TECHNICAL MEMORANDUM

To: Terry Pyle, Plaid Pantries, Inc.

From: Paul Ecker and Joseph Gustafson

Date: May 18, 2009

Subject: **Supplemental Site Characterization – April 2009**
Former Plaid Pantries Store #324
10645 16th Avenue SW
Seattle, Washington
Ecology Site ID #97464/LUST #592164

PNG Environmental, Inc. (PNG) prepared this technical memorandum to detail supplemental site characterization activities conducted in April 2009 at the Former Plaid Pantries #324 retail gasoline station, located at 10645 16th Avenue SW in Seattle, Washington (Figure 1). The background and rationale for this phase of characterization tasks can be found in the Work Plan prepared by PNG dated November 4, 2008.

The supplemental site characterization activities included identifying on-site underground utilities and advancing nine soil borings using direct push "Geoprobe" drilling technologies. Soil cores were sampled and analyzed to provide additional on-site delineation of hydrocarbon impacts exceeding Model Toxics Control Act (MTCA) Method A soil cleanup standards.

BACKGROUND

The site is located at the northwest corner of SW 107th Street and 16th Avenue SW in Seattle, Washington. The property consists of an asphalt covered parking area and one on-site building split into two commercial units. The building is currently occupied by a convenience store and restaurant. Former site operations included a retail gasoline service station. The underground storage tank (UST) system was decommissioned in 2006.

Plaid operated the Store #324 retail gasoline station at the site between September 1986 and November 30, 1990. Plaid then sub-leased the store building and sold the UST system fixtures and equipment to Young Kil Kim and Chae Yop Kim. Plaid remained the primary lessee of the property until August 31, 2006. Fuel storage at the Plaid facility was provided by three gasoline USTs which were decommissioned by the sub-tenants in 2006. UST capacities are given below:

- Two 12,000-gallon capacity USTs formerly containing gasoline.
- One 10,000-gallon capacity UST formerly containing gasoline.

During Plaid's operations (and that of the sub-tenants), only gasoline is known to have been stored and dispensed at the site. Leaded gasoline may have been dispensed at the site during phase-out of that product in the 1980s. PNG understands that neither

Plaid nor their sub-tenants stored or dispensed other hydrocarbons such as diesel fuel, bulk motor oil, or other bulk solvents at any time during site operations.

Plaid and its tenants operated a leak detection system in accordance with Ecology requirements and no known system leaks were identified or reported to Plaid during the life of Plaid's lease. Tank decommissioning data provided to Plaid in 2007 by the property owner and subsequent investigations by Plaid indicate that gasoline constituents were identified in soil near the former UST system, as summarized below and illustrated in Figure 2. Historic soil analytical data is included on Table 1.

Previous Site Characterization Results (2006-2008)

Results of the UST decommissioning activities performed by KEE Environmental in 2006 indicated gasoline (310 milligrams per kilogram [mg/Kg]), benzene (0.23 mg/Kg), and other gasoline constituents were present in sample S-10 at concentrations above the MTCA Method A cleanup criteria (Table 1 and Figure 2). Based on the UST decommissioning results, Plaid requested that PNG conduct site assessment activities to delineate the extent of a possible gasoline release. Site assessment activities through 2008 are summarized below:

- The initial site assessment was conducted in November 2007. As detailed in the Site Assessment Report (PNG January 25, 2008), four soil borings were sampled to a maximum depth of 29 feet below ground surface (bgs). Gasoline and benzene, toluene, ethylbenzene, total xylenes, and naphthalene (BTEX+N) soil impacts above the MTCA Method A cleanup criteria were detected in three of the four soil borings (B-1 through B-4) (Table 1). Site-specific lead concentrations were found below representative natural background concentrations, which is not indicative of a leaded gasoline release. Groundwater was not encountered in any of the borings.
- Additional characterization conducted in July 2008 included advancing ten additional soil borings (B-5 through B-14) and testing a soil vapor extraction (SVE) system (PNG October 1, 2008). Gasoline-range hydrocarbons and related constituents exceeding MTCA Method A soil cleanup levels were found in an area that extends from the northeastern corner of the former UST cavity toward the north and northeast property boundaries (Table 1 and Figure 2). The greatest relative contaminant concentrations were measured at depths between four and ten feet bgs which is consistent with the previous investigation. In general, the vertical extent of the gasoline impacts at the site was determined; however, the lateral extent of impacted soils was not fully delineated. Additionally, SVE was determined not to be a feasible site remediation technology due to the low-permeability soil conditions observed during testing.

Based on these investigation results through 2008, Figure 2 depicts the estimated area of soil impacts exceeding the MTCA Method A cleanup levels for gasoline and related compounds. PNG prepared a work plan (November 11, 2008) intended to delineate on-site soil impacts, and the proposed supplemental boring locations are also depicted on Figure 2.

SUPPLEMENTAL SITE CHARACTERIZATION RESULTS

Following Plaid's authorization of the November 11, 2008 Work Plan, PNG conducted the supplemental site characterization activities on April 21 and 22, 2009. Related tasks and observations are summarized in the sections below. Soil boring logs are presented in Appendix A.

Underground Utility Locating

Identifiable underground utilities at the subject property were marked by Locates Down Under, Inc. on April 21, 2009. Utilities located included cable, natural gas, sanitary sewer, and storm sewer. Power supply to the on-site building is overhead; however, an underground power line serving the store sign (located at the southeast corner of the property) was identified. Water supply to the on-site building is via PVC pipe, and as such, was not readily traceable. However, it is anticipated that the water supply extends from the meter box located along the southern property boundary directly to the store.

Based on field mapping of the underground utilities, the cable, storm sewer, and electrical line feeding the store sign likely extend through the petroleum hydrocarbon impacted zone. These utilities should be further evaluated prior to implementing future remedial actions.

Drilling and Soil Sampling

Direct-push Geoprobe drilling technology was used to advance nine borings (B-15 through B-23) to depths between eight and 15 feet bgs on April 22, 2009. Locations B-15 through B-19 were pre-selected locations based on historical data in an attempt to delineate the outer edges of the petroleum hydrocarbon impacted soil zone to the north and east of the former tank cavity. Based on field observations during drilling, petroleum impacts appeared to be present in four of these five borings; therefore, additional boring locations B-20 through B-23 were added.

Soil samples were collected and observed on a continuous basis during drilling. Consistent with prior observations, stratigraphy included a silt unit extending to approximately ten feet bgs, underlain by sand and gravel. Prior data indicated fuel impacts are generally limited to the silt unit (PNG October 1, 2008). Within the silt layer, soil samples were collected for laboratory analysis where field observations and/or photoionization detector (PID) readings indicated relatively high concentrations of petroleum hydrocarbons, or based on depths pre-specified in the Work Plan where petroleum hydrocarbon impacts were not observed.

All samples were labeled and immediately placed in a cooler with ice after collection. The samples were delivered under chain-of-custody protocol to Friedman & Bruya, Inc. (Seattle, Washington) for chemical analyses. Based on known site usage and the prior data consistent with unleaded gasoline-range hydrocarbon impacts, soil samples from each boring were submitted for analysis for gasoline range organics using NWTPH-Gx, and for gasoline volatile organic compound (VOC) constituents using EPA Method 8260C.

Soil Analytical Results

A total of 25 soil samples were collected and submitted for laboratory analysis in April 2009. Laboratory analytical results are summarized in Table 1, illustrated on Figure 3, and described below. Laboratory analytical reports are included as Appendix B.

- Gasoline Range Hydrocarbons: Total petroleum hydrocarbons (TPH) in the gasoline range were detected in six of the 25 soil samples, ranging between 46 and 120 mg/kg. Of these six samples, only one exceeded the MTCA Method A soil cleanup level of 100 mg/kg for soils without benzene (B-16/8, 120 mg/kg). Consistent with previous investigations, observed TPH impacts were generally located within the silt unit between four and ten feet bgs.
- VOCs: Gasoline VOC constituents were detected in four of the 25 soil samples; however, benzene was not detected in any of the samples above the laboratory reporting limit of 0.03 mg/kg. All concentrations of gasoline constituents were below the respective MTCA Method A cleanup levels. Consistent with the TPH analytical results, the trace VOC impacts were limited to soils within approximately four to ten feet bgs.
- No gasoline or related VOCs were detected among soil samples collected at depths greater than ten feet bgs during this work.

CONCLUSIONS

The lateral and vertical extent of the soil impacts exceeding the MTCA Method A cleanup criteria for gasoline and related compounds have generally been characterized on-site. Figure 4 depicts the anticipated soil zones exceeding the appropriate MTCA Method A cleanup requirements. Plaid is evaluating potential remedial actions at the site. Before proceeding with remedial actions, PNG recommends Plaid confer with the property owner and request an Ecology file review and concurrence regarding site characterization to date.

ATTACHMENTS

Table 1 – Soil Analytical Results

Figure 1 – Site Location Map
Figure 2 – Previous Sample Locations and Estimated Area of Impact (2008)
Figure 3 – New Boring Locations and Analytical Results – April 2009
Figure 4 – Approximate Extent of Petroleum Impacted Soils

Appendix A – Soil Boring Logs
Appendix B – Laboratory Analytical Data and Chain-of-Custody Documentation

cc: John Bails, Washington Department of Ecology
Mike Lilly, Attorney

TABLE

Table 1
Soil Analytical Results - (mg/Kg)
Plaid Pantry #324
Seattle, Washington

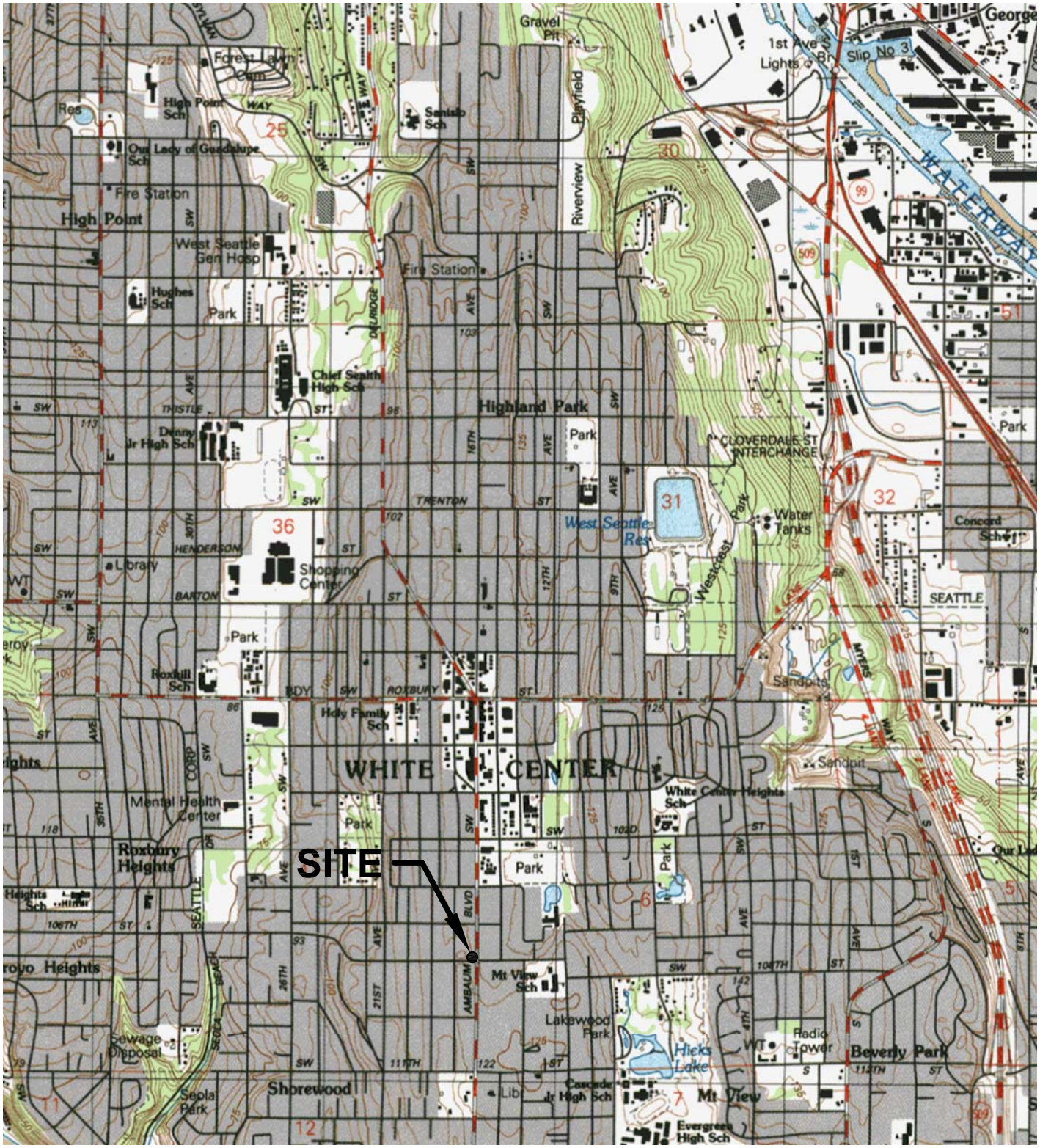
Sample Identification	Sample Depth (feet bgs)	Date Sampled	Gasoline Range Organics (GRO)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl t-butyl ether	1,2-Dibromoethane	1,2-Dichloroethane	Naphthalene	Total Lead
S-1	16	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-2	16	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-3	16	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-4	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-5	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-6	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-7	8	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-8	4	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-9	4	05/04/2006	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
S-10	4	05/04/2006	**310**	**0.23**	0.85	2.0	**16**	-	-	-	-	-
B1-5	5	11/12/2007	**1,400**	**4.8**	**92**	**55**	**580**	0.05 U	0.05 U	0.05 U	**13**	7.95
B1-8	8	11/12/2007	11	0.03 U	0.05 U	0.05 U	0.21	0.05 U	0.05 U	0.05 U	0.05 U	2.38
B1-23	23	11/12/2007	**50**	**0.29**	6.2	3.8	**60**	0.05 U	0.05 U	0.05 U	3.2	-
B2-9	9	11/12/2007	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	2.46
B3-8	8	11/12/2007	**390**	**0.86**	**28**	**21**	**136**	0.05 U	0.05 U	0.05 U	5 U	4.11
B4-5	5	11/12/2007	2	0.03 U	0.065	0.059	0.303	0.05 U	0.05 U	0.05 U	0.057	2.61
B4-8	8	11/12/2007	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-5@4	4	07/16/2008	**1,300**	0.8 U	4.2	**12**	**120**	-	-	-	-	-
B-5@7	7	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-5@12	12	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-5@17	17	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-5@22	22	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-5@28	28	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-5@34	34	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-5@39	39	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B6@4	4	07/17/2008	**1,500**	**1.5**	**65**	**12**	**250**	-	-	-	-	-
B6@9	4	07/17/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B7@4	4	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@8	8	07/16/2008	**580** U	**0.05**	6.1	**9.2**	**38**	-	-	-	-	-
B-7@11	11	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@19	19	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-7@21	21	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@26	26	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@34	34	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-7@39	39	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-8@6	6	07/17/2008	**1,200**	**0.73**	**16**	**17**	**150**	-	-	-	-	-
B-8@9	9	07/17/2008	18	**0.03**	1	0.5	0.78	-	-	-	-	-
B-9@5	5	07/17/2008	**950**	**1.5**	**42**	**14**	**120**	-	-	-	-	-
B-9@10	10	07/17/2008	**2,100**	**9.9**	**99**	**31**	**200**	-	-	-	-	-
B-9@12	12	07/17/2008	2 U	0.02 U	0.03	0.02 U	0.06 U	-	-	-	-	-
B-10@4	4	07/15/2008	8	**0.06**	0.22	0.17	0.92	-	-	-	-	-
B10@6	6	07/15/2008	6	**0.07**	0.4	0.24	0.74	-	-	-	-	-
B-10@10	10	07/15/2008	**76**	0.02 U	0.45	0.57	3.9	-	-	-	-	-
B-10@14.5	14.5	07/15/2008	19	0.02 U	0.17	0.15	0.97	-	-	-	-	-
B-10@19	19	07/15/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-10@20-30	20-30	07/15/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-10@31	31	07/16/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-10@39.5	39.5	07/16/2008	2 U	-	-	-	-	-	-	-	-	-
B-12@4	4	07/17/2008	**150**	0.02 U	0.27	0.02 U	3.6	-	-	-	-	-
B-12@8	8	07/17/2008	2 U	0.02 U	0.02 U	0.02 U	0.06 U	-	-	-	-	-
B-13@5	5	07/17/2008	**140**	0.02 U	1.8	1.6	**11**	-	-	-	-	-
B-13@12	12	07/17/2008	3	0.12	0.26	0.06	0.3	-	-	-	-	-
Plaid 324 Comp		07/16/2008	-	-	-	-	-	-	-	-	-	2.09
MTCA Method A Cleanup Level (w/benzene)			**30**	**0.03**	**7**	**6**	**9**	**0.1**	**0.005**	**NA**	**5**	**250**

Table 1
Soil Analytical Results - (mg/Kg)
Plaid Pantry #324
Seattle, Washington

Sample Identification	Sample Depth (feet bgs)	Date Sampled	Gasoline Range Organics (GRO)	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl t-butyl ether	1,2-Dibromoethane	1,2-Dichloroethane	Naphthalene	Total Lead
B-15/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-15/8	8	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-15/12	12	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-16/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-16/8	8	04/22/2009	**120**	0.03 U	0.05 U	0.33	0.98	-	-	-	1.0	-
B-16/11	11	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-17/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-17/7	7	04/22/2009	46	0.03 U	0.05 U	0.06	0.15 U	-	-	-	0.32	-
B-17/10	10	04/22/2009	90	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-17/13	13	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-18/4	4	04/22/2009	54	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.005 U	0.05 U	0.092	-
B-18/8	8	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-18/12	12	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-19/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-19/8	8	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-19/12	12	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-20/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-20/6	6	04/22/2009	93	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.005 U	0.05 U	0.05 U	-
B-20/10	10	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-21/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-21/9	9	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-22/4	4	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	-	-	-	0.05 U	-
B-22/7	7	04/22/2009	93	0.03 U	0.05 U	0.12	0.1	-	-	-	0.32	-
B-23/5	5	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
B-23/10	10	04/22/2009	2 U	0.03 U	0.05 U	0.05 U	0.15 U	0.05 U	0.05 U	0.05 U	0.05 U	-
MTCA Method A Cleanup Level (no benzene; BTEX<1% Gx)			**100**	**0.03**	**7**	**6**	**9**	**0.1**	**0.005**	**NA**	**5**	**250**

Notes:
MTCA = Model Toxics Control Act Method A Cleanup Levels for Soil (Washington Department of Ecology, February 12, 2001)
Volatile organic compounds (VOCs) by EPA Method 8260B
Gasoline range organics (GRO) by Method NWTPH-Gx
Total lead by EPA Method 6010
mg/Kg = Milligrams per kilogram (parts per million)
bgs = Below ground surface
U = Not detected at method reporting limit shown
- = Not measured
NA = Not applicable
Values in **bold** indicate the compound concentration exceeds the MTCA Method A Cleanup Level

FIGURES



APPROXIMATE SCALE IN FEET

0 1000 2000 4000

NOTE: USGS, Seattle South Quadrangle
Washington - Snohomish Co.
7.5 x 15 Minute Quadrangle, 1983.
Base map provided by MapTech.

PNG ENVIRONMENTAL, INC. 1339 Commerce Avenue, Suite 313 Longview, Washington 98632 TEL (360) 414-0669 FAX (360) 414-0663	DATE: 10-5-07 FILE NAME: 1133-01 DRAWN BY: JJT APPROVED BY:	PLAID PANTRY #324 10645 16TH AVE. SW SEATTLE, WASHINGTON	SITE LOCATION MAP	Project No. 1133-01 Figure No. 1

Planter

Sidewalk

Parking Lot

CB

B-15

B-16

B-2

B-7(VM-2)

B-8

B-14

B-13

B-17

B-3

B-12

B-5(VM-3)

B-1

VM-1

B-9

B-6

Former UST Pad

B-18

S-10

S-4

S-1

Planter

B-4

B-10

CB

S-5

S-2

B-11

S-6

B-19

S-3

Former UST's

S-7

Former Pump Island

S-9

Former Canopy

S-8

Sidewalk

16TH AVENUE SW

LEGEND

- Existing Structures
- Former UST's (Removed May 2006)
- CB — Catch Basin
- S-6 — Soil Sample Location (KEE, May 2006)
- B-1 — Boring Locations
- B-5 — SVE Pilot Wells (PNG, July 2008)
- B-15 — Proposed Boring Locations (PNG April, 2009)
- Approximate Area of Soil Impacts Exceeding MTCA-A Clean-up Levels for Gasoline and/or BTEX Based on 2008 Data

APPROXIMATE SCALE IN FEET

0 10 20

N

PNG ENVIRONMENTAL, INC.
6665 SW Hampton St., Ste. 101
Tigard, OR 97223
TEL (503) 620-2387
FAX (503) 620-2977

DATE: 5-8-09
FILE NAME: 1133-01
DRAWN BY: JJT
APPROVED BY:

PLAID PANTRY #324
10645 16TH AVE. SW.
SEATTLE, WASHINGTON

PREVIOUS SAMPLE LOCATIONS AND ESTIMATED AREA OF IMPACT (2008)

Project No. 1133-01

Figure No. 2

Planter

B-23		
Depth	Gas	Benzene
5'	<2	<0.03
10'	<2	<0.03

B-23

B-20		
Depth	Gas	Benzene
4'	<2	<0.03
6'	93	<0.03
10'	<2	<0.03

B-20

CB

B-22		
Depth	Gas	Benzene
4'	<2	<0.03
7'	93	<0.03

B-22

B-15		
Depth	Gas	Benzene
4'	<2	<0.03
8'	<2	<0.03
12'	<2	<0.03

B-15

Parking Lot

B-16		
Depth	Gas	Benzene
4'	<2	<0.03
8'	120	<0.03
11'	<2	<0.03

B-16

B-2

B-7(VM-2)

B-8

B-14

Sidewalk

B-17		
Depth	Gas	Benzene
4'	<2	<0.03
7'	46	<0.03
10'	90	<0.03
13'	<2	<0.03

B-17

B-13

B-3

B-21		
Depth	Gas	Benzene
4'	<2	<0.03
9'	<2	<0.03

B-21

B-12

B-5(VM-3)

B-1

VM-1

B-9

B-6

Former UST Pad

B-18		
Depth	Gas	Benzene
4'	54	<0.03
8'	<2	<0.03
12'	<2	<0.03

B-18

S-10

S-4

S-1

Planter

B-4

B-10

S-5

S-2

B-11

CB

S-6

B-19		
Depth	Gas	Benzene
4'	<2	<0.03
8'	<2	<0.03
12'	<2	<0.03

B-19

S-3

Former UST's

S-7

Sidewalk

16TH AVENUE SW

Former Pump Island

S-9

Former Canopy

S-8

LEGEND

- Existing Structures
- Former UST's (Removed May 2006)
- CB — Catch Basin
- S-6 — Soil Sample Location (KEE, May 2006)
- B-1 — Boring Locations
- B-5 — SVE Pilot Wells (PNG, July 2008)
- B-15 — Boring Locations (PNG, April 2009)

APPROXIMATE SCALE IN FEET

0 10 20

N

PNG ENVIRONMENTAL, INC.
6665 SW Hampton St., Ste. 101 TEL (503) 620-2387
Tigard, OR 97223 FAX (503) 620-2977

DATE: 5-8-09
FILE NAME: 1133-01
DRAWN BY: JJT
APPROVED BY:

PLAID PANTRY #324
10645 16TH AVE. SW.
SEATTLE, WASHINGTON

NEW BORING LOCATIONS
AND ANALYTICAL RESULTS
APRIL 2009

Project No. 1133-01

Figure No. 3

Planter

Sidewalk

B-23

B-20

CB

B-22

Parking Lot

B-15

B-16

B-2

B-7(VM-2)

B-8

B-14

B-17

B-13

B-3

B-12

B-5(VM-3)

B-1

VM-1

B-21

B-9

Former UST Pad

B-6

B-18

S-10

S-4

S-1

Planter

B-4

B-10

CB

S-5

S-2

B-11

S-6

B-19

S-3

Former UST's

S-7

Former Pump Island

S-9

Former Canopy

S-8

Sidewalk

16TH AVENUE SW

LEGEND

Existing Structures

Former UST's (Removed May 2006)

CB Catch Basin

S-6 Soil Sample Location (KEE, May 2006)

B-1 Boring Locations

B-5 SVE Pilot Wells (PNG, July 2008)

Gasoline > MTCA Method A Soils Cleanup Level =

3 - 6' Zone

3 - 10' Zone

5 - 10' Zone

4 - 12' Zone

APPROXIMATE SCALE IN FEET

0 10 20

N

PNG ENVIRONMENTAL, INC.
6665 SW Hampton St., Ste. 101 TEL (503) 620-2387
Tigard, OR 97223 FAX (503) 620-2977

DATE: 5-8-09
FILE NAME: 1133-01
DRAWN BY: JJT
APPROVED BY:

PLAID PANTRY #324
10645 16TH AVE. SW.
SEATTLE, WASHINGTON

APPROXIMATE EXTENT OF PETROLEUM IMPACTED SOILS

Project No. 1133-01

Figure No. 4

APPENDIX A
SOIL BORING LOGS

6665 SW Hampton St., Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

SEE SITE MAP FOR BORING LOCATIONS

N

WELL/BORING NUMBER B-15

PROJECT NAME: Plaid Pantry #324
PROJECT NUMBER: 1133-01
LOCATION: Seattle, WA.
LOGGED BY: JRG
REVIEWED BY: JRG
DATE: 4-27-09

SAMPLE TYPE	BLOW COUNTS	PID (ppm)	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	REC %	STRATA	SOIL TYPE	DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)
										(0-0.4) Asphalt.
		0							GP	Sandy Gravel. Brown, dry, no odor. (Fill)
				B15@4'					ML	Sandy Silt with Gravel. Brown, fine sand, subangular gravel up to 1" dia., soft, non-plastic, moist, no odor.
		8.0			5					3 to 5': Gravel to 1/2" dia., mild petro odor, red mottled appearance.
										6 to 7': No mottling or odor, stiff.
				B15@8'						8': Gray petro staining, strong odor, no sheen.
		18								9 to 14': Color returns to brown, no odor or staining, stiff, occasional gray lense.
		0			10					
				B15@12'						
		0								
		0							SP	Poorly Graded Sand with Gravel. Brown, medium to coarse sand with pea size subrounded to round gravel, moist, no odor.
					15					End of Boring @ 15'.
										Note: 3/8" Bentonite chips backfill and EZ Street Asphalt hole patch for surface repair.
					20					
					25					
					30					

BOREHOLE/WELL CONSTRUCTION DETAIL

DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Direct Push "Geoprobe"
SAMPLING METHOD: Continuous
DRILLING START TIME: 4-22-09
DRILLING END TIME:

COORDINATES:
SURFACE ELEVATION:
CASING ELEVATION:
SITE DATUM:

TIME	DATE	DTW
	4-22-09	

6665 SW Hampton St., Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

SEE SITE MAP FOR BORING LOCATIONS

N

WELL/BORING NUMBER B-16

PROJECT NAME: Plaid Pantry #324
PROJECT NUMBER: 1133-01
LOCATION: Seattle, WA.
LOGGED BY: JRG
REVIEWED BY: JRG
DATE: 4-27-09

SAMPLE INFORMATION								STRATA	SOIL TYPE	DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	BOREHOLE/WELL CONSTRUCTION DETAIL
SAMPLE TYPE	BLOW COUNTS	PID (ppm)	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	REC %				
										(0-0.4) Asphalt.	
									GP	Sandy Gravel. Brown, dry, no odor. (Fill)	
				B16@4'	5				SM	Silty Sand with Gravel. Brown, fine to medium sand with silt, gravel subangular up to 1" dia., dry, no odor.	
				B16@8'					ML	Sandy Silt with Gravel. Gray, fine sand with subrounded gravel up to 1" dia., moist, petro odor, no sheen, stiff.	
				B16@12'	10				SM	Silty Sand with Gravel. Fine to medium sand with some silt and subrounded gravel up to 1" dia., moist, no odor.	
					15					End of Boring @ 12'. Note: 3/8" Bentonite chips backfill and EZ Street Asphalt hole patch for surface repair.	
					20						
					25						
					30						

DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Direct Push "Geoprobe"
SAMPLING METHOD: Continuous
DRILLING START TIME: 4-22-09
DRILLING END TIME:

COORDINATES:
SURFACE ELEVATION:
CASING ELEVATION:
SITE DATUM:

TIME	DATE	DTW
	4-22-09	

6665 SW Hampton St., Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

SEE SITE MAP FOR BORING LOCATIONS

N

WELL/BORING NUMBER B-17

PROJECT NAME: Plaid Pantry #324
PROJECT NUMBER: 1133-01
LOCATION: Seattle, WA.
LOGGED BY: JRG
REVIEWED BY: JRG
DATE: 4-27-09

SAMPLE INFORMATION

SAMPLE TYPE	BLOW COUNTS	PID (ppm)	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	REC %	STRATA	SOIL TYPE	DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)
										(0-0.4) Asphalt.
									GP	Sandy Gravel. Brown, dry, no odor. (Fill)
				B17@4'					SM	Silty Sand with Gravel. Brown, fine to medium sand with silt and some gravel, gravel subrounded up to 1" dia., dry, no odor.
					5					Sandy Silt with Gravel. Gray, fine sand with subrounded gravel up to 1" dia.
				B17@7'					ML	6.5': Black organic layer, no odor, 2" thick, stiff, dry.
										7 to 8': Strong petro odor and staining.
				B17@10'					SM	Silty Sand with Gravel. Brown, fine to medium sand with silt and some gravel, gravel subrounded up to 1" dia., dry, no odor.
					10				ML	Sandy Silt with Gravel. Gray, fine sand with subrounded gravel up to 1" dia., strong petro odor.
				B17@13'					SW	Well Graded Sand with Gravel. Brown, medium to coarse sand with trace fines and some subrounded 1/2" dia. gravel, dry, no odor.
									SP	Poorly Graded Sand. Brown, fine to medium sand with trace fines, dry, no odor.
					15					End of Boring @ 15'.
										Note: 3/8" Bentonite chips backfill and EZ Street Asphalt hole patch for surface repair.
					20					
					25					
					30					

BOREHOLE/WELL CONSTRUCTION DETAIL

DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Direct Push "Geoprobe"
SAMPLING METHOD: Continuous
DRILLING START TIME: 4-22-09
DRILLING END TIME:

COORDINATES:
SURFACE ELEVATION:
CASING ELEVATION:
SITE DATUM:

TIME	DATE	DTW
	4-22-09	

6665 SW Hampton St., Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

SEE SITE MAP FOR BORING LOCATIONS

N

WELL/BORING NUMBER B-18

PROJECT NAME: Plaid Pantry #324
PROJECT NUMBER: 1133-01
LOCATION: Seattle, WA.
LOGGED BY: JRG
REVIEWED BY: JRG
DATE: 4-27-09

SAMPLE INFORMATION								STRATA	SOIL TYPE	DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	BOREHOLE/WELL CONSTRUCTION DETAIL
SAMPLE TYPE	BLOW COUNTS	PID (ppm)	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	REC %				
									GP	(0-0.4) Asphalt. Sandy Gravel. Brown, dry, no odor. (Fill)	
				B18@4'	5				SM	Silty Sand with Gravel to Sandy Silt with Gravel. Brown, fine to medium sand, subrounded gravel up to 1" dia., stiff, no odor. 4 to 6': Petro odor, gray staining, no sheen, very stiff. 6 to 9.5': Brown, some iron mottling, no odor.	
				B18@8'							
				B18@12'	10				SP	Poorly Graded Sand with Gravel. Brown, fine to coarse sand with subrounded gravel up to 1/2" dia., dry, no odor.	
					15					End of Boring @ 12'. Note: 3/8" Bentonite chips backfill and EZ Street Asphalt hole patch for surface repair.	
					20						
					25						
					30						

DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Direct Push "Geoprobe"
SAMPLING METHOD: Continuous
DRILLING START TIME: 4-22-09
DRILLING END TIME:

COORDINATES:
SURFACE ELEVATION:
CASING ELEVATION:
SITE DATUM:

TIME	DATE	DTW
	4-22-09	

6665 SW Hampton St., Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

SEE SITE MAP FOR BORING LOCATIONS

N

WELL/BORING NUMBER B-19

PROJECT NAME: Plaid Pantry #324
PROJECT NUMBER: 1133-01
LOCATION: Seattle, WA.
LOGGED BY: JRG
REVIEWED BY: JRG
DATE: 4-27-09

SAMPLE INFORMATION								STRATA	SOIL TYPE	DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	BOREHOLE/WELL CONSTRUCTION DETAIL
SAMPLE TYPE	BLOW COUNTS	PID (ppm)	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	REC %				
										(0-0.4) Asphalt.	
									GP	Sandy Gravel. Brown, dry, no odor. (Fill)	
				B19@4'	5				SM/ ML	Silty Sand with Gravel to Sandy Silt with Gravel. Brown, fine to medium sand, subround gravel up to 1" dia., firm, dry, no odor. 4 to 8': Grayish-brown, stiff, no odor. 7 to 8': Some red iron mottling.	
				B19@8'						8 to 12': No mottling, very homogenous looking core.	
				B19@12'	10					End of Boring @ 12'. Note: 3/8" Bentonite chips backfill and EZ Street Asphalt hole patch for surface repair.	
					15						
					20						
					25						
					30						

DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Direct Push "Geoprobe"
SAMPLING METHOD: Continuous
DRILLING START TIME: 4-22-09
DRILLING END TIME:

COORDINATES:
SURFACE ELEVATION:
CASING ELEVATION:
SITE DATUM:

TIME	DATE	DTW
	4-22-09	

6665 SW Hampton St., Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

SEE SITE MAP FOR BORING LOCATIONS

N

WELL/BORING NUMBER B-20

PROJECT NAME: Plaid Pantry #324
PROJECT NUMBER: 1133-01
LOCATION: Seattle, WA.
LOGGED BY: JRG
REVIEWED BY: JRG
DATE: 4-27-09

SAMPLE TYPE	BLOW COUNTS	PID (ppm)	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	REC %	STRATA	SOIL TYPE	DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)
										(0-0.4) Asphalt.
		0							GP	Sandy Gravel. Brown, dry, no odor. (Fill)
									ML	Sandy Silt with Gravel. Brown, fine sand, gravel subrounded up to 1" dia., dry to moist, no odor.
		0		B20@4'					SP	Poorly Graded Sand. Brown, fine to medium sand with pea size gravel, moist, no odor.
		0		B20@6'	5				ML	Sandy Silt with Gravel. Brown, fine sand, gravel subrounded up to 1" dia., moist, stiff, no odor.
		27								6.5 to 6.7': Very thin lense of gray staining, petro odor.
		0								
		0		B20@10'	10					10 to 12': Very stiff.
		0								
										End of Boring @ 12'.
					15					Note: 3/8" Bentonite chips backfill and EZ Street Asphalt hole patch for surface repair.
					20					
					25					
					30					

BOREHOLE/WELL CONSTRUCTION DETAIL

DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Direct Push "Geoprobe"
SAMPLING METHOD: Continuous
DRILLING START TIME: 4-22-09
DRILLING END TIME:

COORDINATES:
SURFACE ELEVATION:
CASING ELEVATION:
SITE DATUM:

TIME	DATE	DTW
	4-22-09	

6665 SW Hampton St., Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

SEE SITE MAP FOR BORING LOCATIONS

N

WELL/BORING NUMBER B-21

PROJECT NAME: Plaid Pantry #324
PROJECT NUMBER: 1133-01
LOCATION: Seattle, WA.
LOGGED BY: JRG
REVIEWED BY: JRG
DATE: 4-27-09

SAMPLE INFORMATION								STRATA	SOIL TYPE	DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	BOREHOLE/WELL CONSTRUCTION DETAIL
SAMPLE TYPE	BLOW COUNTS	PID (ppm)	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	REC %				
									GP	(0-0.4) Asphalt. Sandy Gravel. Brown, dry, no odor. (Fill)	
				B21@4'	5				SM	Silty Sand with Gravel. Brown, fine to medium sand with some silt and some 1" dia. subrounded gravel, dry, no odor. 4 to 8': Poor recovery (10%), no sample.	
				B21@9'	10				SP	Poorly Graded Sand with Gravel. Brown, medium to coarse sand, gravel subangular up to 1", dry, no odor.	
									SM	Silty Sand with Gravel. Brown, fine to medium sand with some silt and some pea size gravel, dry, no odor.	
					15				SP	Poorly Graded Sand. Brown, fine to medium sand, trace pea size gravel, dry, no odor.	
					20					End of Boring @ 15'. Note: 3/8" Bentonite chips backfill and EZ Street Asphalt hole patch for surface repair.	
					25						
					30						

DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Direct Push "Geoprobe"
SAMPLING METHOD: Continuous
DRILLING START TIME: 4-22-09
DRILLING END TIME:

COORDINATES:
SURFACE ELEVATION:
CASING ELEVATION:
SITE DATUM:

TIME	DATE	DTW
	4-22-09	

6665 SW Hampton St., Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

SEE SITE MAP FOR BORING LOCATIONS

N

WELL/BORING NUMBER B-22

PROJECT NAME: Plaid Pantry #324
PROJECT NUMBER: 1133-01
LOCATION: Seattle, WA.
LOGGED BY: JRG
REVIEWED BY: JRG
DATE: 4-27-09

SAMPLE INFORMATION								STRATA	SOIL TYPE	DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	BOREHOLE/WELL CONSTRUCTION DETAIL
SAMPLE TYPE	BLOW COUNTS	PID (ppm)	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	REC %				
										(0-0.4) Asphalt.	
									GP	Sandy Gravel. Brown, dry, no odor. (Fill)	
				B22@4'					SM/ ML	Silty Sand with Gravel to Sandy Silt with Gravel. Brown, fine to medium sand, gravel subangular up to 1", dry, no odor.	
					5					5.5 to 7': Gray, petro odor, no sheen.	
				B22@7'					SP	Poorly Graded Sand. Brown, fine to medium sand, few small gravels, dry, no odor.	
										End of Boring @ 8'.	
					10					Note: 3/8" Bentonite chips backfill and EZ Street Asphalt hole patch for surface repair.	
					15						
					20						
					25						
					30						

DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Direct Push "Geoprobe"
SAMPLING METHOD: Continuous
DRILLING START TIME: 4-22-09
DRILLING END TIME:

COORDINATES:
SURFACE ELEVATION:
CASING ELEVATION:
SITE DATUM:

TIME	DATE	DTW
	4-22-09	

6665 SW Hampton St., Suite 101
Tigard, Oregon 97223
TEL (503) 620-2387
FAX (503) 620-2977

SEE SITE MAP FOR BORING LOCATIONS

N

WELL/BORING NUMBER B-23

PROJECT NAME: Plaid Pantry #324
PROJECT NUMBER: 1133-01
LOCATION: Seattle, WA.
LOGGED BY: JRG
REVIEWED BY: JRG
DATE: 4-27-09

SAMPLE INFORMATION								STRATA	SOIL TYPE	DESCRIPTION (USCS Classification, Depth Interval, Color, Grain Size, Plasticity, Shapes, Mineral Composition, Density or Consistency, Moisture, Odor, Geological Interpretation)	BOREHOLE/WELL CONSTRUCTION DETAIL
SAMPLE TYPE	BLOW COUNTS	PID (ppm)	First Water	LAB SAMPLE I.D.	DEPTH bgs (ft)	SAMPLE INTERVAL	REC %				
										(0-0.4) Asphalt.	
									GP	Sandy Gravel. Brown, dry, no odor. (Fill)	
									SM/ ML	Silty Sand with Gravel to Sandy Silt with Gravel. Brown, fine to medium sand, gravel subrounded up to 1", dry, soft, no odor.	
				B23@5'	5						
				B23@10'	10					10 to 12': Stiff, 1/2" dia. gravel.	
										End of Boring @ 12'.	
					15					Note: 3/8" Bentonite chips backfill and EZ Street Asphalt hole patch for surface repair.	
					20						
					25						
					30						

DRILLING CONTRACTOR: Cascade Drilling
DRILLING METHOD: Direct Push "Geoprobe"
SAMPLING METHOD: Continuous
DRILLING START TIME: 4-22-09
DRILLING END TIME:

COORDINATES:
SURFACE ELEVATION:
CASING ELEVATION:
SITE DATUM:

TIME	DATE	DTW
	4-22-09	

APPENDIX B
LABORATORY ANALYTICAL DATA AND CHAIN-OF-CUSTODY DOCUMENTATION

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

April 30, 2009

Paul Ecker, Project Manager
PNG Environmental
6665 SW Hampton St, Suite 101
Tigard, OR 97223

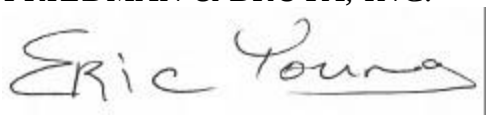
Dear Mr. Ecker:

Included are the results from the testing of material submitted on April 22, 2009 from the 1133-01 Plaid 324, F&BI 904223 project. There are 23 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Eric Young
Chemist

Enclosures
PNG0430R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 22, 2009 by Friedman & Bruya, Inc. from the PNG Environmental 1133-01 Plaid 324, F&BI 904223 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	PNG Environmental
904223-01	TB042209
904223-02	B-15/4
904223-03	B-15/8
904223-04	B-15/12
904223-05	B-20/4
904223-06	B-20/6
904223-07	B-20/10
904223-08	B-17/4
904223-09	B-17/7
904223-10	B-17/10
904223-11	B-17/13
904223-12	B-18/4
904223-13	B-18/8
904223-14	B-18/12
904223-15	B-16/4
904223-16	B-16/8
904223-17	B-16/11
904223-18	B-21/4
904223-19	B-21/9
904223-20	B-19/4
904223-21	B-19/8
904223-22	B-19/12
904223-23	B-22/4
904223-24	B-22/7
904223-25	B-23/5
904223-26	B-23/10

All quality control requirements were acceptable.

Date of Report: 04/30/09
Date Received: 04/22/09
Project: 1133-01 Plaid 324, F&BI 904223
Date Extracted: 04/24/09
Date Analyzed: 04/24/09 and 04/27/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
B-15/4 904223-02	<2	109
B-15/8 904223-03	<2	116
B-15/12 904223-04	<2	114
B-20/4 904223-05	<2	108
B-20/6 d 904223-06 1/10	93	ip
B-20/10 904223-07	<2	118
B-18/4 904223-12	54	ip
B-18/8 904223-13	<2	114
B-18/12 904223-14	<2	113
B-21/4 904223-18	<2	104

Date of Report: 04/30/09
Date Received: 04/22/09
Project: 1133-01 Plaid 324, F&BI 904223
Date Extracted: 04/24/09
Date Analyzed: 04/24/09 and 04/27/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
B-21/9 904223-19	<2	108
B-19/4 904223-20	<2	109
B-19/8 904223-21	<2	107
B-19/12 904223-22	<2	115
B-23/5 904223-25	<2	104
B-23/10 904223-26	<2	118
Method Blank	<2	105

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-15/4	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-02
Date Analyzed:	04/23/09	Data File:	042308.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	138	42	152
Toluene-d8	133	36	149
4-Bromofluorobenzene	124	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-15/8	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-03
Date Analyzed:	04/23/09	Data File:	042310.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	127	42	152
Toluene-d8	128	36	149
4-Bromofluorobenzene	124	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-15/12	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-04
Date Analyzed:	04/23/09	Data File:	042311.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	122	42	152
Toluene-d8	120	36	149
4-Bromofluorobenzene	113	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-20/4	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-05
Date Analyzed:	04/23/09	Data File:	042312.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	137	42	152
Toluene-d8	131	36	149
4-Bromofluorobenzene	125	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-20/6	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-06
Date Analyzed:	04/23/09	Data File:	042313.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	118	42	152
Toluene-d8	112	36	149
4-Bromofluorobenzene	110	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-20/10	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-07
Date Analyzed:	04/23/09	Data File:	042314.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	123	42	152
Toluene-d8	120	36	149
4-Bromofluorobenzene	113	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-18/4	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-12
Date Analyzed:	04/23/09	Data File:	042315.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	120	42	152
Toluene-d8	116	36	149
4-Bromofluorobenzene	112	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	0.092

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-18/8	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-13
Date Analyzed:	04/23/09	Data File:	042316.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	42	152
Toluene-d8	102	36	149
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-18/12	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-14
Date Analyzed:	04/23/09	Data File:	042317.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	118	42	152
Toluene-d8	113	36	149
4-Bromofluorobenzene	109	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-21/4	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-18
Date Analyzed:	04/23/09	Data File:	042318.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	42	152
Toluene-d8	110	36	149
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-21/9	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-19
Date Analyzed:	04/23/09	Data File:	042319.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	42	152
Toluene-d8	106	36	149
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-19/4	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-20
Date Analyzed:	04/23/09	Data File:	042320.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	134	42	152
Toluene-d8	130	36	149
4-Bromofluorobenzene	129	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-19/8	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-21
Date Analyzed:	04/24/09	Data File:	042323.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	128	42	152
Toluene-d8	122	36	149
4-Bromofluorobenzene	114	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-19/12	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-22
Date Analyzed:	04/24/09	Data File:	042324.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	119	42	152
Toluene-d8	117	36	149
4-Bromofluorobenzene	118	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-23/5	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-25
Date Analyzed:	04/24/09	Data File:	042325.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	42	152
Toluene-d8	105	36	149
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-23/10	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	904223-26
Date Analyzed:	04/24/09	Data File:	042326.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	123	42	152
Toluene-d8	117	36	149
4-Bromofluorobenzene	111	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	PNG Environmental
Date Received:	NA	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/23/09	Lab ID:	090527 mb
Date Analyzed:	04/23/09	Data File:	042306.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	42	152
Toluene-d8	96	36	149
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)
Hexane	<0.25
Methyl t-butyl ether (MTBE)	<0.05
1,2-Dibromoethane (EDB)	<0.05
1,2-Dichloroethane (EDC)	<0.05
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Date of Report: 04/30/09
Date Received: 04/22/09
Project: 1133-01 Plaid 324, F&BI 904223

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 904223-25 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	105	61-153

Date of Report: 04/30/09
Date Received: 04/22/09
Project: 1133-01 Plaid 324, F&BI 904223

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 904223-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Hexane	mg/kg (ppm)	<0.1	<0.1	nm
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	<0.05	<0.05	nm
1,2-Dichloroethane (EDC)	mg/kg (ppm)	<0.05	<0.05	nm
Benzene	mg/kg (ppm)	<0.03	<0.03	nm
Toluene	mg/kg (ppm)	<0.05	<0.05	nm
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.05	<0.05	nm
Ethylbenzene	mg/kg (ppm)	<0.05	<0.05	nm
m,p-Xylene	mg/kg (ppm)	<0.1	<0.1	nm
o-Xylene	mg/kg (ppm)	<0.05	<0.05	nm
Naphthalene	mg/kg (ppm)	<0.05	<0.05	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Hexane	mg/kg (ppm)	2.5	102	100	43-158	2
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	99	100	82-112	1
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	95	94	82-120	1
Benzene	mg/kg (ppm)	2.5	96	95	80-112	1
Toluene	mg/kg (ppm)	2.5	106	106	80-116	0
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	105	105	86-120	0
Ethylbenzene	mg/kg (ppm)	2.5	109	108	81-115	1
m,p-Xylene	mg/kg (ppm)	5	102	102	80-118	0
o-Xylene	mg/kg (ppm)	2.5	102	101	78-122	1
Naphthalene	mg/kg (ppm)	2.5	110	110	70-122	0

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - The sample was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.

904223

SAMPLE CHAIN OF CUSTODY

ME 04/22/09 VS3/ C23

Page # 1 of 3

Send Report To Paul Ecker
Company PNG Environmental Inc.
Address 6665 SW Hampton St. #101
City, State, ZIP Tigard, OR 97223
Phone # 503-620-2387 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. 1133-01 Ptld 324

PO #

REMARKS

TURNAROUND TIME
☑ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☑ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS							Notes
TB042209	01	4/22/09		Trip Blank	1													
B-15/4	02 A-D		0800	Soil	4		X		X									
B-15/8	03 A-D		0815		4		X		X									
B-15/12	04 A-D		0825		4		X		X									
B-20/4	05 A-D		0900		4		X		X									
B-20/6	06 A-D		0910		4		X		X									
B-20/10	07 A-D		0915		4		X		X									
B-17/4	08 A-D		0940		4													Hold
B-17/7	09 A-D		0950		4													Hold
B-17/10	10 A-D	↓	1000	↓	4													Hold

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Joe Gustafson	PNG	4/22/09	1445
Received by:		Eric Crecelius	T&S	4/22/09	1445
Relinquished by:					
Received by:					

904223

SAMPLE CHAIN OF CUSTODY

ME 04/22/09

V53/C3

Page # 2 of 3

Send Report To Paul Ecker
Company PNG Environmental, Inc.
Address 6665 SW Hampton St. # 101
City, State, ZIP Tigard, OR 97223
Phone # 503-620-2387 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. | PO #

REMARKS

TURNAROUND TIME
☑ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☑ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS							Notes
B-17/13	11 A-D	4/22/09	1005	Soil	4													Hold
B-18/4	12 A-D		1020				X		X									
B-18/8	13 A-D		1030				X		X									
B-18/12	14 A-D		1040				X		X									
B-16/4	15 A-D		1100															Hold
B-16/8	16 A-D		1110															Hold
B-16/11	17 A-D		1120															Hold
B-21/4	18 A-D		1130				X		X									
B-21/9	19 A-D		1155				X		X									
B-19/4	20 A-D	↓	1240	↓	↓		X		X									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Joe Gustafson	PNG	4/22/09	1445
Received by:		Eric Young	FRB	4/22/09	1445
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

904223

SAMPLE CHAIN OF CUSTODY

ME 04/22/09

VS3 / CI

Page # 3 of 3

Send Report To PNG - Paul Ecker
Company PNG Environmental
Address 6665 SW Hampton St. #101
City, State, ZIP Tigard, OR 97223
Phone # (503)620-2387 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. 1133-01 Plaid #324

PO #

REMARKS

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS							Notes
B-19/8	21 A-D	4/22/09	1250	Soil	4		X		X									
B-19/12	22 A-D		1300				X		X									
B-22/4	23 A-D		1325															Hold
B-22/7	24 A-D		1335															Hold
B-23/5	25 A-D		1350				X		X									
B-23/10	26 A-D	↓	1400	↓	↓		X		X									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Joe Gustkson	PNG	4/22/08	1445
Received by:		Eric Young	F&B	4/22/08	1445
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

May 5, 2009

Paul Ecker, Project Manager
PNG Environmental
6665 SW Hampton St. Suite 101
Tigard, OR 97223

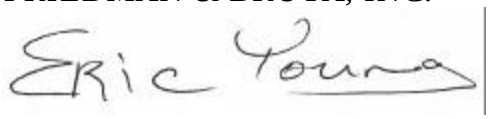
Dear Mr. Ecker:

Included are the additional results from the testing of material submitted on April 22, 2009 from the 1133-01 Plaid 324, F&BI 904223 project. There are 19 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Eric Young
Chemist

Enclosures
PNG0505R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 22, 2009 by Friedman & Bruya, Inc. from the PNG Environmental 1133-01 Plaid 324, F&BI 904223 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	PNG Environmental
904223-01	TB042209
904223-02	B-15/4
904223-03	B-15/8
904223-04	B-15/12
904223-05	B-20/4
904223-06	B-20/6
904223-07	B-20/10
904223-08	B-17/4
904223-09	B-17/7
904223-10	B-17/10
904223-11	B-17/13
904223-12	B-18/4
904223-13	B-18/8
904223-14	B-18/12
904223-15	B-16/4
904223-16	B-16/8
904223-17	B-16/11
904223-18	B-21/4
904223-19	B-21/9
904223-20	B-19/4
904223-21	B-19/8
904223-22	B-19/12
904223-23	B-22/4
904223-24	B-22/7
904223-25	B-23/5
904223-26	B-23/10

All quality control requirements were acceptable.

Date of Report: 05/05/09
Date Received: 04/22/09
Project: 1133-01 Plaid 324, F&BI 904223
Date Extracted: 05/01/09
Date Analyzed: 05/01/09 and 05/04/09

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B-17/4 904223-08	<2	110
B-17/7 904223-09	46	ip
B-17/10 904223-10	90	ip
B-17/13 904223-11	<2	106
B-16/4 904223-15	<2	112
B-16/8 904223-16	120	ip
B-16/11 904223-17	<2	115
B-22/4 904223-23	<2	109
B-22/7 904223-24	93	ip
Method Blank	<2	107

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	B-20/6	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	05/04/09	Lab ID:	904223-06
Date Analyzed:	05/04/09	Data File:	050408.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	148	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	B-18/4	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	05/04/09	Lab ID:	904223-12
Date Analyzed:	05/04/09	Data File:	050409.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	109	50	150
4-Bromofluorobenzene	109	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	PNG Environmental
Date Received:	NA	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	05/04/09	Lab ID:	090597 mb
Date Analyzed:	05/04/09	Data File:	050407.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	93	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-17/4	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	904223-08
Date Analyzed:	04/30/09	Data File:	043008.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	42	152
Toluene-d8	88	36	149
4-Bromofluorobenzene	91	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-17/7	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	904223-09
Date Analyzed:	04/30/09	Data File:	043009.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	42	152
Toluene-d8	90	36	149
4-Bromofluorobenzene	95	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	0.060
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	0.32

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-17/10	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	904223-10
Date Analyzed:	04/30/09	Data File:	043010.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	42	152
Toluene-d8	99	36	149
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-17/13	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	904223-11
Date Analyzed:	04/30/09	Data File:	043011.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	42	152
Toluene-d8	105	36	149
4-Bromofluorobenzene	107	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-16/4	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	904223-15
Date Analyzed:	04/30/09	Data File:	043012.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	42	152
Toluene-d8	98	36	149
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-16/8	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	904223-16
Date Analyzed:	04/30/09	Data File:	043013.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	119	42	152
Toluene-d8	113	36	149
4-Bromofluorobenzene	120	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	0.33
m,p-Xylene	0.98
o-Xylene	<0.05
Naphthalene	1.0

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-16/11	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	904223-17
Date Analyzed:	04/30/09	Data File:	043014.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	42	152
Toluene-d8	94	36	149
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-22/4	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	904223-23
Date Analyzed:	04/30/09	Data File:	043015.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	42	152
Toluene-d8	102	36	149
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	B-22/7	Client:	PNG Environmental
Date Received:	04/22/09	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	904223-24
Date Analyzed:	04/30/09	Data File:	043016.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	115	42	152
Toluene-d8	108	36	149
4-Bromofluorobenzene	115	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	0.12
m,p-Xylene	0.10
o-Xylene	<0.05
Naphthalene	0.32

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	PNG Environmental
Date Received:	NA	Project:	1133-01 Plaid 324, F&BI 904223
Date Extracted:	04/30/09	Lab ID:	090535 mb
Date Analyzed:	04/30/09	Data File:	043006.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	42	152
Toluene-d8	95	36	149
4-Bromofluorobenzene	107	50	150

Compounds:	Concentration mg/kg (ppm)
Benzene	<0.03
Toluene	<0.05
Ethylbenzene	<0.05
m,p-Xylene	<0.1
o-Xylene	<0.05
Naphthalene	<0.05

Date of Report: 05/05/09
Date Received: 04/22/09
Project: 1133-01 Plaid 324, F&BI 904223

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 904223-08 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	108	70-130

Date of Report: 05/05/09
Date Received: 04/22/09
Project: 1133-01 Plaid 324, F&BI 904223

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	107	101	70-130	6

Date of Report: 05/05/09
Date Received: 04/22/09
Project: 1133-01 Plaid 324, F&BI 904223

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 904223-24 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	mg/kg (ppm)	<0.03	<0.03	nm
Toluene	mg/kg (ppm)	<0.05	<0.05	nm
Ethylbenzene	mg/kg (ppm)	0.12	0.14	15
m,p-Xylene	mg/kg (ppm)	0.10	0.12	18
o-Xylene	mg/kg (ppm)	<0.05	<0.05	nm
Naphthalene	mg/kg (ppm)	0.32	0.27	17

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benzene	mg/kg (ppm)	2.5	87	85	80-112	2
Toluene	mg/kg (ppm)	2.5	95	94	80-116	1
Ethylbenzene	mg/kg (ppm)	2.5	96	94	81-115	2
m,p-Xylene	mg/kg (ppm)	5	93	93	80-118	0
o-Xylene	mg/kg (ppm)	2.5	95	93	78-122	2
Naphthalene	mg/kg (ppm)	2.5	95	95	70-122	0

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - The sample was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.

904223

SAMPLE CHAIN OF CUSTODY

ME 04/22/09 VS3/C3

Page # 1 of 3

Send Report To Paul Ecker
Company PNG Environmental Inc.
Address 6665 SW Hampton St. #101
City, State, ZIP Tigard, OR 97223
Phone # 503-620-2387 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. 1133-01 Pfeld 324

PO #

REMARKS

TURNAROUND TIME
- ☑ Standard (2 Weeks)
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☑ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	BTEX	EDB					Notes
																		✓ per Jeremy 4/29 KMS
TB042209	01	4/22/09		Trip Blank	1													
B-15/4	02 A-D		0800	Soil	4		X		X									
B-15/8	03 A-D		0815		4		X		X									
B-15/12	04 A-D		0825		4		X		X									
B-20/4	05 A-D		0900		4		X		X									
B-20/6	06 A-D		0910		4		X		X				✓					
B-20/10	07 A-D		0915		4		X		X									
B-17/4	08 A-D		0940		4		✓					✓						Hold
B-17/7	09 A-D		0950		4		✓					✓						Hold
B-17/10	10 A-D	↓	1000	↓	4		✓					✓						Hold

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Joe Gustafson	PNG	4/22/09	1445
Received by:	Eric Johnson	T&S	4/22/09	1445
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

904223

SAMPLE CHAIN OF CUSTODY

ME 04/22/09

VS3/C3

Page # 2 of 3

Send Report To Paul Ecker
Company PNG Environmental, Inc.
Address 6665 SW Hampton St. # 101
City, State, ZIP Tigard, OR 97223
Phone # 503-620-2387 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.

PO #

REMARKS

TURNAROUND TIME
☑ Standard (2 Weeks)
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☑ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	BTEX	EDB					Notes
B-17/13	11 A-D	4/22/09	1005	Soil	4		✓					✓						Hold
B-18/4	12 A-D		1020				X		X				✓					
B-18/8	13 A-D		1030				X		X									
B-18/12	14 A-D		1040				X		X									
B-16/4	15 A-D		1100				✓					✓						Hold
B-16/8	16 A-D		1110				✓					✓						Hold
B-16/11	17 A-D		1120				✓					✓						Hold
B-21/4	18 A-D		1130				X		X									
B-21/9	19 A-D		1155				X		X									
B-19/4	20 A-D	↓	1240	↓	↓		X		X									

ANALYSES REQUESTED

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Joe Gustafson	PNG	4/22/09	1445
Received by:		Eric Young	F&B	4/22/09	1445
Relinquished by:					
Received by:					

FORMS\COC\COC.DOC

Samples

904223

SAMPLE CHAIN OF CUSTODY

ME 04/22/09

VS3 / CI3

Page # 3 of 3

Send Report To PNG - Paul Ecker

Company PNG Environmental

Address 6665 SW Hampton St. #101

City, State, ZIP Tigard, OR 97223

Phone # (503) 620-2387 Fax #

SAMPLERS (signature)

PROJECT NAME/NO. 1133-01 Plaid #324

PO #

REMARKS

TURNAROUND TIME
- [x] Standard (2 Weeks)
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [x] Dispose after 30 days
- [ ] Return samples
- [ ] Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED: TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	BTEXN	EDB					Notes
B-19/8	21 A-D	4/22/09	1250	Soil	4		X		X									
B-19/12	22 A-D		1300				X		X									
B-22/4	23 A-D		1325				✓					✓						Hold
B-22/7	24 A-D		1335				✓					✓						Hold
B-23/5	25 A-D		1350				X		X									
B-23/10	26 A-D	↓	1400	↓	↓		X		X									

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Joe Gustkson	PNG	4/22/08	1445
Received by:	Eric Young	F&B	4/24/08	1445
Relinquished by:				
Received by:				

FORMS\COC\COC.DOC