i>23-150%</i>		<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>81.7%</i>	<i>10-125%</i>		<i>"</i>							<i>"</i>	

Matrix Spike (10I0755-MS1)

QC Source: PTH0487-01

Extracted: 09/24/10 12:15

Acenaphthene	1311-2/8270 m	210	---	8.00	ug/l	20x	181	10.0	285%	(26-135)	--	--	09/27/10 18:40	MHA
Benzo (a) pyrene	"	ND	---	8.00	"	"	ND	"	NR	(38-137)	--	--	"	M4
Pyrene	"	56.2	---	8.00	"	"	47.8	"	83.3%	(33-133)	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>87.2%</i>	<i>Limits: 25-125%</i>		<i>"</i>							<i>09/27/10 18:40</i>	
<i>Pyrene-d10</i>			<i>80.7%</i>	<i>23-150%</i>		<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>72.9%</i>	<i>10-125%</i>		<i>"</i>							<i>"</i>	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:14

Percent Dry Weight (Solids) per ASTM D2216-80 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0554

Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Duplicate (10H0554-DUP1)			QC Source: PTH0464-01					Extracted: 08/17/10 19:00							
% Solids	ASTM D2216-80	91.2	---	0.0100	% by Weight	1x	93.2	--	--	--	2.20% (20)		08/19/10 09:50		
Duplicate (10H0554-DUP2)			QC Source: PTH0464-02					Extracted: 08/17/10 19:00							
% Solids	ASTM D2216-80	92.4	---	0.0100	% by Weight	1x	92.4	--	--	--	0.0163% (20)		08/19/10 09:50		

TestAmerica Portland



Estella Rieben, Project Manager

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:14

Notes and Definitions

Report Specific Notes:

- B1 - Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
- H4 - Sample was extracted past holding time, but analyzed within analysis holding time.
- M4 - The sample required a dilution due to matrix interference. Because of this dilution, the matrix spike concentrations in the sample were reduced to a level where the recovery calculation does not provide useful information. See Blank Spike (LCS).
- MHA - Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- N1 - See case narrative.
- P-HS - Sample container contained headspace.
- Q1 - Does not match typical pattern
- Q9 - Hydrocarbon pattern most closely resembles creosote or similar product.
- QP - Hydrocarbon result partly due to individual peak(s) in quantitation range.
- R2 - The RPD exceeded the acceptance limit.
- Z3 - The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

TestAmerica Portland



Estella Rieben, Project Manager

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:14

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*.
Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.
Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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CERTIFICATION SUMMARY

TestAmerica Portland

Method	Matrix	Alaska
1311-2/8270m	Other dry	
1312/AK102	Other dry	
AK101/8021B	Other dry	X
AK102	Other dry	X
ASTM D2216-80	Other dry	
EPA 1312	Other dry	
EPA 8270m	Other dry	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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CHAIN-OF-CUSTODY TEST REQUEST FORM

NL 5149
 500 - 4260 Still Creek Drive
 Burnaby, B.C.
 Canada V5C 6C6
 Tel: 604-296-4200
 Fax: 604-298-5253
 www.golder.com



Shipping Date: Aug 15, 2010

Client Name: Golder Associates Client Contact: Erin Liebrecht Ship to: TEST AMERICA
 Address: 2018 De Titanium Way Phone: 867-334-7673 9405 SW Nimbus Ave.
Whitehorse, YT Fax: 867-633-6011 Beaverton, OR 97008
Y1A 0G1, Canada. Sampled by: Erin Liebrecht Attn: Darrell Auvi

1		1		2		3		4	
Collection Date (DD/MM/YYYY)	Time (24-h clock)	Sample Identification	Type of Each Sample	Material Safety Data Sheet Attached? (✓)	Sample Collection Method G=grab C=composite	Number of Sample Containers x Volume of Sample Containers (1 x 20L)	Sample Container Type	Test(s) Requested	Sample Notes (preserved, saltwater, freshwater, may contain sewage...)
<u>13/08/2010</u>	<u>16:00</u>	<u>5149-1</u>	<u>WAD CHIP</u>		<u>G</u>	<u>2x9oz GJ</u>	<u>GJ</u>	<u>DR GR</u>	
		<u>5149-2</u>							
		<u>5149-3</u>							
		<u>5149-4</u>							
		<u>5149-5</u>							
		<u>5149-6</u>							
		<u>5149-7</u>							
		<u>5149-8</u>							
		<u>5149-9</u>							
		<u>5149-10</u>							
PO/Reference No. <u>96-1412-853B</u> Project Title <u>Stock Pile WP/NR</u> Results Needed By _____ Comments/Instructions <u>ON ICE</u>									
1) Released by: <u>Erin Liebrecht</u> Date: <u>Aug 15, 2010</u> Company: <u>Golder Associates</u> Time: <u>11:11am</u> Courier Name: <u>WINAS, Fieldbreak</u>			2) Released by: _____ Date: _____ Company: _____ Time: _____ Courier Name: _____			3) Released by: _____ Date: _____ Company: _____ Time: _____ Courier Name: _____			
1) Received by: <u>Erin Liebrecht</u> Date: <u>8/16/10</u> Company: <u>TD</u> Time: <u>1500</u>			2) Received by: _____ Date: _____ Company: _____ Time: _____			3) Received by: _____ Date: _____ Company: _____ Time: _____			

1 For composite effluent or water samples, the sample collection date/time is the end of the compositing period.
 2 Receiving Water (RW): Effluent (E); Elutriate (ELU); Sediment (SED); Chemical (CHEM); Stormwater (SW); Other (Please Specify)
 3 Collapsible Carboy (CC); glass jar (GJ); Jerry Can (JC); Plastic HDPE (P); Other (Please Specify)
 4 Please note any conditions the lab should be aware of for safety and storage concerns

Distribution of copies: White, Yellow—accompany the shipment
 Pink—kept by consignor (e.g. shipper)
 Yellow—kept by consignee (e.g. receiver)
 White—returned to consignor by consignee

TestAmerica Portland
Sample Receiving Checklist

Work Order #: PTH0489 Date/Time Received: 8/16/10 1500
 Client Name and Project: Golden White Pass

Time Zone:
 EDT/EST CDT/CST MDT/MST PDT/PST AK OTHER

Unpacking Checks:

Cooler #(s): 1
 Temperatures: 3.8
 Digi #1 Digi #2 IR Gun (Plastic Glass)
Rayteek

Temperature out of Range:

Not enough or No Ice
 Ice Melted
 W/in 4 Hrs of collection
 Other: _____

N/A Yes No

Initials: PS

- 1. If ESI client, were temp blanks received? If no, document on NOD.
- 2. Cooler Seals intact? (N/A if hand delivered) if no, document on NOD. PS
- 3. Chain of Custody present? If no, document on NOD.
- 4. Bottles received intact? If no, document on NOD.
- 5. Sample is not multiphasic? If no, document on NOD.
- 6. Proper Container and preservatives used? If no, document on NOD.
- 7. pH of all samples checked and meet requirements? If no, document on NOD.
- 8. Cyanide samples checked for sulfides and meet requirements? If no, notify PM.
- 9. HF Dilution required?
- 10. Sufficient volume provided for all analysis? If no, document on NOD and consult PM before proceeding.
- 11. Did chain of custody agree with samples received? If no, document on NOD.
- 12. Is the "Sampled by" section of the COC completed?
- 13. Were VOA/Oil Syringe samples without headspace?
- 14. Were VOA vials preserved? HCl Sodium Thiosulfate Ascorbic Acid
- 15. Did samples require preservation with sodium thiosulfate?
- 16. If yes to #15, was the residual chlorine test negative? If no, document on NOD.
- 17. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD.
- 18. Is sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM before proceeding.
- 19. Are analyses with short holding times received in hold?
- 20. Was Standard Turn Around (TAT) requested?
- 21. Receipt date(s) < 48 hours past the collection date(s)? If no, notify PM.

TestAmerica Portland
Sample Receiving Checklist

Work Order #: PTH0489

Login Checks:

Initials: PS

N/A Yes No

22. Sufficient volume provided for all analysis? If no, document on NOD & contact PM.
23. Sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM.
24. Did the chain of custody include "received by" and "relinquished by" signatures, dates and times?
25. Were special log in instructions read and followed?
26. Were tests logged checked against the COC?
27. Were rush notices printed and delivered?
28. Were short hold notices printed and delivered?
29. Were subcontract COCs printed?
30. Was HF dilution logged?

Labeling and Storage Checks:

Initials: PS

N/A Yes No

31. Were the subcontracted samples/containers put in Sx fridge?
32. Were sample bottles and COC double checked for dissolved/filtered metals?
33. Did the sample ID, Date, and Time from label match what was logged?
34. Were Foreign sample stickers affixed to each container and containers stored in foreign fridge?
35. Were HF stickers affixed to each container, and containers stored in Sx fridge?
36. Was an NOD for created for noted discrepancies and placed in folder?

Document any problems or discrepancies and the actions taken to resolve them on a Notice of Discrepancy form (NOD).

Amended Report

October 04, 2010

Erin Liebrecht
Golder Associates - Canada
500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

RE: Stock Pile WP/YR

Enclosed are the results of analyses for samples received by the laboratory on 08/16/10 15:00.
The following list is a summary of the Work Orders contained in this report, generated on 10/04/10 15:17.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
PTH0490	Stock Pile WP/YR	96-1412-853B

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
5148-2	PTH0490-02	Other dry	08/13/10 16:46	08/16/10 15:00
5148-5	PTH0490-05	Other dry	08/13/10 16:46	08/16/10 15:00
5148-8	PTH0490-08	Other dry	08/13/10 16:46	08/16/10 15:00

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:17

Analytical Case Narrative

TestAmerica - Portland, OR

PTH0490

10/4/10: Amended Report

This report includes additional analyses for SPLP 8270 SIM PAH and SPLP AK 102 (for Diesel) as requested by the client.

8/31/10:

The AK101 GRO/BTEX method requires soil/solid samples to be extracted into methanol within 48 hours of sampling. The samples requested for this analysis were not received by the lab as extracts. They were past the 48 hour time frame upon arrival. The samples were extracted by the lab. Due to the absorbant nature of the matrix (wood chips), 10 grams of sample was extracted into 50 mls of methanol with the appropriate surrogate.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0490-02 (5148-2)										N1
										Other dry
										Sampled: 08/13/10 16:46
Gasoline Range Organics	AK101/8021B	235	----	49.1	mg/kg dry	1x	10H0547	08/17/10 15:00	08/18/10 19:40	QP
Benzene	"	ND	----	0.245	"	"	"	"	"	
Toluene	"	ND	----	1.23	"	"	"	"	"	
Ethylbenzene	"	ND	----	1.23	"	"	"	"	"	
Xylenes (total)	"	ND	----	1.23	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				116%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				111%		50 - 150 %	"			"

PTH0490-05 (5148-5)										N1
										Other dry
										Sampled: 08/13/10 16:46
Gasoline Range Organics	AK101/8021B	ND	----	32.4	mg/kg dry	1x	10H0547	08/17/10 15:00	08/18/10 23:29	
Benzene	"	ND	----	0.162	"	"	"	"	"	
Toluene	"	ND	----	0.810	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.810	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.810	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				110%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				107%		50 - 150 %	"			"

PTH0490-08 (5148-8)										N1
										Other dry
										Sampled: 08/13/10 16:46
Gasoline Range Organics	AK101/8021B	60.9	----	37.6	mg/kg dry	1x	10H0547	08/17/10 15:00	08/18/10 17:46	Q1
Benzene	"	ND	----	0.188	"	"	"	"	"	
Toluene	"	ND	----	0.941	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.941	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.941	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				116%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				113%		50 - 150 %	"			"

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Diesel Range Organics (C10-C25) per AK102

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0490-02 (5148-2)		Other dry				Sampled: 08/13/10 16:46				
Diesel Range Organics	AK102	10300	----	555	mg/kg dry	20x	10H0676	08/20/10 09:35	08/23/10 12:03	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				7450%		50 - 150 %	"			" Z3
PTH0490-05 (5148-5)		Other dry				Sampled: 08/13/10 16:46				
Diesel Range Organics	AK102	7200	----	379	mg/kg dry	20x	10H0676	08/20/10 09:35	08/23/10 12:20	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				8170%		50 - 150 %	"			" Z3
PTH0490-08 (5148-8)		Other dry				Sampled: 08/13/10 16:46				
Diesel Range Organics	AK102	10400	----	438	mg/kg dry	20x	10H0676	08/20/10 09:35	08/23/10 12:36	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				6580%		50 - 150 %	"			" Z3

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Diesel Range Organics (C10-C25) per AK102 on SPLP Extracted Sample

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0490-02 (5148-2)		Other dry			Sampled: 08/13/10 16:46					
Diesel Range Organics	1312/AK102	4.10	----	0.250	mg/l	1x	1010878	09/29/10 11:00	09/30/10 18:29	
<i>Surrogate(s): 1-Chlorooctadecane</i>				69.9%		50 - 150 %	"			"
PTH0490-08 (5148-8)		Other dry			Sampled: 08/13/10 16:46					
Diesel Range Organics	1312/AK102	3.97	----	0.250	mg/l	1x	1010878	09/29/10 11:00	09/30/10 18:46	
<i>Surrogate(s): 1-Chlorooctadecane</i>				65.4%		50 - 150 %	"			"

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0490-02 (5148-2)		Other dry			Sampled: 08/13/10 16:46					
Acenaphthene	EPA 8270m	148000	----	11200	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 18:53	
Acenaphthylene	"	ND	----	11200	"	"	"	"	"	
Anthracene	"	213000	----	11200	"	"	"	"	"	
Benzo (a) anthracene	"	177000	----	11200	"	"	"	"	"	
Benzo (a) pyrene	"	52100	----	11200	"	"	"	"	"	
Benzo (b) fluoranthene	"	72900	----	11200	"	"	"	"	"	
Benzo (ghi) perylene	"	12100	----	11200	"	"	"	"	"	
Benzo (k) fluoranthene	"	58200	----	11200	"	"	"	"	"	
Chrysene	"	178000	----	11200	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	11200	"	"	"	"	"	
Fluoranthene	"	936000	----	112000	"	1000x	"	"	08/24/10 13:43	
Fluorene	"	174000	----	11200	"	100x	"	"	08/23/10 18:53	
Indeno (1,2,3-cd) pyrene	"	13300	----	11200	"	"	"	"	"	
Naphthalene	"	ND	----	11200	"	"	"	"	"	
Phenanthrene	"	488000	----	11200	"	"	"	"	"	
Pyrene	"	632000	----	112000	"	1000x	"	"	08/24/10 13:43	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	100x		08/23/10 18:53	Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"		"	Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"		"	Z3


PTH0490-05 (5148-5)

Other dry

Sampled: 08/13/10 16:46

Acenaphthene	EPA 8270m	82700	----	7620	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 19:24	
Acenaphthylene	"	ND	----	7620	"	"	"	"	"	
Anthracene	"	128000	----	7620	"	"	"	"	"	
Benzo (a) anthracene	"	98900	----	7620	"	"	"	"	"	
Benzo (a) pyrene	"	33400	----	7620	"	"	"	"	"	
Benzo (b) fluoranthene	"	41200	----	7620	"	"	"	"	"	
Benzo (ghi) perylene	"	9830	----	7620	"	"	"	"	"	
Benzo (k) fluoranthene	"	36900	----	7620	"	"	"	"	"	
Chrysene	"	109000	----	7620	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	7620	"	"	"	"	"	
Fluoranthene	"	515000	----	76200	"	1000x	"	"	08/24/10 14:14	
Fluorene	"	69300	----	7620	"	100x	"	"	08/23/10 19:24	
Indeno (1,2,3-cd) pyrene	"	8670	----	7620	"	"	"	"	"	
Naphthalene	"	ND	----	7620	"	"	"	"	"	
Phenanthrene	"	231000	----	7620	"	"	"	"	"	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	-------	----------	----------	-------

PTH0490-05 (5148-5)

Other dry

Sampled: 08/13/10 16:46

Pyrene	EPA 8270m	346000	----	7620	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 19:24	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	"		"	Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"		"	Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"		"	Z3

PTH0490-08 (5148-8)

Other dry

Sampled: 08/13/10 16:46

Acenaphthene	EPA 8270m	191000	----	8810	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 19:55	
Acenaphthylene	"	ND	----	8810	"	"	"	"	"	
Anthracene	"	192000	----	8810	"	"	"	"	"	
Benzo (a) anthracene	"	107000	----	8810	"	"	"	"	"	
Benzo (a) pyrene	"	33300	----	8810	"	"	"	"	"	
Benzo (b) fluoranthene	"	45800	----	8810	"	"	"	"	"	
Benzo (ghi) perylene	"	9000	----	8810	"	"	"	"	"	
Benzo (k) fluoranthene	"	36200	----	8810	"	"	"	"	"	
Chrysene	"	121000	----	8810	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	8810	"	"	"	"	"	
Fluoranthene	"	674000	----	88100	"	1000x	"	"	08/24/10 14:45	
Fluorene	"	173000	----	8810	"	100x	"	"	08/23/10 19:55	
Indeno (1,2,3-cd) pyrene	"	8940	----	8810	"	"	"	"	"	
Naphthalene	"	ND	----	8810	"	"	"	"	"	
Phenanthrene	"	706000	----	88100	"	1000x	"	"	08/24/10 14:45	
Pyrene	"	400000	----	8810	"	100x	"	"	08/23/10 19:55	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	"		"	Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"		"	Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"		"	Z3

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted
TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0490-02 (5148-2)										H4
										Other dry
										Sampled: 08/13/10 16:46
Acenaphthene	1311-2/8270m	98.5	----	4.00	ug/l	10x	1010755	09/24/10 12:15	09/27/10 20:42	
Acenaphthylene	"	4.01	----	0.800	"	2x	"	"	09/28/10 16:08	
Anthracene	"	12.2	----	0.800	"	"	"	"	"	
Benzo (a) anthracene	"	7.63	----	0.800	"	"	"	"	"	
Benzo (a) pyrene	"	1.34	----	0.800	"	"	"	"	"	
Benzo (b) fluoranthene	"	2.13	----	0.800	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.800	"	"	"	"	"	
Benzo (k) fluoranthene	"	1.55	----	0.800	"	"	"	"	"	
Chrysene	"	5.88	----	0.800	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	0.800	"	"	"	"	"	
Fluoranthene	"	81.1	----	4.00	"	10x	"	"	09/27/10 20:42	
Fluorene	"	45.4	----	0.800	"	2x	"	"	09/28/10 16:08	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.800	"	"	"	"	"	
Naphthalene	"	ND	----	0.800	"	"	"	"	"	
Phenanthrene	"	29.4	----	0.800	"	"	"	"	"	
Pyrene	"	49.2	----	0.800	"	"	"	"	"	
Surrogate(s): Fluorene-d10				79.9%		25 - 125 %	"			"
Pyrene-d10				88.9%		23 - 150 %	"			"
Benzo (a) pyrene-d12				80.8%		10 - 125 %	"			"

PTH0490-08 (5148-8)										H4
										Other dry
										Sampled: 08/13/10 16:46
Acenaphthene	1311-2/8270m	97.2	----	4.00	ug/l	10x	1010755	09/24/10 12:15	09/27/10 21:13	
Acenaphthylene	"	2.88	----	0.800	"	2x	"	"	09/28/10 16:37	
Anthracene	"	5.93	----	0.800	"	"	"	"	"	
Benzo (a) anthracene	"	3.22	----	0.800	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.800	"	"	"	"	"	
Benzo (b) fluoranthene	"	0.963	----	0.800	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.800	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.800	"	"	"	"	"	
Chrysene	"	3.17	----	0.800	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	0.800	"	"	"	"	"	
Fluoranthene	"	34.7	----	0.800	"	"	"	"	"	
Fluorene	"	16.1	----	0.800	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.800	"	"	"	"	"	
Naphthalene	"	ND	----	0.800	"	"	"	"	"	
Phenanthrene	"	ND	----	0.800	"	"	"	"	"	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:17

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0490-08 (5148-8)				Other dry				Sampled: 08/13/10 16:46		H4
Pyrene	1311-2/8270m	21.1	----	0.800	ug/l	2x	1010755	09/24/10 12:15	09/28/10 16:37	
<i>Surrogate(s): Fluorene-d10</i>				75.7%		25 - 125 %	"			"
<i>Pyrene-d10</i>				86.7%		23 - 150 %	"			"
<i>Benzo (a) pyrene-d12</i>				78.5%		10 - 125 %	"			"

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:17

Percent Dry Weight (Solids) per ASTM D2216-80

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0490-02 (5148-2)					Other dry					Sampled: 08/13/10 16:46
% Solids	ASTM D2216-80	44.4	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	
PTH0490-05 (5148-5)					Other dry					Sampled: 08/13/10 16:46
% Solids	ASTM D2216-80	64.9	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	
PTH0490-08 (5148-8)					Other dry					Sampled: 08/13/10 16:46
% Solids	ASTM D2216-80	57.0	----	0.0100	% by Weight	1x	10H0554	08/17/10 19:00	08/19/10 09:50	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0547

Soil Preparation Method: EPA 5035 Modified

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes			
Blank (10H0547-BLK1)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101/8021 B	ND	---	3.98	mg/kg wet	1x	--	--	--	--	--	--	08/18/10 16:58				
Benzene	"	ND	---	0.0199	"	"	--	--	--	--	--	--	"				
Toluene	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"				
Ethylbenzene	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"				
Xylenes (total)	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"				
Surrogate(s): a,a,a-TFT (FID)		Recovery: 112%		Limits: 50-150%		"						08/18/10 16:58					
a,a,a-TFT (PID)		108%		50-150%		"						"					
LCS (10H0547-BS1)													Extracted: 08/17/10 13:00				
Benzene	AK101/8021 B	1.05	---	0.0198	mg/kg wet	1x	--	0.992	106%	(70-130)	--	--	08/18/10 15:03				
Toluene	"	1.02	---	0.0992	"	"	--	"	103%	"	--	--	"				
Ethylbenzene	"	1.08	---	0.0992	"	"	--	"	109%	"	--	--	"				
Xylenes (total)	"	3.16	---	0.0992	"	"	--	2.98	106%	"	--	--	"				
Surrogate(s): a,a,a-TFT (PID)		Recovery: 114%		Limits: 50-150%		"						08/18/10 15:03					
LCS (10H0547-BS2)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101/8021 B	25.6	---	3.98	mg/kg wet	1x	--	24.9	103%	(60-120)	--	--	08/18/10 16:01				
Surrogate(s): a,a,a-TFT (FID)		Recovery: 111%		Limits: 50-150%		"						08/18/10 16:01					
LCS Dup (10H0547-BSD1)													Extracted: 08/17/10 13:00				
Benzene	AK101/8021 B	1.07	---	0.0196	mg/kg wet	1x	--	0.979	109%	(70-130)	1.73% (20)		08/18/10 15:32				
Toluene	"	1.00	---	0.0979	"	"	--	"	102%	"	1.69%	"	"				
Ethylbenzene	"	1.06	---	0.0979	"	"	--	"	109%	"	1.51%	"	"				
Xylenes (total)	"	3.10	---	0.0979	"	"	--	2.94	106%	"	1.87%	"	"				
Surrogate(s): a,a,a-TFT (PID)		Recovery: 117%		Limits: 50-150%		"						08/18/10 15:32					
LCS Dup (10H0547-BSD2)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101/8021 B	26.4	---	3.97	mg/kg wet	1x	--	24.8	106%	(60-120)	3.26% (20)		08/18/10 16:29				
Surrogate(s): a,a,a-TFT (FID)		Recovery: 115%		Limits: 50-150%		"						08/18/10 16:29					
Duplicate (10H0547-DUP1)													QC Source: PTH0490-02		Extracted: 08/17/10 15:00		N1
Gasoline Range Organics	AK101/8021 B	232	---	49.1	mg/kg dry	1x	235	--	--	--	1.40% (50)		08/18/10 19:11	QP			
Surrogate(s): a,a,a-TFT (FID)		Recovery: 114%		Limits: 50-150%		"						08/18/10 19:11					

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0547

Soil Preparation Method: EPA 5035 Modified

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (10H0547-DUP2)			QC Source: PTH0490-05					Extracted: 08/17/10 15:00					N1	
Gasoline Range Organics	AK101/8021 B	ND	---	32.4	mg/kg dry	1x	ND	--	--	--	3.72%	(50)	08/18/10 23:01	
<i>Surrogate(s): a,a,a-TFT (FID)</i>		<i>Recovery: 114%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>08/18/10 23:01</i>	
Matrix Spike (10H0547-MS1)			QC Source: PTH0490-08					Extracted: 08/17/10 15:00					N1	
Benzene	AK101/8021 B	8.95	---	0.188	mg/kg dry	1x	ND	8.65	103%	(50-150)	--	--	08/18/10 18:14	
Toluene	"	8.63	---	0.941	"	"	0.109	"	98.4%	"	--	--	"	
Ethylbenzene	"	9.06	---	0.941	"	"	ND	"	105%	"	--	--	"	
Xylenes (total)	"	26.9	---	0.941	"	"	ND	26.0	104%	"	--	--	"	
<i>Surrogate(s): a,a,a-TFT (PID)</i>		<i>Recovery: 118%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>08/18/10 18:14</i>	
Matrix Spike Dup (10H0547-MSD1)			QC Source: PTH0490-08					Extracted: 08/17/10 15:00					N1	
Benzene	AK101/8021 B	8.98	---	0.188	mg/kg dry	1x	ND	8.65	104%	(50-150)	0.378%	(20)	08/18/10 18:43	
Toluene	"	8.68	---	0.941	"	"	0.109	"	99.0%	"	0.603%	"	"	
Ethylbenzene	"	9.14	---	0.941	"	"	ND	"	106%	"	0.884%	"	"	
Xylenes (total)	"	27.2	---	0.941	"	"	ND	26.0	105%	"	0.989%	"	"	
<i>Surrogate(s): a,a,a-TFT (PID)</i>		<i>Recovery: 114%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>08/18/10 18:43</i>	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Diesel Range Organics (C10-C25) per AK102 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0676

Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10H0676-BLK1)							Extracted: 08/20/10 09:35							
Diesel Range Organics	AK102	ND	---	12.5	mg/kg wet	1x	--	--	--	--	--	--	08/20/10 16:00	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 90.1%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>08/20/10 16:00</i>	
LCS (10H0676-BS1)							Extracted: 08/20/10 09:35							
Diesel Range Organics	AK102	132	---	12.5	mg/kg wet	1x	--	125	106%	(75-125)	--	--	08/20/10 15:43	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 88.7%</i>		<i>Limits: 60-120%</i>	<i>"</i>								<i>08/20/10 15:43</i>	
Duplicate (10H0676-DUP1)							QC Source: PTH0487-01			Extracted: 08/20/10 09:35				
Diesel Range Organics	AK102	14500	---	334	mg/kg dry	20x	15200	--	--	--	4.81% (40)		08/20/10 16:14	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 12000%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>08/20/10 16:14</i>	Z3
Duplicate (10H0676-DUP2)							QC Source: PTH0489-02			Extracted: 08/20/10 09:35				
Diesel Range Organics	AK102	6010	---	225	mg/kg dry	10x	6090	--	--	--	1.31% (40)		08/20/10 16:59	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 1780%</i>		<i>Limits: 50-150%</i>	<i>"</i>								<i>08/20/10 16:59</i>	ZX

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Diesel Range Organics (C10-C25) per AK102 on SPLP Extracted Sample - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10I0878

Other dry Preparation Method: EPA 1312/3510

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10I0878-BLK1)												Extracted: 09/29/10 11:00		
Diesel Range Organics	1312/AK102	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	09/30/10 16:26	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 85.5%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>09/30/10 16:26</i>	
Blank (10I0878-BLK2)												Extracted: 09/29/10 11:00		
Diesel Range Organics	1312/AK102	ND	---	0.240	mg/l	1x	--	--	--	--	--	--	09/30/10 16:44	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 79.0%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>09/30/10 16:44</i>	
LCS (10I0878-BS1)												Extracted: 09/29/10 11:00		
Diesel Range Organics	1312/AK102	2.10	---	0.250	mg/l	1x	--	2.50	83.9%	(75-125)	--	--	09/30/10 17:01	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 81.4%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>09/30/10 17:01</i>	
LCS Dup (10I0878-BSD1)												Extracted: 09/29/10 11:00		
Diesel Range Organics	1312/AK102	2.01	---	0.250	mg/l	1x	--	2.50	80.6%	(75-125)	4.02% (20)		09/30/10 17:19	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 82.8%</i>		<i>Limits: 50-150%</i>		<i>"</i>							<i>09/30/10 17:19</i>	

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 10H0676

Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10H0676-BLK1)													Extracted: 08/20/10 09:35	
Acenaphthene	EPA 8270m	197	---	50.2	ug/kg wet	1x	--	--	--	--	--	--	08/23/10 15:04	B1
Acenaphthylene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Fluorene	"	83.3	---	50.2	"	"	--	--	--	--	--	--	"	B1
Indeno (1,2,3-cd) pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	B1
Pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	

Surrogate(s): Fluorene-d10 Recovery: 66.6% Limits: 24-125% " 08/23/10 15:04
 Pyrene-d10 92.0% 41-141% " "
 Benzo (a) pyrene-d12 82.6% 38-143% " "

LCS (10H0676-BS2)

Extracted: 08/20/10 09:35

Acenaphthene	EPA 8270m	269	---	50.2	ug/kg wet	1x	--	250	108%	(33-139)	--	--	08/23/10 14:33	
Benzo (a) pyrene	"	256	---	50.2	"	"	--	"	103%	(45-149)	--	--	"	
Pyrene	"	266	---	50.2	"	"	--	"	107%	(39-138)	--	--	"	

Surrogate(s): Fluorene-d10 Recovery: 91.0% Limits: 24-125% " 08/23/10 14:33
 Pyrene-d10 102% 41-141% " "
 Benzo (a) pyrene-d12 99.0% 38-143% " "

Duplicate (10H0676-DUP1)

QC Source: PTH0487-01

Extracted: 08/20/10 09:35

Acenaphthene	EPA 8270m	278000	---	6710	ug/kg dry	100x	274000	--	--	--	1.47%	(40)	08/24/10 16:52	
Acenaphthylene	"	7060	---	6710	"	"	6780	--	--	--	4.02%	"	"	
Anthracene	"	274000	---	6710	"	"	316000	--	--	--	14.2%	"	"	
Benzo (a) anthracene	"	138000	---	6710	"	"	140000	--	--	--	0.862%	"	"	
Benzo (a) pyrene	"	38100	---	6710	"	"	41000	--	--	--	7.22%	"	"	
Benzo (b) fluoranthene	"	51100	---	6710	"	"	55100	--	--	--	7.50%	"	"	
Benzo (ghi) perylene	"	9720	---	6710	"	"	10300	--	--	--	5.50%	"	"	
Benzo (k) fluoranthene	"	47300	---	6710	"	"	48600	--	--	--	2.83%	"	"	
Chrysene	"	147000	---	6710	"	"	147000	--	--	--	0.582%	"	"	
Dibenzo (a,h) anthracene	"	ND	---	6710	"	"	ND	--	--	--	14.3%	"	"	
Fluoranthene	"	892000	---	67100	"	1000x	871000	--	--	--	2.36%	"	08/24/10 17:23	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 10H0676 Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (10H0676-DUP1)			QC Source: PTH0487-01				Extracted: 08/20/10 09:35							
Fluorene	"	408000	---	67100	"	"	385000	--	--	--	5.81%	"	"	
Indeno (1,2,3-cd) pyrene	"	10600	---	6710	"	100x	10700	--	--	--	0.783%	"	08/24/10 16:52	
Naphthalene	"	11300	---	6710	"	"	8800	--	--	--	25.3%	"	"	
Phenanthrene	"	1480000	---	67100	"	1000x	1190000	--	--	--	21.3%	"	08/24/10 17:23	
Pyrene	"	571000	---	67100	"	"	549000	--	--	--	4.08%	"	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>NR</i>	<i>Limits: 24-125%</i>		<i>100x</i>							<i>08/24/10 16:52</i>	<i>Z3</i>
<i>Pyrene-d10</i>			<i>NR</i>	<i>41-141%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>
<i>Benzo (a) pyrene-d12</i>			<i>NR</i>	<i>38-143%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>
Duplicate (10H0676-DUP2)			QC Source: PTH0489-02				Extracted: 08/20/10 09:35							
Acenaphthene	EPA 8270m	92400	---	9040	ug/kg dry	100x	120000	--	--	--	25.9% (40)	"	08/24/10 17:55	
Acenaphthylene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Anthracene	"	58400	---	9040	"	"	61300	--	--	--	4.77%	"	"	
Benzo (a) anthracene	"	29700	---	9040	"	"	45200	--	--	--	41.3%	"	"	R2
Benzo (a) pyrene	"	ND	---	9040	"	"	13000	--	--	--	37.1%	"	"	
Benzo (b) fluoranthene	"	11300	---	9040	"	"	17700	--	--	--	44.3%	"	"	R2
Benzo (ghi) perylene	"	ND	---	9040	"	"	ND	--	--	--	25.2%	"	"	
Benzo (k) fluoranthene	"	10300	---	9040	"	"	14000	--	--	--	30.8%	"	"	
Chrysene	"	33400	---	9040	"	"	45500	--	--	--	30.6%	"	"	
Dibenzo (a,h) anthracene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Fluoranthene	"	163000	---	9040	"	"	278000	--	--	--	52.2%	"	"	R2
Fluorene	"	70700	---	9040	"	"	106000	--	--	--	40.0%	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	9040	"	"	ND	--	--	--	36.1%	"	"	
Naphthalene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Phenanthrene	"	209000	---	9040	"	"	360000	--	--	--	53.1%	"	"	R2
Pyrene	"	110000	---	9040	"	"	163000	--	--	--	39.0%	"	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>NR</i>	<i>Limits: 24-125%</i>		<i>"</i>							<i>08/24/10 17:55</i>	<i>Z3</i>
<i>Pyrene-d10</i>			<i>NR</i>	<i>41-141%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>
<i>Benzo (a) pyrene-d12</i>			<i>NR</i>	<i>38-143%</i>		<i>"</i>							<i>"</i>	<i>Z3</i>

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:17

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10I0755

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10I0755-BLK1)													Extracted: 09/24/10 12:15	
Acenaphthene	1311-2/8270 m	ND	---	0.400	ug/l	1x	--	--	--	--	--	--	09/27/10 17:39	
Acenaphthylene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>81.3%</i>	<i>Limits:</i>	<i>25-125%</i>	<i>"</i>							<i>09/27/10 17:39</i>	
<i>Pyrene-d10</i>			<i>85.3%</i>		<i>23-150%</i>	<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>83.0%</i>		<i>10-125%</i>	<i>"</i>							<i>"</i>	

LCS (10I0755-BS1)

Extracted: 09/24/10 12:15

Acenaphthene	1311-2/8270 m	8.33	---	0.400	ug/l	1x	--	10.0	83.3%	(26-135)	--	--	09/27/10 18:10	
Benzo (a) pyrene	"	8.16	---	0.400	"	"	--	"	81.6%	(38-137)	--	--	"	
Pyrene	"	8.11	---	0.400	"	"	--	"	81.1%	(33-133)	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>79.8%</i>	<i>Limits:</i>	<i>25-125%</i>	<i>"</i>							<i>09/27/10 18:10</i>	
<i>Pyrene-d10</i>			<i>80.5%</i>		<i>23-150%</i>	<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>81.7%</i>		<i>10-125%</i>	<i>"</i>							<i>"</i>	

Matrix Spike (10I0755-MS1)

QC Source: PTH0487-01

Extracted: 09/24/10 12:15

Acenaphthene	1311-2/8270 m	210	---	8.00	ug/l	20x	181	10.0	285%	(26-135)	--	--	09/27/10 18:40	MHA
Benzo (a) pyrene	"	ND	---	8.00	"	"	ND	"	NR	(38-137)	--	--	"	M4
Pyrene	"	56.2	---	8.00	"	"	47.8	"	83.3%	(33-133)	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>87.2%</i>	<i>Limits:</i>	<i>25-125%</i>	<i>"</i>							<i>09/27/10 18:40</i>	
<i>Pyrene-d10</i>			<i>80.7%</i>		<i>23-150%</i>	<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>72.9%</i>		<i>10-125%</i>	<i>"</i>							<i>"</i>	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:17

Percent Dry Weight (Solids) per ASTM D2216-80 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0554

Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Duplicate (10H0554-DUP1)			QC Source: PTH0464-01					Extracted: 08/17/10 19:00							
% Solids	ASTM D2216-80	91.2	---	0.0100	% by Weight	1x	93.2	--	--	--	2.20% (20)		08/19/10 09:50		
Duplicate (10H0554-DUP2)			QC Source: PTH0464-02					Extracted: 08/17/10 19:00							
% Solids	ASTM D2216-80	92.4	---	0.0100	% by Weight	1x	92.4	--	--	--	0.0163% (20)		08/19/10 09:50		

TestAmerica Portland



Estella Rieben, Project Manager

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:17

Notes and Definitions

Report Specific Notes:

- B1 - Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
- H4 - Sample was extracted past holding time, but analyzed within analysis holding time.
- M4 - The sample required a dilution due to matrix interference. Because of this dilution, the matrix spike concentrations in the sample were reduced to a level where the recovery calculation does not provide useful information. See Blank Spike (LCS).
- MHA - Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- N1 - See case narrative.
- Q1 - Does not match typical pattern
- Q9 - Hydrocarbon pattern most closely resembles creosote or similar product.
- QP - Hydrocarbon result partly due to individual peak(s) in quantitation range.
- R2 - The RPD exceeded the acceptance limit.
- Z3 - The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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CERTIFICATION SUMMARY

TestAmerica Portland

Method	Matrix	Alaska
1311-2/8270m	Other dry	
1312/AK102	Other dry	
AK101/8021B	Other dry	X
AK102	Other dry	X
ASTM D2216-80	Other dry	
EPA 1312	Other dry	
EPA 8270m	Other dry	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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CHAIN-OF-CUSTODY TEST REQUEST FORM

N. 5148

500 - 4260 Still Creek Drive
Burnaby, B.C.
Canada V5C 6C6
Tel: 604-296-4200
Fax: 604-298-5253
www.golder.com



Golder Associates

PTA0490

Client Name: Golder Associates Client Contact: Erin Liebrecht Ship to: TEST America Inc
Address: 2018 170 Titanium Way Phone: 867-334-7673 9405 Nimbus Ave. S.W
Whitehorse, YT Y1A 0G1 Fax: 867-633-6077 Beaverton, OR 97008
Canada Sampled by: E. Liebrecht Attn: Darrell Avuil Shipping Date: Aug 15, 2010

1 Collection Date (DD/MM/YYYY)	1 Time (24-h clock)	Sample Identification	2 Type of Each Sample	Material Safety Data Sheet Attached? (✓)	Sample Collection Method G-grab C-composite	Number of Sample Containers x Volume of Sample Containers (1 x 20L)	Sample Container Type	3 Test(s) Requested				4 Sample Notes (preserved, saltwater, freshwater, may contain sewage...)
								DR	DR	DR	DR	
13/08/2010	16:46	5148-1	WOOD CHIP		G	2 x 90z	GT	✓	✓	✓	X	0-0.025 m
		5148-2						✓			X	
		5148-3						✓			X	
		5148-4						✓			X	
		5148-5						✓			X	
		5148-6						✓			X	
		5148-7						✓			X	
		5148-8						✓			X	
14/08/2010	9:05	5148-9						✓			X	
		5148-10						✓			X	

Comments/Instructions: On Ice

PO/Reference No: 96-1412-853B
Project Title: Stack Pile WP/YR
Results Needed By: _____

1) Released by: <u>E. Liebrecht</u> Date: <u>Aug 15, 2010</u>	2) Released by: _____ Date: _____
Company: <u>Golder Associates</u>	Company: _____
Courier Name: <u>WINGS, Globalstreak</u>	Courier Name: _____
1) Received by: <u>fuzzy</u> Date: <u>8/16/10</u>	Received by: _____ Date: _____
Company: <u>TAP</u> Time: <u>1500</u>	Company: _____ Time: _____

3) Released by: _____ Date: _____
Company: _____ Time: _____
Courier Name: _____

3) Received by: _____ Date: _____
Company: _____ Time: _____

1 For composite effluent or water samples, the sample collection date/time is the end of the compositing period.
2 Receiving Water (RW); Effluent (E); Elutriate (ELU); Sediment (SED); Chemical (CHEM); Stormwater (SW); Other (Please Specify)
3 Collapsible Carboy (CC); glass jar (GJ); Jerry Can (JC); Plastic HDPE (P); Other (Please Specify)
4 Please note any conditions the lab should be aware of for safety and storage concerns

Distribution of copies: White, Yellow—accompany the shipment
Pink—kept by consignor (e.g. shipper)
Yellow—kept by consignee (e.g. receiver)
White—returned to consignor by consignee

TestAmerica Portland
Sample Receiving Checklist

Work Order #: PTH0490 Date/Time Received: 8/14/10 1500
 Client Name and Project: Golden White Pass

Time Zone:
 EDT/EST CDT/CST MDT/MST PDT/PST AK OTHER

Unpacking Checks:

Cooler #(s): 1
 Temperatures: 0.8
 Digi #1 Digi #2 IR Gun Raytech
 Plastic Glass

Temperature out of Range:

Not enough or No Ice
 Ice Melted
 W/in 4 Hrs of collection
 Other: _____

N/A Yes No

Initials: PS

- 1. If ESI client, were temp blanks received? If no, document on NOD.
- 2. Cooler Seals intact? (N/A if hand delivered) if no, document on NOD PS
- 3. Chain of Custody present? If no, document on NOD.
- 4. Bottles received intact? If no, document on NOD.
- 5. Sample is not multiphasic? If no, document on NOD.
- 6. Proper Container and preservatives used? If no, document on NOD.
- 7. pH of all samples checked and meet requirements? If no, document on NOD.
- 8. Cyanide samples checked for sulfides and meet requirements? If no, notify PM.
- 9. HF Dilution required?
- 10. Sufficient volume provided for all analysis? If no, document on NOD and consult PM before proceeding.
- 11. Did chain of custody agree with samples received? If no, document on NOD.
- 12. Is the "Sampled by" section of the COC completed?
- 13. Were VOA/Oil Syringe samples without headspace?
- 14. Were VOA vials preserved? HCl Sodium Thiosulfate Ascorbic Acid
- 15. Did samples require preservation with sodium thiosulfate?
- 16. If yes to #15, was the residual chlorine test negative? If no, document on NOD.
- 17. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD.
- 18. Is sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM before proceeding.
- 19. Are analyses with short holding times received in hold?
- 20. Was Standard Turn Around (TAT) requested?
- 21. Receipt date(s) < 48 hours past the collection date(s)? If no, notify PM.

TestAmerica Portland
Sample Receiving Checklist

Work Order #: PTH0490

Login Checks:

Initials: PS

N/A Yes No

22. Sufficient volume provided for all analysis? If no, document on NOD & contact PM.
23. Sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM.
24. Did the chain of custody include "received by" and "relinquished by" signatures, dates and times?
25. Were special log in instructions read and followed?
26. Were tests logged checked against the COC?
27. Were rush notices printed and delivered?
28. Were short hold notices printed and delivered?
29. Were subcontract COCs printed?
30. Was HF dilution logged?

Labeling and Storage Checks:

Initials: PS

N/A Yes No

31. Were the subcontracted samples/containers put in Sx fridge?
32. Were sample bottles and COC double checked for dissolved/filtered metals?
33. Did the sample ID, Date, and Time from label match what was logged?
34. Were Foreign sample stickers affixed to each container and containers stored in foreign fridge?
35. Were HF stickers affixed to each container, and containers stored in Sx fridge?
36. Was an NOD for created for noted discrepancies and placed in folder?

Document any problems or discrepancies and the actions taken to resolve them on a Notice of Discrepancy form (NOD).

Amended Report

October 04, 2010

Erin Liebrecht
Golder Associates - Canada
500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

RE: Stock Pile WP/YR

Enclosed are the results of analyses for samples received by the laboratory on 08/16/10 15:00.
The following list is a summary of the Work Orders contained in this report, generated on 10/04/10 15:19.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
PTH0492	Stock Pile WP/YR	96-1412-853B

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
5151-5	PTH0492-05	Other dry	08/14/10 12:30	08/16/10 15:00
5151-6	PTH0492-06	Other dry	08/14/10 13:30	08/16/10 15:00
5151-7	PTH0492-07	Other dry	08/14/10 14:00	08/16/10 15:00
5151-8	PTH0492-08	Other dry	08/14/10 14:15	08/16/10 15:00

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:19

Analytical Case Narrative

TestAmerica - Portland, OR

PTH0492

10/4/10: Amended Report

This report includes additional analyses for SPLP 8270 SIM PAH and SPLP AK 102 (for Diesel) as requested by the client.

8/31/10:

The AK101 GRO/BTEX method requires soil/solid samples to be extracted into methanol within 48 hours of sampling. The samples requested for this analysis were not received by the lab as extracts. They were past the 48 hour time frame upon arrival. The samples were extracted by the lab. Due to the absorbant nature of the matrix (wood chips), 10 grams of sample was extracted into 50 mls of methanol with the appropriate surrogate.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0492-05 (5151-5)										N1
				Other dry		Sampled: 08/14/10 12:30				
Benzene	AK101/8021B	ND	----	0.237	mg/kg dry	1x	10H0547	08/17/10 15:00	08/18/10 21:35	
Toluene	"	ND	----	1.18	"	"	"	"	"	
Ethylbenzene	"	ND	----	1.18	"	"	"	"	"	
Xylenes (total)	"	ND	----	1.18	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (PID)</i>				106%		50 - 150 %	"			"
PTH0492-06 (5151-6)										N1
				Other dry		Sampled: 08/14/10 13:30				
Benzene	AK101/8021B	ND	----	0.266	mg/kg dry	1x	10H0547	08/17/10 15:00	08/18/10 22:03	
Toluene	"	ND	----	1.33	"	"	"	"	"	
Ethylbenzene	"	ND	----	1.33	"	"	"	"	"	
Xylenes (total)	"	ND	----	1.33	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (PID)</i>				107%		50 - 150 %	"			"
PTH0492-07RE1 (5151-7)										N1
				Other dry		Sampled: 08/14/10 14:00				
Gasoline Range Organics	AK101/8021B	131	----	103	mg/kg dry	2x	10H0547	08/17/10 15:00	08/19/10 09:50	Q1
Benzene	"	ND	----	0.516	"	"	"	"	"	RL3
Toluene	"	ND	----	2.58	"	"	"	"	"	RL3
Ethylbenzene	"	ND	----	2.58	"	"	"	"	"	RL3
Xylenes (total)	"	ND	----	2.58	"	"	"	"	"	RL3
<i>Surrogate(s): a,a,a-TFT (FID)</i>				116%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				112%		50 - 150 %	"			"
PTH0492-08 (5151-8)										N1
				Other dry		Sampled: 08/14/10 14:15				
Gasoline Range Organics	AK101/8021B	208	----	39.7	mg/kg dry	1x	10H0547	08/17/10 15:00	08/18/10 22:32	Q1
Benzene	"	ND	----	0.198	"	"	"	"	"	
Toluene	"	ND	----	0.992	"	"	"	"	"	
Ethylbenzene	"	ND	----	0.992	"	"	"	"	"	
Xylenes (total)	"	ND	----	0.992	"	"	"	"	"	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				111%		50 - 150 %	"			"
<i>a,a,a-TFT (PID)</i>				105%		50 - 150 %	"			"

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Gasoline Range Organics (C6-C10) per AK101

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes	
PTH0492-05 (5151-5)		Other dry				Sampled: 08/14/10 12:30					NI
Gasoline Range Organics	AK101 GRO	ND	----	47.4	mg/kg dry	1x	10H0547	08/17/10 15:00	08/18/10 21:35		
<i>Surrogate(s): a,a,a-TFT (FID)</i>				113%		50 - 150 %	"			"	
PTH0492-06 (5151-6)		Other dry				Sampled: 08/14/10 13:30					NI
Gasoline Range Organics	AK101 GRO	327	----	53.2	mg/kg dry	1x	10H0547	08/17/10 15:00	08/18/10 22:03	Q1	
<i>Surrogate(s): a,a,a-TFT (FID)</i>				111%		50 - 150 %	"			"	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Diesel Range Organics (C10-C25) per AK102

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0492-05 (5151-5)		Other dry			Sampled: 08/14/10 12:30					
Diesel Range Organics	AK102	4740	----	267	mg/kg dry	10x	10H0676	08/20/10 09:35	08/23/10 12:52	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				367%		50 - 150 %	"			" ZX
PTH0492-06 (5151-6)		Other dry			Sampled: 08/14/10 13:30					
Diesel Range Organics	AK102	6440	----	294	mg/kg dry	10x	10H0676	08/20/10 09:35	08/23/10 13:08	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				294%		50 - 150 %	"			" ZX
PTH0492-07 (5151-7)		Other dry			Sampled: 08/14/10 14:00					
Diesel Range Organics	AK102	76700	----	601	mg/kg dry	20x	10H0676	08/20/10 09:35	08/23/10 13:25	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				NR		50 - 150 %	"			" Z3
PTH0492-08 (5151-8)		Other dry			Sampled: 08/14/10 14:15					
Diesel Range Organics	AK102	5480	----	237	mg/kg dry	10x	10H0676	08/20/10 09:35	08/23/10 13:42	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>				424%		50 - 150 %	"			" ZX

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:19

Diesel Range Organics (C10-C25) per AK102 on SPLP Extracted Sample

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0492-06 (5151-6)		Other dry			Sampled: 08/14/10 13:30					
Diesel Range Organics	1312/AK102	2.59	----	0.278	mg/l	1x	1010878	09/29/10 11:00	09/30/10 19:03	RL4
Surrogate(s): 1-Chlorooctadecane				54.4%		50 - 150 %	"			"

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0492-05 (5151-5)		Other dry			Sampled: 08/14/10 12:30					
Acenaphthene	EPA 8270m	68600	----	5370	ug/kg dry	50x	10H0676	08/20/10 09:35	08/24/10 15:48	
Acenaphthylene	"	ND	----	5370	"	"	"	"	"	
Anthracene	"	59800	----	5370	"	"	"	"	"	
Benzo (a) anthracene	"	33400	----	5370	"	"	"	"	"	
Benzo (a) pyrene	"	10300	----	5370	"	"	"	"	"	
Benzo (b) fluoranthene	"	13500	----	5370	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	5370	"	"	"	"	"	
Benzo (k) fluoranthene	"	12200	----	5370	"	"	"	"	"	
Chrysene	"	37300	----	5370	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	5370	"	"	"	"	"	
Fluoranthene	"	176000	----	5370	"	"	"	"	"	
Fluorene	"	51300	----	5370	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	5370	"	"	"	"	"	
Naphthalene	"	ND	----	5370	"	"	"	"	"	
Phenanthrene	"	168000	----	5370	"	"	"	"	"	
Pyrene	"	120000	----	5370	"	"	"	"	"	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	"			Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"			Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"			Z3

PTH0492-06 (5151-6)

Other dry

Sampled: 08/14/10 13:30

Acenaphthene	EPA 8270m	54200	----	5910	ug/kg dry	50x	10H0676	08/20/10 09:35	08/24/10 16:20	
Acenaphthylene	"	ND	----	5910	"	"	"	"	"	
Anthracene	"	61100	----	5910	"	"	"	"	"	
Benzo (a) anthracene	"	25300	----	5910	"	"	"	"	"	
Benzo (a) pyrene	"	8190	----	5910	"	"	"	"	"	
Benzo (b) fluoranthene	"	9820	----	5910	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	5910	"	"	"	"	"	
Benzo (k) fluoranthene	"	9880	----	5910	"	"	"	"	"	
Chrysene	"	29100	----	5910	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	5910	"	"	"	"	"	
Fluoranthene	"	132000	----	5910	"	"	"	"	"	
Fluorene	"	54800	----	5910	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	5910	"	"	"	"	"	
Naphthalene	"	ND	----	5910	"	"	"	"	"	
Phenanthrene	"	171000	----	5910	"	"	"	"	"	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
---------	--------	--------	------	-----	-------	-----	-------	----------	----------	-------

PTH0492-06 (5151-6)

Other dry

Sampled: 08/14/10 13:30

Pyrene	EPA 8270m	95600	----	5910	ug/kg dry	50x	10H0676	08/20/10 09:35	08/24/10 16:20	
Surrogate(s): Fluorene-d10				NR		24 - 125 %	"			" Z3
Pyrene-d10				NR		41 - 141 %	"			" Z3
Benzo (a) pyrene-d12				NR		38 - 143 %	"			" Z3

PTH0492-07 (5151-7)

Other dry

Sampled: 08/14/10 14:00

Acenaphthene	EPA 8270m	3270000	----	242000	ug/kg dry	2000x	10H0676	08/20/10 09:35	08/26/10 20:26	
Acenaphthylene	"	62900	----	12100	"	100x	"	"	08/23/10 21:29	
Anthracene	"	1440000	----	242000	"	2000x	"	"	08/26/10 20:26	
Benzo (a) anthracene	"	705000	----	242000	"	"	"	"	"	
Benzo (a) pyrene	"	171000	----	12100	"	100x	"	"	08/23/10 21:29	
Benzo (b) fluoranthene	"	242000	----	12100	"	"	"	"	"	
Benzo (ghi) perylene	"	35500	----	12100	"	"	"	"	"	
Benzo (k) fluoranthene	"	205000	----	12100	"	"	"	"	"	
Chrysene	"	670000	----	242000	"	2000x	"	"	08/26/10 20:26	
Dibenzo (a,h) anthracene	"	17700	----	12100	"	100x	"	"	08/23/10 21:29	
Fluoranthene	"	4390000	----	242000	"	2000x	"	"	08/26/10 20:26	
Fluorene	"	3110000	----	242000	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	43800	----	12100	"	100x	"	"	08/23/10 21:29	
Naphthalene	"	110000	----	12100	"	"	"	"	"	
Phenanthrene	"	8810000	----	242000	"	2000x	"	"	08/26/10 20:26	
Pyrene	"	2650000	----	242000	"	"	"	"	"	
Surrogate(s): Fluorene-d10				NR		24 - 125 %	100x		08/23/10 21:29	Z3
Pyrene-d10				NR		41 - 141 %	"		"	Z3
Benzo (a) pyrene-d12				NR		38 - 143 %	"		"	Z3

PTH0492-08 (5151-8)

Other dry

Sampled: 08/14/10 14:15

Acenaphthene	EPA 8270m	86500	----	9540	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 22:00	
Acenaphthylene	"	ND	----	9540	"	"	"	"	"	
Anthracene	"	86400	----	9540	"	"	"	"	"	
Benzo (a) anthracene	"	51200	----	9540	"	"	"	"	"	
Benzo (a) pyrene	"	15100	----	9540	"	"	"	"	"	
Benzo (b) fluoranthene	"	21200	----	9540	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	9540	"	"	"	"	"	
Benzo (k) fluoranthene	"	17200	----	9540	"	"	"	"	"	
Chrysene	"	56900	----	9540	"	"	"	"	"	

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:19

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0492-08 (5151-8)		Other dry			Sampled: 08/14/10 14:15					
Dibenzo (a,h) anthracene	EPA 8270m	ND	----	9540	ug/kg dry	100x	10H0676	08/20/10 09:35	08/23/10 22:00	
Fluoranthene	"	284000	----	9540	"	"	"	"	"	
Fluorene	"	74500	----	9540	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	9540	"	"	"	"	"	
Naphthalene	"	ND	----	9540	"	"	"	"	"	
Phenanthrene	"	267000	----	9540	"	"	"	"	"	
Pyrene	"	183000	----	9540	"	"	"	"	"	
<i>Surrogate(s): Fluorene-d10</i>				NR		24 - 125 %	"			" Z3
<i>Pyrene-d10</i>				NR		41 - 141 %	"			" Z3
<i>Benzo (a) pyrene-d12</i>				NR		38 - 143 %	"			" Z3

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted
 TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0492-06 (5151-6)				Other dry			Sampled: 08/14/10 13:30			H4
Acenaphthene	1311-2/8270m	95.1	----	4.00	ug/l	10x	1010755	09/24/10 12:15	09/27/10 21:43	
Acenaphthylene	"	2.06	----	0.800	"	2x	"	"	09/28/10 17:07	
Anthracene	"	7.93	----	0.800	"	"	"	"	"	
Benzo (a) anthracene	"	1.52	----	0.800	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.800	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.800	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.800	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.800	"	"	"	"	"	
Chrysene	"	1.43	----	0.800	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	0.800	"	"	"	"	"	
Fluoranthene	"	21.9	----	0.800	"	"	"	"	"	
Fluorene	"	47.8	----	0.800	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.800	"	"	"	"	"	
Naphthalene	"	ND	----	0.800	"	"	"	"	"	
Phenanthrene	"	52.6	----	0.800	"	"	"	"	"	
Pyrene	"	12.3	----	0.800	"	"	"	"	"	
Surrogate(s):	Fluorene-d10			82.5%		25 - 125 %	"			"
	Pyrene-d10			84.4%		23 - 150 %	"			"
	Benzo (a) pyrene-d12			82.6%		10 - 125 %	"			"

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Percent Dry Weight (Solids) per ASTM D2216-80

TestAmerica Portland

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PTH0492-05 (5151-5)		Other dry			Sampled: 08/14/10 12:30					
% Solids	ASTM D2216-80	46.2	----	0.0100	% by Weight	1x	10H0556	08/17/10 20:00	08/18/10 10:00	
PTH0492-06 (5151-6)		Other dry			Sampled: 08/14/10 13:30					
% Solids	ASTM D2216-80	42.0	----	0.0100	% by Weight	1x	10H0556	08/17/10 20:00	08/18/10 10:00	
PTH0492-07 (5151-7)		Other dry			Sampled: 08/14/10 14:00					
% Solids	ASTM D2216-80	40.7	----	0.0100	% by Weight	1x	10H0556	08/17/10 20:00	08/18/10 10:00	
PTH0492-08 (5151-8)		Other dry			Sampled: 08/14/10 14:15					
% Solids	ASTM D2216-80	52.3	----	0.0100	% by Weight	1x	10H0556	08/17/10 20:00	08/18/10 10:00	

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Estella Rieben, Project Manager

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0547

Soil Preparation Method: EPA 5035 Modified

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes			
Blank (10H0547-BLK1)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101/8021 B	ND	---	3.98	mg/kg wet	1x	--	--	--	--	--	--	08/18/10 16:58				
Benzene	"	ND	---	0.0199	"	"	--	--	--	--	--	--	"				
Toluene	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"				
Ethylbenzene	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"				
Xylenes (total)	"	ND	---	0.0996	"	"	--	--	--	--	--	--	"				
Surrogate(s): a,a,a-TFT (FID)		Recovery: 112%		Limits: 50-150%		"						08/18/10 16:58					
a,a,a-TFT (PID)		108%		50-150%		"						"					
LCS (10H0547-BS1)													Extracted: 08/17/10 13:00				
Benzene	AK101/8021 B	1.05	---	0.0198	mg/kg wet	1x	--	0.992	106%	(70-130)	--	--	08/18/10 15:03				
Toluene	"	1.02	---	0.0992	"	"	--	"	103%	"	--	--	"				
Ethylbenzene	"	1.08	---	0.0992	"	"	--	"	109%	"	--	--	"				
Xylenes (total)	"	3.16	---	0.0992	"	"	--	2.98	106%	"	--	--	"				
Surrogate(s): a,a,a-TFT (PID)		Recovery: 114%		Limits: 50-150%		"						08/18/10 15:03					
LCS (10H0547-BS2)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101/8021 B	25.6	---	3.98	mg/kg wet	1x	--	24.9	103%	(60-120)	--	--	08/18/10 16:01				
Surrogate(s): a,a,a-TFT (FID)		Recovery: 111%		Limits: 50-150%		"						08/18/10 16:01					
LCS Dup (10H0547-BSD1)													Extracted: 08/17/10 13:00				
Benzene	AK101/8021 B	1.07	---	0.0196	mg/kg wet	1x	--	0.979	109%	(70-130)	1.73%	(20)	08/18/10 15:32				
Toluene	"	1.00	---	0.0979	"	"	--	"	102%	"	1.69%	"	"				
Ethylbenzene	"	1.06	---	0.0979	"	"	--	"	109%	"	1.51%	"	"				
Xylenes (total)	"	3.10	---	0.0979	"	"	--	2.94	106%	"	1.87%	"	"				
Surrogate(s): a,a,a-TFT (PID)		Recovery: 117%		Limits: 50-150%		"						08/18/10 15:32					
LCS Dup (10H0547-BSD2)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101/8021 B	26.4	---	3.97	mg/kg wet	1x	--	24.8	106%	(60-120)	3.26%	(20)	08/18/10 16:29				
Surrogate(s): a,a,a-TFT (FID)		Recovery: 115%		Limits: 50-150%		"						08/18/10 16:29					
Duplicate (10H0547-DUP1)													QC Source: PTH0490-02		Extracted: 08/17/10 15:00		N1
Gasoline Range Organics	AK101/8021 B	232	---	49.1	mg/kg dry	1x	235	--	--	--	1.40%	(50)	08/18/10 19:11	QP			
Surrogate(s): a,a,a-TFT (FID)		Recovery: 114%		Limits: 50-150%		"						08/18/10 19:11					

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Gasoline Range Organics (C6-C10) and BTEX per AK101/8021B - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0547

Soil Preparation Method: EPA 5035 Modified

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (10H0547-DUP2)			QC Source: PTH0490-05					Extracted: 08/17/10 15:00					N1	
Gasoline Range Organics	AK101/8021 B	ND	---	32.4	mg/kg dry	1x	ND	--	--	--	3.72%	(50)	08/18/10 23:01	
<i>Surrogate(s): a,a,a-TFT (FID)</i>		<i>Recovery: 114%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>08/18/10 23:01</i>		
Matrix Spike (10H0547-MS1)			QC Source: PTH0490-08					Extracted: 08/17/10 15:00					N1	
Benzene	AK101/8021 B	8.95	---	0.188	mg/kg dry	1x	ND	8.65	103%	(50-150)	--	--	08/18/10 18:14	
Toluene	"	8.63	---	0.941	"	"	0.109	"	98.4%	"	--	--	"	
Ethylbenzene	"	9.06	---	0.941	"	"	ND	"	105%	"	--	--	"	
Xylenes (total)	"	26.9	---	0.941	"	"	ND	26.0	104%	"	--	--	"	
<i>Surrogate(s): a,a,a-TFT (PID)</i>		<i>Recovery: 118%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>08/18/10 18:14</i>		
Matrix Spike Dup (10H0547-MSD1)			QC Source: PTH0490-08					Extracted: 08/17/10 15:00					N1	
Benzene	AK101/8021 B	8.98	---	0.188	mg/kg dry	1x	ND	8.65	104%	(50-150)	0.378%	(20)	08/18/10 18:43	
Toluene	"	8.68	---	0.941	"	"	0.109	"	99.0%	"	0.603%	"	"	
Ethylbenzene	"	9.14	---	0.941	"	"	ND	"	106%	"	0.884%	"	"	
Xylenes (total)	"	27.2	---	0.941	"	"	ND	26.0	105%	"	0.989%	"	"	
<i>Surrogate(s): a,a,a-TFT (PID)</i>		<i>Recovery: 114%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>08/18/10 18:43</i>		

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Gasoline Range Organics (C6-C10) per AK101 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0547

Soil Preparation Method: EPA 5035 Modified

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes			
Blank (10H0547-BLK1)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101 GRO	ND	---	3.98	mg/kg wet	1x	--	--	--	--	--	--	08/18/10 16:58				
<i>Surrogate(s): a,a,a-TFT (FID)</i>		<i>Recovery: 112%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>08/18/10 16:58</i>					
LCS (10H0547-BS2)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101 GRO	25.6	---	3.98	mg/kg wet	1x	--	24.9	103%	(60-120)	--	--	08/18/10 16:01				
<i>Surrogate(s): a,a,a-TFT (FID)</i>		<i>Recovery: 111%</i>		<i>Limits: 60-120%</i>		<i>"</i>						<i>08/18/10 16:01</i>					
LCS Dup (10H0547-BSD2)													Extracted: 08/17/10 13:00				
Gasoline Range Organics	AK101 GRO	26.4	---	3.97	mg/kg wet	1x	--	24.8	106%	(60-120)	3.26% (20)		08/18/10 16:29				
<i>Surrogate(s): a,a,a-TFT (FID)</i>		<i>Recovery: 115%</i>		<i>Limits: 60-120%</i>		<i>"</i>						<i>08/18/10 16:29</i>					
Duplicate (10H0547-DUP1)													QC Source: PTH0490-02		Extracted: 08/17/10 15:00		N1
Gasoline Range Organics	AK101 GRO	232	---	49.1	mg/kg dry	1x	235	--	--	--	1.40% (50)		08/18/10 19:11	QP			
<i>Surrogate(s): a,a,a-TFT (FID)</i>		<i>Recovery: 114%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>08/18/10 19:11</i>					
Duplicate (10H0547-DUP2)													QC Source: PTH0490-05		Extracted: 08/17/10 15:00		N1
Gasoline Range Organics	AK101 GRO	ND	---	32.4	mg/kg dry	1x	ND	--	--	--	3.72% (50)		08/18/10 23:01				
<i>Surrogate(s): a,a,a-TFT (FID)</i>		<i>Recovery: 114%</i>		<i>Limits: 50-150%</i>		<i>"</i>						<i>08/18/10 23:01</i>					

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Diesel Range Organics (C10-C25) per AK102 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0676

Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10H0676-BLK1)							Extracted: 08/20/10 09:35							
Diesel Range Organics	AK102	ND	---	12.5	mg/kg wet	1x	--	--	--	--	--	--	08/20/10 16:00	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 90.1%</i>			<i>Limits: 50-150%</i>	<i>"</i>							<i>08/20/10 16:00</i>	
LCS (10H0676-BS1)							Extracted: 08/20/10 09:35							
Diesel Range Organics	AK102	132	---	12.5	mg/kg wet	1x	--	125	106%	(75-125)	--	--	08/20/10 15:43	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 88.7%</i>			<i>Limits: 60-120%</i>	<i>"</i>							<i>08/20/10 15:43</i>	
Duplicate (10H0676-DUP1)							QC Source: PTH0487-01			Extracted: 08/20/10 09:35				
Diesel Range Organics	AK102	14500	---	334	mg/kg dry	20x	15200	--	--	--	4.81% (40)		08/20/10 16:14	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 12000%</i>			<i>Limits: 50-150%</i>	<i>"</i>							<i>08/20/10 16:14</i>	Z3
Duplicate (10H0676-DUP2)							QC Source: PTH0489-02			Extracted: 08/20/10 09:35				
Diesel Range Organics	AK102	6010	---	225	mg/kg dry	10x	6090	--	--	--	1.31% (40)		08/20/10 16:59	Q9
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 1780%</i>			<i>Limits: 50-150%</i>	<i>"</i>							<i>08/20/10 16:59</i>	ZX

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Diesel Range Organics (C10-C25) per AK102 on SPLP Extracted Sample - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10I0878

Other dry Preparation Method: EPA 1312/3510

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10I0878-BLK1)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	09/30/10 16:26	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 85.5%</i>		<i>Limits: 50-150%</i>			<i>"</i>							<i>09/30/10 16:26</i>
Blank (10I0878-BLK2)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	ND	---	0.240	mg/l	1x	--	--	--	--	--	--	09/30/10 16:44	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 79.0%</i>		<i>Limits: 50-150%</i>			<i>"</i>							<i>09/30/10 16:44</i>
LCS (10I0878-BS1)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	2.10	---	0.250	mg/l	1x	--	2.50	83.9%	(75-125)	--	--	09/30/10 17:01	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 81.4%</i>		<i>Limits: 50-150%</i>			<i>"</i>							<i>09/30/10 17:01</i>
LCS Dup (10I0878-BSD1)								Extracted: 09/29/10 11:00						
Diesel Range Organics	1312/AK102	2.01	---	0.250	mg/l	1x	--	2.50	80.6%	(75-125)	4.02% (20)		09/30/10 17:19	
<i>Surrogate(s): 1-Chlorooctadecane</i>		<i>Recovery: 82.8%</i>		<i>Limits: 50-150%</i>			<i>"</i>							<i>09/30/10 17:19</i>

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Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM - Laboratory Quality Control Results
TestAmerica Portland

QC Batch: 10H0676

Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10H0676-BLK1)													Extracted: 08/20/10 09:35	
Acenaphthene	EPA 8270m	197	---	50.2	ug/kg wet	1x	--	--	--	--	--	--	08/23/10 15:04	B1
Acenaphthylene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Fluorene	"	83.3	---	50.2	"	"	--	--	--	--	--	--	"	B1
Indeno (1,2,3-cd) pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	B1
Pyrene	"	ND	---	50.2	"	"	--	--	--	--	--	--	"	
Surrogate(s): Fluorene-d10		Recovery: 66.6%	Limits: 24-125%		"								08/23/10 15:04	
Pyrene-d10		92.0%	41-141%		"								"	
Benzo (a) pyrene-d12		82.6%	38-143%		"								"	

LCS (10H0676-BS2)

Extracted: 08/20/10 09:35

Acenaphthene	EPA 8270m	269	---	50.2	ug/kg wet	1x	--	250	108%	(33-139)	--	--	08/23/10 14:33	
Benzo (a) pyrene	"	256	---	50.2	"	"	--	"	103%	(45-149)	--	--	"	
Pyrene	"	266	---	50.2	"	"	--	"	107%	(39-138)	--	--	"	
Surrogate(s): Fluorene-d10		Recovery: 91.0%	Limits: 24-125%		"								08/23/10 14:33	
Pyrene-d10		102%	41-141%		"								"	
Benzo (a) pyrene-d12		99.0%	38-143%		"								"	

Duplicate (10H0676-DUP1)

QC Source: PTH0487-01

Extracted: 08/20/10 09:35

Acenaphthene	EPA 8270m	278000	---	6710	ug/kg dry	100x	274000	--	--	--	1.47%	(40)	08/24/10 16:52	
Acenaphthylene	"	7060	---	6710	"	"	6780	--	--	--	4.02%	"	"	
Anthracene	"	274000	---	6710	"	"	316000	--	--	--	14.2%	"	"	
Benzo (a) anthracene	"	138000	---	6710	"	"	140000	--	--	--	0.862%	"	"	
Benzo (a) pyrene	"	38100	---	6710	"	"	41000	--	--	--	7.22%	"	"	
Benzo (b) fluoranthene	"	51100	---	6710	"	"	55100	--	--	--	7.50%	"	"	
Benzo (ghi) perylene	"	9720	---	6710	"	"	10300	--	--	--	5.50%	"	"	
Benzo (k) fluoranthene	"	47300	---	6710	"	"	48600	--	--	--	2.83%	"	"	
Chrysene	"	147000	---	6710	"	"	147000	--	--	--	0.582%	"	"	
Dibenzo (a,h) anthracene	"	ND	---	6710	"	"	ND	--	--	--	14.3%	"	"	
Fluoranthene	"	892000	---	67100	"	1000x	871000	--	--	--	2.36%	"	08/24/10 17:23	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Polynuclear Aromatic Hydrocarbon Screen (Semi-Quantitative) by EPA 8270SIM - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0676

Soil Preparation Method: EPA 3550 Fuels

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (10H0676-DUP1)			QC Source: PTH0487-01				Extracted: 08/20/10 09:35							
Fluorene	"	408000	---	67100	"	"	385000	--	--	--	5.81%	"	"	
Indeno (1,2,3-cd) pyrene	"	10600	---	6710	"	100x	10700	--	--	--	0.783%	"	08/24/10 16:52	
Naphthalene	"	11300	---	6710	"	"	8800	--	--	--	25.3%	"	"	
Phenanthrene	"	1480000	---	67100	"	1000x	1190000	--	--	--	21.3%	"	08/24/10 17:23	
Pyrene	"	571000	---	67100	"	"	549000	--	--	--	4.08%	"	"	

Surrogate(s): Fluorene-d10 Recovery: NR Limits: 24-125% 100x 08/24/10 16:52 Z3
 Pyrene-d10 NR 41-141% " " Z3
 Benzo (a) pyrene-d12 NR 38-143% " " Z3

Duplicate (10H0676-DUP2)

QC Source: PTH0489-02

Extracted: 08/20/10 09:35

Acenaphthene	EPA 8270m	92400	---	9040	ug/kg dry	100x	120000	--	--	--	25.9% (40)	"	08/24/10 17:55	
Acenaphthylene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Anthracene	"	58400	---	9040	"	"	61300	--	--	--	4.77%	"	"	
Benzo (a) anthracene	"	29700	---	9040	"	"	45200	--	--	--	41.3%	"	"	R2
Benzo (a) pyrene	"	ND	---	9040	"	"	13000	--	--	--	37.1%	"	"	
Benzo (b) fluoranthene	"	11300	---	9040	"	"	17700	--	--	--	44.3%	"	"	R2
Benzo (ghi) perylene	"	ND	---	9040	"	"	ND	--	--	--	25.2%	"	"	
Benzo (k) fluoranthene	"	10300	---	9040	"	"	14000	--	--	--	30.8%	"	"	
Chrysene	"	33400	---	9040	"	"	45500	--	--	--	30.6%	"	"	
Dibenzo (a,h) anthracene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Fluoranthene	"	163000	---	9040	"	"	278000	--	--	--	52.2%	"	"	R2
Fluorene	"	70700	---	9040	"	"	106000	--	--	--	40.0%	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	9040	"	"	ND	--	--	--	36.1%	"	"	
Naphthalene	"	ND	---	9040	"	"	ND	--	--	--	NR	"	"	
Phenanthrene	"	209000	---	9040	"	"	360000	--	--	--	53.1%	"	"	R2
Pyrene	"	110000	---	9040	"	"	163000	--	--	--	39.0%	"	"	

Surrogate(s): Fluorene-d10 Recovery: NR Limits: 24-125% " 08/24/10 17:55 Z3
 Pyrene-d10 NR 41-141% " " Z3
 Benzo (a) pyrene-d12 NR 38-143% " " Z3

TestAmerica Portland

Estella K Rieben

Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**

Project Number: 96-1412-853B

Project Manager: Erin Liebrecht

Report Created:

10/04/10 15:19

Polynuclear Aromatic Compounds per EPA 8270M-SIM. TCLP/SPLP Extracted - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10I0755

Water Preparation Method: 3520B Liq-Liq

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (10I0755-BLK1)													Extracted: 09/24/10 12:15	
Acenaphthene	1311-2/8270 m	ND	---	0.400	ug/l	1x	--	--	--	--	--	--	09/27/10 17:39	
Acenaphthylene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Fluoranthene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Fluorene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	0.400	"	"	--	--	--	--	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>81.3%</i>	<i>Limits: 25-125%</i>		<i>"</i>							<i>09/27/10 17:39</i>	
<i>Pyrene-d10</i>			<i>85.3%</i>	<i>23-150%</i>		<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>83.0%</i>	<i>10-125%</i>		<i>"</i>							<i>"</i>	

LCS (10I0755-BS1)

Extracted: 09/24/10 12:15

Acenaphthene	1311-2/8270 m	8.33	---	0.400	ug/l	1x	--	10.0	83.3%	(26-135)	--	--	09/27/10 18:10	
Benzo (a) pyrene	"	8.16	---	0.400	"	"	--	"	81.6%	(38-137)	--	--	"	
Pyrene	"	8.11	---	0.400	"	"	--	"	81.1%	(33-133)	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>79.8%</i>	<i>Limits: 25-125%</i>		<i>"</i>							<i>09/27/10 18:10</i>	
<i>Pyrene-d10</i>			<i>80.5%</i>	<i>23-150%</i>		<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>81.7%</i>	<i>10-125%</i>		<i>"</i>							<i>"</i>	

Matrix Spike (10I0755-MS1)

QC Source: PTH0487-01

Extracted: 09/24/10 12:15

Acenaphthene	1311-2/8270 m	210	---	8.00	ug/l	20x	181	10.0	285%	(26-135)	--	--	09/27/10 18:40	MHA
Benzo (a) pyrene	"	ND	---	8.00	"	"	ND	"	NR	(38-137)	--	--	"	M4
Pyrene	"	56.2	---	8.00	"	"	47.8	"	83.3%	(33-133)	--	--	"	
<i>Surrogate(s): Fluorene-d10</i>		<i>Recovery:</i>	<i>87.2%</i>	<i>Limits: 25-125%</i>		<i>"</i>							<i>09/27/10 18:40</i>	
<i>Pyrene-d10</i>			<i>80.7%</i>	<i>23-150%</i>		<i>"</i>							<i>"</i>	
<i>Benzo (a) pyrene-d12</i>			<i>72.9%</i>	<i>10-125%</i>		<i>"</i>							<i>"</i>	

TestAmerica Portland

Estella K Rieben

Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
 Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
 Project Number: 96-1412-853B
 Project Manager: Erin Liebrecht

Report Created:
 10/04/10 15:19

Percent Dry Weight (Solids) per ASTM D2216-80 - Laboratory Quality Control Results

TestAmerica Portland

QC Batch: 10H0556

Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes	
Duplicate (10H0556-DUP1)			QC Source: PTH0432-01					Extracted: 08/17/10 20:00							
% Solids	ASTM D2216-80	78.4	---	0.0100	% by Weight	1x	79.2	--	--	--	0.954% (20)		08/18/10 10:00		
Duplicate (10H0556-DUP2)			QC Source: PTH0432-02					Extracted: 08/17/10 20:00							
% Solids	ASTM D2216-80	79.3	---	0.0100	% by Weight	1x	79.3	--	--	--	0.0535% (20)		08/18/10 10:00		

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:19

Notes and Definitions

Report Specific Notes:

- B1 - Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
- H4 - Sample was extracted past holding time, but analyzed within analysis holding time.
- M4 - The sample required a dilution due to matrix interference. Because of this dilution, the matrix spike concentrations in the sample were reduced to a level where the recovery calculation does not provide useful information. See Blank Spike (LCS).
- MHA - Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- N1 - See case narrative.
- Q1 - Does not match typical pattern
- Q9 - Hydrocarbon pattern most closely resembles creosote or similar product.
- QP - Hydrocarbon result partly due to individual peak(s) in quantitation range.
- R2 - The RPD exceeded the acceptance limit.
- RL3 - Reporting limit raised due to high concentrations of non-target analytes.
- RL4 - Reporting limit raised due to insufficient sample volume.
- Z3 - The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
- ZX - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

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Amended Report

Golder Associates - Canada

500-4260 Still Creek Drive
Burnaby, BC/CAN V5C6C6

Project Name: **Stock Pile WP/YR**
Project Number: 96-1412-853B
Project Manager: Erin Liebrecht

Report Created:
10/04/10 15:19

Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*.
Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory.
Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

CERTIFICATION SUMMARY

TestAmerica Portland

Method	Matrix	Alaska
1311-2/8270m	Other dry	
1312/AK102	Other dry	
AK101 GRO	Other dry	X
AK101/8021B	Other dry	X
AK102	Other dry	X
ASTM D2216-80	Other dry	
EPA 1312	Other dry	
EPA 8270m	Other dry	

TestAmerica Portland



Estella Rieben, Project Manager

Amended Report

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.

CHAIN-OF-CUSTODY TEST REQUEST FORM

NL 5151

500 - 4260 Still Creek Drive
Burnaby, B.C.
Canada V5C 6C6
Tel: 604-296-4200
Fax: 604-296-5253
www.golder.com



PTHO49Z

Shipping Date Aug 15, 2010

Client Name Golder Associates Ship to TEST AMERICA INC
Address 2016 170 Titanium Way Phone 867-6334-7673 940 S Nimbus Ave. S.W
Whitehorse, YT Y1A 0G1 Fax 867-633-6077 Beaverton, OR.
Canada Sampled by ELiebrecht Attn: Darrell Auvi

1	1	1	2	3	3	4			
Collection Date (DD/MM/YYYY)	Time (24-h clock)	Sample Identification	Type of Each Sample	Material Safety Data Sheet Attached? (✓)	Sample Collection Method G=grab C=composite	Number of Sample Containers x Volume of Sample Containers (1 x 20L)	Sample Container Type	Test(s) Requested	Sample Notes (preserved, saltwater, freshwater, may contain sewage...)
14/08/2010	12:30	5151-1	WOOD CHIP		G	2 x 90z GJ	GJ	STX DRO GRO TEP	
		5151-2						X	
		5151-3						X	
		5151-4						X	
		5151-5						X	
	1:30	5151-6						✓	
14/08/2010	2:00	5151-7						✓	
14/08/2010	2:15	5151-8						✓	
		5151-9							
		5151-10							
PO/Reference No. <u>96-1412-853B</u>							Comments/Instructions <u>ON ICE</u>		
Project Title <u>Stock Pile WP/YR</u>									
Results Needed By									
1) Released by: <u>E.Liebrecht</u> Date: <u>Aug 15, 2010</u>		2) Released by:		Date:		3) Released by:		Date:	
Company: <u>Golder Associates</u>		Company:		Time:		Company:		Time:	
Courier Name: <u>WINGS Goldstream</u>		Courier Name:		Date:		Courier Name:		Date:	
1) Received by: <u>Regis Steinhilber</u> Date: <u>8/16/10 8:00</u>		2) Received by:		Date:		3) Received by:		Date:	
Company: <u>Regis Steinhilber</u>		Company:		Time:		Company:		Time:	

1 For composite effluent or water samples, the sample collection date/time is the end of the composting period.
 2 Receiving Water (RW); Effluent (E); Elutriate (ELU); Sediment (SED); Chemical (CHEM); Stormwater (SW); Other (Please Specify)
 3 Collapsible Carboy (CC); glass jar (GJ); Jerry Can (JC); Plastic HDPE (P); Other (Please Specify)
 4 Please note any conditions the lab should be aware of for safety and storage concerns

Distribution of copies:
 White, Yellow—accompany the shipment
 Pink—kept by consignor (e.g. shipper)
 Yellow—kept by consignee (e.g. receiver)
 White—returned to consignor by consignee

TestAmerica Portland
Sample Receiving Checklist

Work Order #: PTH0492 Date/Time Received: 8/16/10 1500
 Client Name and Project: Golden White Pass

Time Zone:
 EDT/EST CDT/CST MDT/MST PDT/PST AK OTHER

Unpacking Checks:

Cooler #(s): 1
 Temperatures: 0.8
 Digi #1 Digi #2 IR Gun Raytek
 Plastic Glass

Temperature out of Range:

Not enough or No Ice
 Ice Melted
 W/in 4 Hrs of collection
 Other: _____

N/A Yes No

Initials: PS

- 1. If ESI client, were temp blanks received? If no, document on NOD.
- 2. Cooler Seals intact? (N/A if hand delivered) if no, document on NOD **PS**
- 3. Chain of Custody present? If no, document on NOD.
- 4. Bottles received intact? If no, document on NOD.
- 5. Sample is not multiphasic? If no, document on NOD.
- 6. Proper Container and preservatives used? If no, document on NOD.
- 7. pH of all samples checked and meet requirements? If no, document on NOD.
- 8. Cyanide samples checked for sulfides and meet requirements? If no, notify PM.
- 9. HF Dilution required?
- 10. Sufficient volume provided for all analysis? If no, document on NOD and consult PM before proceeding.
- 11. Did chain of custody agree with samples received? If no, document on NOD.
- 12. Is the "Sampled by" section of the COC completed?
- 13. Were VOA/Oil Syringe samples without headspace?
- 14. Were VOA vials preserved? HCl Sodium Thiosulfate Ascorbic Acid
- 15. Did samples require preservation with sodium thiosulfate?
- 16. If yes to #15, was the residual chlorine test negative? If no, document on NOD.
- 17. Are dissolved/field filtered metals bottles sediment-free? If no, document on NOD.
- 18. Is sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM before proceeding.
- 19. Are analyses with short holding times received in hold?
- 20. Was Standard Turn Around (TAT) requested?
- 21. Receipt date(s) < 48 hours past the collection date(s)? If no, notify PM.

TestAmerica Portland
Sample Receiving Checklist

Work Order #: PTH0492

Login Checks:

Initials: PS

N/A Yes No

- 22. Sufficient volume provided for all analysis? If no, document on NOD & contact PM.
- 23. Sufficient volume provided for client requested MS/MSD or matrix duplicates? If no, document on NOD and contact PM.
- 24. Did the chain of custody include "received by" and "relinquished by" signatures, dates and times?
- 25. Were special log in instructions read and followed?
- 26. Were tests logged checked against the COC?
- 27. Were rush notices printed and delivered?
- 28. Were short hold notices printed and delivered?
- 29. Were subcontract COCs printed?
- 30. Was HF dilution logged?

Labeling and Storage Checks:

Initials: PS

N/A Yes No

- 31. Were the subcontracted samples/containers put in Sx fridge?
- 32. Were sample bottles and COC double checked for dissolved/filtered metals?
- 33. Did the sample ID, Date, and Time from label match what was logged?
- 34. Were Foreign sample stickers affixed to each container and containers stored in foreign fridge?
- 35. Were HF stickers affixed to each container, and containers stored in Sx fridge?
- 36. Was an NOD for created for noted discrepancies and placed in folder?

Document any problems or discrepancies and the actions taken to resolve them on a Notice of Discrepancy form (NOD).